

May 2026

Comprehensive Site Management Plan for the Kahuku Unit
Environmental Assessment

DOI-NPS-127101



The National Park Service (NPS) has considered the factors mandated by the National Environmental Policy Act (NEPA). This environmental assessment represents the NPS's good-faith effort to fulfill NEPA's requirements by prioritizing documentation of the most important relevant considerations within the statutorily mandated page limits and timeline. This prioritization reflects the NPS's expert judgment; and any considerations addressed briefly or left unaddressed are, in NPS's judgment, comparatively non-substantive and would not meaningfully inform NPS's consideration of environmental effects and the decision to be made. The environmental assessment is substantially complete, considers the factors mandated by NEPA, and, in the decisionmaker's judgment, contains analysis adequate to inform NPS's decision regarding the proposed action.

ABBREVIATIONS

CFR	Code of Federal Regulations
DOI	Department of the Interior
EA	environmental assessment
GMP	general management plan
HDOT	Hawai'i Department of Transportation
IAC	Inter-American Convention for the Protection of Sea Turtles
NEPA	National Environmental Policy Act
NHT	National Historic Trail
NPS	National Park Service
NRHP	National Register of Historic Places
ORAR	Outdoor Recreation Access Route
PEPC	Planning, Environment and Public Comment
plan	comprehensive site management plan
ROD	Rapid 'Ōhi'a Death
USFWS	U.S. Fish and Wildlife Service

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CHAPTER 1. INTRODUCTION

In compliance with the National Environmental Policy Act (NEPA), the National Park Service (NPS) prepared an Environmental Assessment (EA) to examine alternative actions and environmental effects associated with a comprehensive site management plan (plan) for the NPS-managed area of Kahuku referred to as the Kahuku Unit (PEPC No. 127101) at Hawai‘i Volcanoes National Park (the park). The EA is prepared in accordance with 516 DM 1, U.S. Department of the Interior, Handbook of National Environmental Policy Act Implementing Procedures, February 2026 (DOI NEPA Handbook) and its appendices, along with the National Environmental Policy Act Implementing Regulations at 43 Code of Federal Regulations (CFR) Part 46.

1.1 BACKGROUND

The Kahuku Unit of the park is composed of three sub-areas: Upper Kahuku, Lower Kahuku, and Kahuku-Pōhue (Appendix A).

- Upper Kahuku: Starts above Lower Kahuku and Ocean View Estates extending up the southwestern slope of Mauna Loa to the summit.
- Lower Kahuku: Located mauka (upslope) of Māmalahoa Highway (Highway 11) across from Kahuku Ranch (Kamehameha Schools property) extending up to approximately 300 feet beyond the northernmost ranch roads and Kahuku Road at Kipuka‘ākala.
 - Visitor Services Zone of Lower Kahuku: Location of the primary visitor entrance to the Kahuku Unit. This zone, which is one of the park’s three management zones, houses most of the built facilities within the Kahuku Unit, including the visitor contact station and administrative facilities.
- Kahuku-Pōhue: located between Highway 11 and the existing ocean shoreline between Ocean View Ranchos and Kahuku Ranch (Kamehameha Schools property).

Together these sub-areas straddle the Southwest Rift Zone of Mauna Loa and extend across lava fields; coastal areas; pastures; forests; shrublands; and mesic, subalpine, and desert environments in the Ka‘ū District of Hawai‘i County.

In 2003, the NPS acquired 150,685 acres mauka or above Highway 11 (Upper and Lower Kahuku) and increased the size of the park by 50%, expanding opportunities for visitor use and resource protection. The mauka portion was previously privately managed as a cattle ranch. In 2022, the NPS acquired the 16,451-acre parcel makai (seaward) of Highway 11, which is commonly referred to as Kahuku-Pōhue. Prior to park acquisition, the Kahuku-Pōhue parcel was privately managed with very limited access to the public. It was accessed by way of a private road for hiking, swimming, and beachside camping as well as traditional cultural practices such as fishing.

Public access to Kahuku-Pōhue has been limited while the NPS gathers information on the sensitive cultural and natural resources and develops a long-term site management plan for the area. The park held public meetings in late 2022 with local neighbors, stakeholders, and Native

Hawaiian organizations and individuals. Attendees highlighted multiple issues, emphasizing the need for careful stewardship.

The 2016 general management plan (GMP) provides overarching guidance for the mauka portion of the Kahuku Unit (NPS 2016), but a detailed plan is needed to allow for GMP implementation within the unit and to provide a plan for Kahuku-Pōhue, which was acquired 6 years following the GMP. This would be achieved with a comprehensive site management plan that would include site planning based on overarching guidance in the GMP.

1.2 PURPOSE AND NEED

Development of the comprehensive site management plan is driven by the following needs:

- **Lack of implementation guidance for visitor use:** The 2016 GMP does not provide implementation guidance for visitor use or guidance for interpretive and educational activities, picnic areas, additional trails, and campgrounds. Additionally, the 2017 Foundation Document for Hawai‘i Volcanoes National Park identifies the need to develop a site-specific management plan for the Kahuku Unit to guide how that portion of the park is protected, used, and developed over time (NPS 2017).
- The GMP calls for adaptive reuse of buildings, and a plan is needed to determine which buildings can be adapted and reused.
- **Increased visitation:** Visitation to Lower Kahuku has more than tripled, going from 5,318 visitors in 2016 to 22,535 visitors in 2023. The area is only open 4 days a week for 8 hours a day with limited trails, a small visitor contact station, and a vault toilet. Visitation continues to increase and with it comes the demand for more hiking trails and infrastructure.
- **Newly acquired lands without a site management plan:** The recently acquired Kahuku-Pōhue parcel needs a plan for visitor access and management that also ensures the protection of natural and cultural resources and traditional use of the area.

The comprehensive site management plan would provide implementation guidance for the desired visitor experience while preserving sensitive natural, cultural, and historical resources. The comprehensive site management plan would provide specific guidance on interpretive and educational activities, picnic areas, additional trails, and small campgrounds. The comprehensive site management plan would delineate where these would be located and give clear direction for future management of the Kahuku Unit with the long-term goal of opening full-time like the rest of the park, as requested by visitors. The plan would also allow the NPS to open Kahuku-Pōhue to visitor use. Therefore, the following goals and objectives would be met:

- Provide a roadmap to guide decisions.
- Preserve and restore resources in the unit.
- Provide guidance and define indicators and thresholds for monitoring and visitor capacities, which are the maximum amounts and types of visitor use an area can accommodate while achieving and maintaining the desired conditions.

- Define the types and levels of facilities in the Kahuku Unit, including Kahuku-Pōhue.

1.3 SCOPING AND ISSUES

1.3.1 Issues Selected for Detailed Analysis

The NPS planning team, along with representatives from other agencies, organizations, and interested members of the public, identified various issues and concerns about the management of the Kahuku Unit from 2022 to 2024. A summary of the civic engagement activities can be found in Appendix B. Key issues and concerns are summarized in Sections 3.1 to 3.4 and Appendix C. Issues were retained for consideration and discussed in detail in this EA if

- the environmental impacts associated with the issue are central to the proposal or of critical importance;
- a detailed analysis of environmental impacts related to the issue is necessary to make a reasoned choice between alternatives;
- the environmental impacts associated with the issue are a big point of contention among the public or other agencies; or
- there are potentially significant impacts to resources associated with the issue.

The issues and corresponding impact topics retained for analysis in this EA are presented in Table 1.

TABLE 1. ISSUES AND IMPACT TOPICS RETAINED FOR DETAILED ANALYSIS

Impact Topics Related to the Issues	Issues
Special status species	The federally listed threatened nēnē (Hawaiian goose; <i>Branta sandvicensis</i>) uses a variety of habitats in Kahuku. The Pōhue Bay is used by nesting sea turtles, primarily the honu‘ea (hawksbill turtle, <i>Eretmochelys imbricata</i>). Increased visitor access and use have the potential to disturb or displace special status species through human presence, noise, and nighttime lighting (e.g., at campsites). The comprehensive site management plan would include implementation guidance on how to protect special status species from visitor use impacts. Finding the right balance between visitor use and wildlife protection requires an analysis of the potential impacts of visitor use on wildlife across alternatives. Therefore, a detailed analysis of impacts related to this issue is necessary to make a reasoned choice between alternatives.
Cultural landscapes	According to Director’s Order 28: Cultural Resource Management, a cultural landscape is a reflection of human adaptation and use of natural resources and is often expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and the types of structures that are built. Construction and potential change in visitor use could degrade the Kahuku Ranch Cultural Landscape, the Kahuku Military Landscape, the ethnographic landscape, and the archaeological landscape present at Kahuku-Pōhue.* Cultural landscapes, including places, objects, and materials that are important to people’s sense of purpose or way of life, are a central issue of the plan. The plan would include implementation guidance on how to preserve and protect cultural landscapes and traditional uses. Implementation of management actions related to visitor access, visitor capacities, visitor facilities, wildlife, or vegetation can also have adverse effects on cultural landscapes whereas cultural education/interpretation may foster a greater appreciation and minimize visitors’ impacts. Therefore, a detailed analysis of impacts related to the issue is necessary to make a reasoned choice between alternatives.

Impact Topics Related to the Issues	Issues
Historic structures	One historic structure is present within the Lower Kahuku visitor services area that could be impacted by management actions: a sawmill facility and electrical plant (Building 402). A detailed analysis of impacts related to this issue is necessary to make a reasoned choice between alternatives.
Visitor use and experience	<p>Visitor access, visitor facilities, visitor capacities, and visitor experience are all central issues that the plan is intended to address and provide implementation guidance on. Additionally, this plan could increase commercial service opportunities in the park, such as commercial biking tours or guided horseback riding tours.</p> <p>The plan would define desired conditions for visitor use and experience, and the visitor capacities that can be accommodated while maintaining desired conditions. The plan would also provide guidance for visitor access and development of new or improved facilities. Finding the right balance between visitor use and resource protection requires an analysis of the potential impacts of visitor use on resources across alternatives. Therefore, a detailed analysis of impacts related to this issue is necessary to make a reasoned choice between alternatives.</p>

* The Ka'ū Traditional Dryland Agricultural Field Systems would not be directly impacted and would benefit from increased education about field systems; therefore, this specific cultural landscape was not carried forward for analysis.

1.3.2 Issues Considered but Dismissed

If none of the considerations listed in Section 1.4.1 applied to an issue or impact topic, it was dismissed from detailed analysis as described in Appendix C, Impact Topics Dismissed.

CHAPTER 2. ALTERNATIVES

This plan evaluates and analyzes the potential impacts of continuing current management (no action alternative) and of proposed management strategies and supporting improvements that would expand facilities and visitor opportunities across the unit (proposed action). A summary of each is provided below.

2.1 ALTERNATIVE A: NO ACTION ALTERNATIVE

If no action is taken, the Kahuku Unit would continue to have limited access in the area currently open to the public, as well as limited hours of operation. The facilities would continue to be limited, with no plans and only limited intent to improve roads, parking, utilities, trails, camping, access to the shoreline, day-use recreation, visitor interpretation, and buildings to support visitors and administrative functions. Routine maintenance activities would continue to occur on a limited, as-needed basis.

2.1.1 Management Actions

Management actions already in place would continue under the no action. These management actions include the following:

- Continue to maintain and manage protection from and mitigation for invasive species inclusive of plant, insect, and animal species.
- Continue to document, preserve, protect, and monitor cultural resources.
- Continue to offer larger community events in the Lower Kahuku visitor services area at a similar scale and frequency as currently offered.
- Public access without a permit would continue to be allowed on the state-protected historic trails (those built prior to 1892 protected under the Highways Act of 1892, Chapter 264-1(b), Hawai'i Revised Statutes) that cross the Kahuku Unit.

2.2 ALTERNATIVE B: PROPOSED ACTION

The proposed action would consist of development and implementation of the comprehensive site management plan, which would expanded visitor access and recreational opportunities through additional management actions and facility improvements. The proposed management actions (described below in Section 2.2.1, Management Actions) would be applied across all sub-areas and in some cases selectively to specific activities in distinct sub-areas. The management actions already in place under the no action would also continue under the proposed action. The proposed facility improvements (described below in Section 2.2.2, Facility Improvements) would be specific to key sub-areas.

Implementation of these management actions and facility improvements would begin in phases over approximately the next 20 years, dependent on funding. During this implementation period, visitors would periodically be restricted from entering specific areas that are under construction.

2.2.1 Management Actions

Hawai‘i Volcanoes National Park proposes a management approach that increases access to all areas of the Kahuku Unit while maintaining some limits to protect the natural and cultural resources of the unit. These resources are what make the park and unit so unique and desirable to the local community as well as visitors from off island. The following is a summary of the management actions to be implemented over time as part of the site management plan:

- Establish zoning and desired conditions for Kahuku-Pōhue.
- Provide greater visitor access to most areas of the Kahuku Unit, while limiting some activities to maintain the quality of visitor experiences and protect natural and cultural resources through a permitting system. Activities that could be limited through a permit system include but are not limited to, coastal day use, camping, and hiking in higher elevations.
- Extend hours of operation.
- Evaluate and provide accessible facilities and trails.
- Secure the perimeter boundary in strategic locations, in addition to cross-fencing and strategic interior fences or enclosures, for ease in managing protection of resources.
- Expand native plant restoration activities.
- Expand visitor education and interpretive program offerings.
- Develop digital or online tools for orientation and education, digital or in-person guided walks, etc., while protecting sensitive areas from development.
- Increase volunteer staffing to provide additional support to park staff.
- Develop a pilot permit program to evaluate the potential introduction of invasive species through horseback riding activities and the potential to mitigate for those impacts.
- Consider the introduction of commercial permits for guided activities such as biking, bird-watching, guided hikes, etc.
- Conduct evaluation of needed parking capacity.

2.2.2 Facility Improvements

2.2.2.1 Upper Kahuku

Proposed improvements in Upper Kahuku would be limited due to its natural resource sensitivity and remoteness. The improvements would be outside of the eligible wilderness area and primarily associated with accommodating long-distance, multi-day hikers (see Appendix A for figures):

- The existing Kahuku Road that extends into Upper Kahuku generally follows the route of the historic Kahuku-‘Āinapō Trail, and it would be designated as a trail and maintained for that recreation and current administrative purpose for its full length to the Kapāpala boundary. Where there are existing spur roads or trails, the NPS could formalize them.

Some spur trails may be extended to provide additional visitor experiences, such as forest bird-watching.

- A trail connection between the Kahuku-‘Āinapō Trail to the ‘Āinapō Trail would be reestablished from the end of the current road to the Kapāpala boundary, in collaboration with the State of Hawai‘i and with the intent for the state to reconnect the trail from the boundary to the ‘Āinapō Trail. Some sections of the old trail would need improvement and some sections may need reconstruction.
- Up to three designated hike-in campsites would be constructed at a point approximately midway between the proposed 1916 Flow Trailhead in Lower Kahuku and the Kapāpala boundary. The exact location would be determined based on the lowest possible impacts to existing vegetation. Campsites could include a tent platform and picnic table for each site. The three sites would be grouped around a central shelter/rain catchment. A composting toilet would be installed near the campsites. Two of the sites would be accessible and would have outdoor recreation access routes (ORAR) connecting them to the shelter and composting toilet.
- Up to three designated hike-in campsites would be constructed at the end of the road near the Kapāpala boundary, including a tent platform and picnic table for each site. The three sites would be grouped around a central shelter/rain catchment. A composting toilet would be installed near the campsites. Two of the sites would be accessible and would have ORARs connecting them to the shelter and composting toilet.
- The feasibility of providing guided programs in this area would be assessed.

2.2.2.2 Lower Kahuku Visitor Services Area

The Lower Kahuku visitor services area is the heart of visitor and administrative activity in the Kahuku Unit. As a result, the proposed action includes a greater intensity of improvements in this area to support a higher concentration of visitor use and the administrative functions to support that use (see Appendix A for figures). The proposed improvements in this area would include the following:

- A new entrance station kiosk would be constructed along the entrance road. The location would be near the existing visitor contact station to reduce the extent of new utilities and infrastructure. The road would be widened at the location of the kiosk to accommodate its position in the center of the roadway and could include the potential for an automated fee machine and gate.
- The existing cinder parking area would be formalized into an asphalt-paved parking area meeting International Code Council family of codes requirements for parking and accessible routes to surrounding features such as restrooms, a picnic area, and the visitor contact station. The parking area would accommodate approximately 30 vehicle parking spaces. Parking capacity needs would be assessed, and parking improvements would be phased as needed.
- A new restroom building with water and sanitary sewer service would be constructed. Sanitary services would include a new septic tank and absorption bed.

- A picnic area adjacent to the new parking area would be constructed and would include one accessible double shade shelter with two tables, one accessible single shade shelter with one table, and two single shade shelters with one table each. The accessible shelters would be connected to the parking area with a paved accessible route.
- An education pavilion would be constructed near the new parking area with an accessible route connecting it to the visitor contact station and other accessible facilities on-site.
- A 0.75-mile loop trail starting at the parking area would be constructed. A portion of the trail next to the parking area would be paved and would meet Architectural Barriers Act Accessibility Standards requirements for an accessible route. The remainder of the trail would be unpaved and would meet Architectural Barriers Act Accessibility Standards requirements for an ORAR. Two accessible picnic shelters would be constructed along the trail corridor.
- Two native plant gardens with interpretation would be installed near the existing visitor contact station.
- A portion of the ancient dryland agricultural field system would be designated and programed as a cultural demonstration area to the south and east of the existing visitor contact station. A portion of the existing ranch road would be designated and maintained as a soft surface connector trail from the visitor contact station.
- An expansion to the visitor contact station’s lanai would be constructed.
- Exhibit designs would be updated and installed in the visitor contact station.
- The sawmill facility and electrical plant (Building 402) would be replaced and used as a storage building that is designed to reflect the style of the original building. The new building could use matching site orientation, scale, massing, materials, and colors to blend in with the cultural landscape.
- An additional dorm building for seasonal, temporary, volunteer, or field staff working at the Kahuku Unit would be constructed.
- The existing water tank would be replaced in the same location and expanded to accommodate greater on-site water storage, supporting expanded restroom use and fire suppression requirements for on-site housing.
- A natural resource management operations base yard would be constructed. The base yard would include greenhouses, a vault toilet, and room for storage containers, and staff parking. The exact location is to be determined based on proximity to other administrative facilities, compatibility with the cultural landscape, and avoidance of impacts to other resources in the area.

2.2.2.3 Lower Kahuku (remaining areas)

The remainder of Lower Kahuku would undergo improvements that primarily support increased visitor access to this area of the park and associated recreational opportunities (see Appendix A for figures). The improvements would include the following:

- Group campsites would be constructed near the old airstrip. The campsites would be broken into separate clusters to allow for smaller group areas to be reserved separate from one large reservation. The campsites would be accessible by vehicle via a paved campground access road and loop and would provide two Architectural Barriers Act Accessibility Standards-compliant sites. The campsite features would include a parking pad, tent pads, picnic tables, and fire rings along with a common campground two-stall vault toilet building and common shade pavilion. Accessible routes would connect the accessible campsites, vault toilet, and shade pavilion.
- Up to seven hike-in campsites would be constructed at the old quarry along the Upper Palm Trail. A minimum of two campsites would be accessible. Campsites would include a tent pad, picnic table, and access trail from the Upper Palm Trail. A composting toilet would be located as a shared common feature for all campers, along with an overlook seating area with a view toward the ocean. An ORAR would connect the composting toilet, accessible sites, and the overlook.
- The Upper Palm Trailhead would be expanded to include parking stalls for the proposed hike-in campsites at the old quarry. The trailhead would include approximately 10 stalls with a minimum of one van-accessible stall.
- Kahuku Road would be improved from the Upper Palm Trailhead to the Upper Glover Trailhead. The improvements would provide consistent gravel surfacing, formalized pull-off areas, and better stormwater management.
- Select old paddock roads that are overgrown would be reestablished to provide fire fuel breaks and access for administrative use.
- A portion of old paddock roads that are overgrown would be designated and maintained as a new trail called the ‘Akihi Trail. The trail would provide access to the pit crater from Kahuku Road. Picnic tables would be installed at the pit crater end of the trail in an area with views out to the coast. A small gravel trailhead parking area would be constructed along Kahuku Road at the location of the ‘Akihi Trail.
- A composting toilet would be installed at the Upper Glover Trailhead along Kahuku Road.
- A trailhead parking area for approximately five vehicles would be constructed at the 1916 lava flow near the boundary with Upper Kahuku to accommodate hiking and backpacking into Upper Kahuku. Parking would include a minimum of one van-accessible stall. The trailhead would include informational signage for hikers and a new gate to control visitor vehicle access into Upper Kahuku.
- A spur loop trail (Ka‘ū Agricultural Field System Trail) would be constructed off the Pu‘u o Lokuana Trail through Kīpukaka‘ōpapa to interpret the ancient agricultural field system archaeological sites within the kīpuka.
- Existing paddock roads that generally follow the historic Kahuku-‘Āinapō Trail alignment would be designated and maintained as a trail to reestablish the historic route. In Lower Kahuku, the route would start at the Old Māmalahoa Highway and connect to Upper Kahuku along the main road.

- A connector and/or spur trail would be constructed from the historic Kahuku-‘Āinapō Trail near the Old Māmalahoa Highway through the dry forest Kīpukamāmane (Kīpuka Connector Trail).
- Education and interpretation would be expanded by increasing guided activities and completing an interpretive media plan for trails and trailheads to identify wayfinding and interpretive signage needs, designs, and themes.

2.2.2.4 Kahuku-Pōhue

Because Kahuku-Pōhue is a recent parcel acquired by the NPS for Hawai‘i Volcanoes National Park, public access has been restricted to the entire parcel. Through this management plan, the NPS proposes to support expanded access, including infrastructure improvements to accommodate increased use. The proposed uses would include day use, limited camping use, and hiking, all by issuance of a permit. Under the proposed action, improvements and infrastructure enhancements at Kahuku-Pōhue would include the following:

- An informational sign, composting toilet, and boot brush station would be installed at the existing trailhead parking area for visitors.
- Wayfinding and tsunami warning/evacuation signs would be installed at trailheads and access points for visitors.
- Fencing would be installed in strategic areas to protect fragile resources.
- A four-wheel-drive access road would be constructed to ensure travel is possible wholly within Kahuku-Pōhue from Highway 11 to the coast. The alignment of the road would be within a recent lava flow to ensure the avoidance of archaeological sites. The southern portion of the road would connect to the existing coastal road.
- Four coastal sites would be designated as day use: Kanonone, Kahuku Beach, Kahakahakea, and a small white sand beach. Proposed day-use facilities would include accessible picnic tables and composting toilets. ORARs would connect the composting toilets and a portion of the tables. All day-use sites would initially be walk-in and require a permit. When the NPS can develop a road that is wholly within the park boundaries, the NPS would allow permitted vehicle access to the day-use sites. Designated parking areas would include a minimum of one van-accessible parking stall.
- The use of three overnight campsites along the coastline would be formalized (see Kanonone, JRs, and Hosaka Flats campsite layouts in Appendix A). All campsites would initially be walk-in and would require a permit. Proposed campsite facilities would include tent and camp table areas and composting toilets. Two campsites at each location would be accessible and have ORARs connecting them to the composting toilet. When the NPS can develop a road that is wholly within the park boundaries, the NPS would allow permitted drive-in camping at the respective campsites.

All facilities have up to an approximately 30-year life. Installation of facilities would include minimal site clearing such as arranging rocks and logs to establish delineated, natural surface tent and table pads and natural surface trails. Minimal excavation would occur to install signposts (for interpretive, wayfinding, and warning signage) and composting toilets. Facilities are being located outside of the regulatory floodplain to the extent practicable

2.3 DESIGN FEATURES

The following design features would be implemented as part of the Proposed Action to avoid or minimize resource impacts. No additional measures were identified by the NPS or during consultation with other agencies.

2.3.1 Wildlife and Species of Concern

2.3.1.1 Construction

- Bird nest surveys would be completed prior to any tree cutting. No trees would be cut if there are active nests of native birds or active nests of birds protected under the Migratory Bird Treaty Act found in them.
- Some construction activities could be precluded above 5,000 feet above mean sea level from January until June to protect the ‘i‘iwi (*Drepanis coccinea*).
- Construction staff and visitors would be educated to not approach, feed, or disturb nēnē (Hawaiian goose; *Branta sandvicensis*).
- Biologists would monitor the project construction activities for any nēnē activity before work begins and regularly during construction.
- Disturbance, removal, or trimming of woody plants greater than 15 feet tall during the ‘ōpe‘ape‘a (Hawaiian hoary bat, *Lasiurus semotus*) birthing and pup-rearing season (June 1 through September 15) would be avoided.
- Project specifications would include measures to ensure project work does not impact wildlife, such as providing wildlife-proof trash containers and requiring all food-related waste to be placed in fully sealed refuse containers and removed from the site daily to ensure birds and predators do not have access to the food waste.
- Soils used during revegetation would only be sourced from within the park. If not enough soil from within the park is available, any imported soils would be steam sterilized and inspected prior to entry into the park to prevent introduction of nonnative species.
- All work would cease immediately if a nēnē nest is discovered within a radius of 150 feet of proposed work, or if a previously undiscovered nest is found within said radius after work begins. Work would not start in that area until the nest is no longer active and the birds have left the area.
- If nēnē are observed loafing or foraging in the project area during the breeding season (September through April), work would halt, and a biologist familiar with the nesting behavior of nēnē would survey for nests in and around the project area prior to the resumption of work. Surveys would continue for 3 or more days following the observation of nēnē presence (during which the birds may attempt to nest).
- Work areas could be fenced at the limits of construction, depending on the area or construction activity. Fencing would be chain link or hog wire, with skirting at the base that could be removed if a bird is inside the fenced area. Fencing would be installed before the breeding season to allow time for the birds to become aware of it.

- Postconstruction revegetation would not include plant species known to be nēnē food plants to minimize the attractiveness of the landscaped areas. In addition, signs would be posted to inform visitors that feeding nēnē is prohibited.
- Lighting needed for traffic control signs or barriers would be dark sky compliant. Any temporary lighting for safety requirements would meet or exceed the NPS’s dark sky policies (minimum necessary, full cut-off, downward directed, amber [560 nanometers or greater] lamping).
- All construction vehicles, materials, and equipment would be inspected for nonnative species, including little fire ants (*Wasmannia auropunctata*), prior to entering the park. For biosecurity, all equipment, materials, and vehicles used during construction would be inspected for nonnative species prior to entry into the park. In addition, potential presence of little fire ants would be monitored following construction activities. If any little fire ants are detected, a determination of the full extent of infestation would occur, and the infestation would be treated with an approved pesticide.

2.3.1.2 Operation

- Active honu‘ea (hawksbill turtle, *Eretmochelys imbricata*) nest sites would be protected by barriers, nest cages, or temporary fence. Night use would be restricted in areas known for turtle nesting.
- Hawaiian monk seals (*Neomonachus schauinslandi*) have a stand-off distance of at least 50 feet (as per the National Oceanic and Atmospheric Administration) on land and in water, with an additional restriction of at least 150 feet from mother seals and their pups. Small areas, such as Kahuku Beach, may necessitate temporary closures if monk seals are present, particularly if they have pups.
- Overnight camping may be restricted in areas of species of concern nesting.
- Visitors would be required to comply with boot sanitation (decontamination) prior to accessing trails and campsites to prevent spread of Rapid ‘ōhi‘a Death (ROD).
- Any new permanent lighting would meet or exceed the NPS’s dark sky policies (minimum necessary, full cut-off, downward directed, amber [560 nanometers greater] lamping).
- Visitor facilities may be moved if they are in a nēnē nesting area.

2.3.2 Vegetation

2.3.2.1 Construction

- Native plants would be salvaged as much as possible prior to ground disturbance.
- Equipment used for clearing vegetation (including vehicles) would be cleaned and inspected prior to entering the park to decrease the likelihood of transporting nonnative species and the pathogens that cause ROD. Crews would follow the latest protocols on nonnative species prevention: Hawai‘i Volcanoes National Park Invasive Pest Prevention Standard Operating Procedures (NPS 2024) and Hawai‘i Volcanoes National Park Green Waste Standard Operating Procedures (NPS 2023).

- Native vegetation and native tree removal would be minimized as much as possible.
- Surveys for sensitive plant species would be completed prior to any ground disturbance, and individual plants would be fenced and avoided. Surveys would be completed during the peak time for flowering when identifiable features of the plants are more likely to be visible. If avoidance is not possible, the NPS would work with the U.S. Fish and Wildlife Service (USFWS) to determine minimization or other appropriate measures.
- Invasive plants colonizing the area postconstruction would be removed and the area revegetated with native species.

2.3.2.2 Operation

- Education and interpretation regarding invasive species and ROD would be provided for park visitors, and invasive species prevention measures would be required for park visitors (e.g., vehicle and boot cleaning stations).

2.3.3 Soils

2.3.3.1 Construction

- Any topsoil removed from construction sites would be salvaged and used for revegetation in the project component areas.
- Soils used in revegetation projects would only be sourced from within the park. If not enough soil from within the park is available, any imported soils would be steam sterilized and inspected prior to entry into the park to prevent introduction of invasive species.
- To prevent erosion and protect both soil and vegetation, erosion control measures that provide for soil stability and prevent movement of soils, such as silt fence structures made of burlap or biodegradable mesh, would be implemented in areas where there is high potential for runoff.

2.3.4 Cultural Resources

2.3.4.1 Construction

- Each proposed infrastructure improvement would undergo NEPA compliance and the Section 106 of the National Historic Preservation Act (36 CFR 800) process to fully consider the potential effects to historic properties.
- All ground-disturbing activities in previously undisturbed locations would require archaeological monitoring by a qualified archaeologist meeting the Secretary of the Interior Professional Qualification Standards.
- For all proposed undertakings, areas that have not been previously surveyed for cultural resources would require survey and documentation under Section 110 of the National Historic Preservation Act, and the effects of the undertaking to historic properties would be considered under Section 106 of the National Historic Preservation Act, 36 CFR 800. If previously unknown archaeological resources are discovered during construction, all work in the immediate vicinity of the discovery would be halted until the resources are

identified and documented and an appropriate mitigation strategy developed, if necessary, in accordance with pertinent laws and regulations.

- In the event that human remains are discovered during construction activities, all work on the project in that area would stop and as required by law, and the cultural resources program manager would be notified immediately. All provisions outlined in the Native American Graves Protection and Repatriation Act (1990) would be followed.
- Known historic and prehistoric sites and isolated occurrences would be fenced or flagged and avoided during project activities.
- Facilities would be sited to avoid cultural resources to the extent possible.
- All new buildings and infrastructure across all of the park management zones would be designed applying the Secretary of the Interior's Standards for the Treatment of Historic Properties to achieve compatibility with the cultural landscapes, using matching materials and colors to blend in with the cultural landscapes.

2.3.4.2 Operation

- Visitor use restrictions and education would be implemented to minimize visitor use impacts in sensitive cultural areas.

2.3.5 Visitor Use and Experience

2.3.5.1 Construction

- To reduce impacts to the visitor experience during construction, the NPS may implement strategies, such as parking restrictions or other measures, to better distribute vehicles and visitors. In addition, signs, news releases, social media, and other communication methods would be used to inform visitors about facility and access issues during construction.

2.3.5.2 Operation

- Visitor use capacities and management would be implemented as appropriate to align with the desired conditions in each management zone, as expressed by stakeholders during civic engagement. For example, in the Wild/Primitive Zone, visitor use numbers would be kept low so that visitor encounters would be low and there would be opportunities for solitude and self-sufficiency.

2.3.6 Visual Resources

2.3.6.1 Construction

- Facilities would be sited and designed as appropriate for the desired visual conditions of each management zone.
- The height of proposed structures would be reduced to the extent possible to decrease their visibility (and level of visual dominance) from viewpoints and to blend them with the existing setting.

- Building materials, paint, stain, and other color treatments would be selected to match existing park structures and the natural, existing setting to minimize their visual intrusion and adverse effects on natural and cultural resources.
- Landscape plantings using native plants to the specific area along the access roads or facilities in Upper Kahuku would be added to minimize visibility of structures proposed for the project.
- A paint color for the replacement water tank would be chosen to blend in with the natural setting.
- All of the NPS's dark sky/night lighting avoidance and minimization policies would be followed.

2.3.6.2 Operation

- Additional site interpretation opportunities (e.g., signs, ranger-led activities, or additions to the NPS App) would be introduced to describe historic, cultural, or natural elements modified by the project. For example, this could include describing the cultural importance of the different Kahuku Unit sub-areas.

2.3.7 Air Quality and Soundscapes

2.3.7.1 Construction

- All construction motor vehicles and equipment would have mufflers conforming to original manufacturer specifications that are in good working order to prevent excessive or unusual noise, fumes, or smoke.
- To reduce noise and air pollutant emissions, construction equipment would not be permitted to idle for longer than 3 minutes when not in use.
- Dust generated by construction would be controlled as necessary by spraying water on the construction site or by applying other best management practices for dust control.
- Outdoor work activities would be restricted to 1 hour after sunrise until 1 hour before sunset.

2.3.7.2 Operation

- Visitor use capacities and management would be implemented as appropriate to align with the desired conditions for natural soundscapes in each management zone.

2.3.8 Public Health, Safety, and Park Operations

2.3.8.1 Construction

- To reduce potential impacts on public health and safety, appropriate signage, barriers, and barricades would be used to clearly delineate work areas and prevent visitor travel near construction areas. Visitors would not be allowed into construction sites.
- To reduce potential safety hazards, construction crews would employ a hierarchy of hazard controls to protect themselves and visitors from hazards. The construction

contractor would be required to develop a safety plan that would include (but is not limited to) securing areas of work, developing a traffic control plan, and fire protections.

- To reduce potential impacts on public health and safety, trucks hauling debris and other loose materials would be covered to prevent spillage.
- Emergency response protocols would be developed for implementation during construction. Construction activities would be conducted in accordance with established safety protocols to reduce potential safety hazards for visitors, employees, and construction crews.
- To reduce potential impacts on normal park operations during construction, employees and construction crews would be required to park their vehicles in designated locations.
- Existing water, gas, sewer, fire, fiber-optic, and electric utility lines would be protected during construction activities.

2.3.8.2 Operation

- Visitors to Kahuku-Pōhue would be required to apply for a permit and pick the permit up in person. As part of this permit, permittees would be educated on tsunami risks, evacuation routes, and other potential hazards. Permittees would also be required to provide their emergency contact information. Signs would be placed to indicate when entering/exiting tsunami evacuation areas.
- Fire prevention measures and visitor education regarding fire prevention would be applied to any campgrounds and visitor facilities.

2.4 ALTERNATIVES CONSIDERED BUT DISMISSED

Through the planning process, Hawai‘i Volcanoes National Park managers considered several other management actions that were dismissed for various reasons. These reasons related to staffing requirements, sensitivity of resources, visitor safety, extent of infrastructure required to facilitate improvements, etc. The following is a list of other management actions or facility improvements that were considered but dismissed.

- Additional campground facilities in other portions of Lower Kahuku and Kahuku-Pōhue due to fire safety risk, coastal tsunami risk, ease of visitor access, or extent of improvements required to provide visitor access.
- More intense visitor use or visitor capacity in all areas due to desired conditions, potential resource impacts, extent of required improvements, and anticipated staffing requirements.
- Expanded water system for greater visitor use due to limitations on existing water availability and cost of upgrading the water line and/or providing staff that are qualified in water systems.

CHAPTER 3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter describes the current and expected future condition of special status species, cultural landscape, historic structures, and visitor use and experience at the park. Additionally, this chapter analyzes the beneficial and adverse effects that would likely result from implementing any of the alternatives considered in this EA. “Beneficial” is a positive change in the condition or appearance of the resource or a change that moves the resource toward a desired condition. “Adverse” is a change that declines, degrades, and/or moves the resource away from a desired condition or detracts from its appearance or condition. The analysis also assumes NPS guidelines have been applied to protect resources and visitor experiences and that, prior to construction, site-specific permitting or consultations would occur (as appropriate).

3.1 IMPACT TOPIC 1: SPECIAL STATUS SPECIES

3.1.1 Affected Environment (Current and expected future condition of the environment if no action is taken)

This section describes the current and expected future conditions for special status species under the no action. Because no foreseeable management actions would be implemented under the no action, the affected environment and expected impacts are the same and discussed together.

At the Kahuku Unit, nēnē currently use extensive subalpine areas well above the pastures for summer flocking. The pastures in Kahuku Ranch, prior to park acquisition, were included in a Hawai‘i Division of Forestry and Wildlife program to captive rear and release nēnē. A breeding pen was located in the upper pastures along the main ranch road. Prior to park acquisition, nēnē were reported using scattered pasture sites, including the heavily grazed corral areas that connected the paddock systems.

Current nēnē use of the pasture environment appears minimal. However, pairs have been reported sporadically in lower pastures, and several pairs use the upper reservoir at 1,900 meters (6,200 feet) above mean sea level seasonally during the breeding and non-breeding season. Division of Forestry and Wildlife biologists have documented recent, small-scale use of the paddock system via satellite telemetry of individual nēnē translocated from the island of Kauai, as well as natural resources staff observations. The majority of nēnē use at the Kahuku Unit occurs during the non-breeding season at higher elevations in subalpine scrub and on sparsely vegetated lava flows. This subalpine area is a critical flocking area for Island of Hawai‘i nēnē; over 100 individuals have been observed from various subpopulations across the island. Nēnē are also regularly observed at lower elevations along the Kona Trail throughout the year (McDaniels 2026).

Pōhue Bay is recognized as one of the most productive nesting sites for the endangered honu‘ea in Hawai‘i. The species was listed as endangered under the Endangered Species Act in 1970. Within the United States, regulatory jurisdiction is shared by the National Marine Fisheries Service and the USFWS. Due to its highly migratory behavior and transboundary range, the honu‘ea is also protected under several international agreements, including the Convention on International Trade in Endangered Species of Wild Fauna and Flora, the Convention on

Migratory Species, the Specially Protected Areas and Wildlife Protocol of the Cartagena Convention, and the Inter-American Convention for the Protection and Conservation of Sea Turtles.

Pōhue Bay has been a focus area for the implementation of species-specific conservation strategies, including nesting habitat management and nonnative species control, as outlined in the *Recovery Plan for the U.S. Pacific Populations of the Hawksbill Turtle* (National Marine Fisheries Service and USFWS 1998). These strategies are intended to address ongoing species concerns associated with invasive plant and wildlife species predation or habitat loss; nesting and hatching disturbance due to human activity; noise; lighting; and widespread climate, sea level, and marine debris risks.

Hawaiian monk seal is the only native marine mammal within the park and is listed as endangered. Hawaiian monk seals inhabit the beaches in Kahuku-Pōhue where they rest and bask along the shore for several days throughout the year. They also use these beaches for hauling out, pupping, and nursing, and use the vegetation further inland on the beaches for protection from weather elements.

The Kahuku Unit contains final or proposed critical habitat for several species, as detailed in Table 2.

TABLE 2. CRITICAL HABITAT IN THE KAHUKU UNIT

Common Name	Scientific Name	Critical Habitat Status	Species Status
Mauna loa (ka'ū) silversword	<i>Argyroxiphium kauense</i>	Final	Endangered
'i'iwi	<i>Drepanis coccinea</i>	Proposed	Threatened
No common name	<i>Schiedea diffusa</i> ssp. <i>macraei</i>	Proposed	Endangered
Hawaiian picture-wing fly	<i>Drosophila heteroneura</i>	Final	Endangered
Picture-wing fly	<i>Drosophila ochrobasis</i>	Final	Endangered
'aku 'aku	<i>Cyanea tritomantha</i>	Proposed	Endangered
Hawai'i phyllostegia	<i>Phyllostegia floribunda</i>	Proposed	Endangered
hō'awa	<i>Pittosporum hawaiiense</i>	Proposed	Endangered
No common name	<i>Schiedea diffusa</i> ssp. <i>macraei</i>	Proposed	Endangered
Hawaiian picture-wing fly	<i>Drosophila digressa</i>	Proposed	Endangered
'i'iwi	<i>Drepanis coccinea</i>	Proposed	Threatened
No common name	<i>Stenogyne cranwelliae</i>	Proposed	Endangered
ha'iwale	<i>Cyrtandra wagneri</i>	Proposed	Endangered
Green sea turtle	<i>Chelonia mydas</i>	Proposed	Threatened

The park manages these special status species and critical habitats through varied management actions, including monitoring, mitigating disturbance from visitors and park operations, and cooperating with various agencies and organizations to improve recovery efforts.

3.1.2 Environmental Effects

Under the proposed action, no in-water work is anticipated; however, nēnē or honu‘ea individuals nesting, foraging, or traveling across terrestrial or coastal habitats could be subject to localized noise, lights, and human disturbance or displacement during construction. New public access within Kahuku-Pōhue and increased visitor use to most areas of the Kahuku Unit during park operation would also introduce localized noise, nighttime lighting, traffic, and human disturbance, predominantly along the proposed four-wheel-drive access road, three day-use areas, and three overnight camping sites.

These activities would be intermittent and limited in physical extent but could result in short- to long-term adverse impacts by removing, degrading, or fragmenting wildlife habitat near new park infrastructure, or by disturbing or displacing individuals due to increased noise and human activity. All construction-related disturbances would cease once construction is complete. Additionally, the measures listed in Section 2.3.1, Wildlife and Species of Concern, would restrict activity if nēnē are observed loafing or foraging or if a nēnē nest is discovered, ensuring that they are not disturbed. Erosion and sediment movement from the construction in Kahuku-Pōhue to the coast, which could adversely affect special status species habitat, would be minimized through the implementation of construction best management practices. This NPS would also continue to implement current park special status species management guidance to protect and recover rare species.

The NPS would consult with the USFWS under Section 7 of the Endangered Species Act before taking any actions that may impact species of concern.

3.2 IMPACT TOPIC 2: CULTURAL LANDSCAPES

3.2.1 Affected Environment (Current and expected future condition of the environment if no action is taken)

This section describes the current and expected future conditions of cultural landscapes under the no action. Because no foreseeable management actions would be implemented under the no action, the affected environment and expected impacts are the same and discussed together.

The Kahuku Unit contains four component cultural landscapes: Kahuku Ranch, Kahuku Military Landscape in the upper portion of the unit, the Kahuku Ethnographic Landscape covering the entire unit, and the archaeological cultural landscape in Kahuku-Pōhue. Each landscape is either documented or in the process of being documented in separate cultural landscape inventories or, in the instance of Kahuku-Pōhue, in an archaeological inventory survey, due to their scale and historical contexts. In addition to surveying, inventorying, and evaluating cultural landscapes under National Register of Historic Places (NRHP) criteria to determine their eligibility for the NRHP, the NPS also manages these cultural landscapes via preservation and maintenance activities. However, volcanic and seismic activity continue to threaten cultural landscapes in the park.

3.2.1.1 Kahuku Unit Cultural Landscapes

3.2.1.1.1 *Kahuku Ranch*

The Kahuku Ranch cultural landscape is located in Ka‘ū, a remote and sparsely populated southern district of the Island of Hawai‘i. The approximately 13,402-acre Kahuku Ranch cultural landscape is a part of the original 184,000-acre cattle ranch that assumed the traditional ahupua‘a (land division) boundary of Kahuku and is representative of the development of the island ranching operations through the twentieth century. This original land parcel stretched from the summit of Mauna Loa to the southern tip of the island in a triangular parcel with a wide base at the ocean. The historic Kahuku Ranch includes within its boundary Mauna Loa’s very active Southwest Rift Zone—a long series of fractures, fissures, craters, cinder cones, lava flows, and faults—and ranges from 2,000 to 13,000 feet above mean sea level in elevation, all of which significantly influenced the development of a ranch on the island.

Located mauka and north of Highway 11, in the southeastern area of the NPS-owned lands, the Kahuku Ranch cultural landscape includes fences, roads, and trails that make up a sophisticated pasture-paddock system that reflects the evolution of the ranching landscape from 1912 to the turn of the twentieth to twenty-first century. Particularly significant in this landscape are the features from the complex water system, first established in early twentieth century, including water tanks, water troughs, watersheds, and pipes that are strategically located across the paddocks to unite the mauka (north) pastures of Kahuku Ranch into a single water system. Also of notable interest are the larger, lesser dissected mauka (north) paddocks located primarily to the west of the Kahuku Road, established between 1912 and 1947 by Parker Ranch, that contrast with the smaller, sectioned paddocks to the east of the road, established during the mid- to late twentieth century outside of the period of significance.

Kahuku Ranch is locally significant for its association with the patterns of development in the cattle industry on the Island of Hawai‘i and is particularly representative of the specific period in island ranching when ranching operations transitioned from land-responsive approaches of management, operating within the parameters of natural limitations of the landscape, to more intensive manipulation of the natural environment through the application of “modern,” or contemporary, technology (significant under NRHP Criterion A). The period of significance begins in 1912 when Kahuku was purchased as a satellite ranch of Parker Ranch and ends in 1947 when the Parker Ranch sold Kahuku to James Glover. This period reflects the years of development that incorporate early ranching (early to mid-twentieth century) and contemporary knowledge and practice of land use, and it signals the transition to an increasingly systematized approach of range management and cultivation. This significance is conveyed through several cultural landscape characteristics, including natural systems and features, spatial organization, circulation, vegetation, buildings and structures, small-scale features, constructed water features, and archaeology, which, evaluated together, contribute to the character of the historic district.

Kahuku Ranch retains its historic integrity and conveys its historic significance as a representative of the transition period in island ranching in the first half of the twentieth century, incorporating elements of early ranching land use practices, such as the siting and concentration of pasture-paddock development, with the introduction of intensive infrastructural development and contemporary range management. The land use of the area remained consistent for over a

century since the establishment of the Kahuku Ranch and, although no longer a cattle ranch, its incorporation into the National Park System as a managed unit of the Hawai‘i Volcanoes National Park has not detracted from the historic setting and feeling of the ranch. Kahuku Ranch retains its integrity in association with the natural landscape that so dramatically influenced the development of the ranch. The extant pasture-paddock and water systems dating to the Parker era contributed to the ranch and also served as the foundation for the extensive development of ranching infrastructure through the second half of the twentieth century. These systems retain their spatial layout from the historic period. Much of ranch systems’ integrity of materials and workmanship have diminished through the ranching years of continuous repairs and replacements, however, Kahuku Ranch is historically significant for its association with the development in island ranching history. Although the integrity of materials and workmanship have diminished over time, the ranching cultural landscape continues to retain historic integrity in design, location, setting, feeling, and association to convey the historic significance.

3.2.1.1.2 *Military Landscape*

The Kahuku Ranch cultural landscape encompasses a small, developed area that was used as a base camp in the post-war era. The Island of Hawai‘i was home to approximately 50,000 U.S. Marines between 1942 and 1945; most of these marines were based at Camp Tawara, a staging area for military operations in the Pacific located at the main Parker Ranch. However, a small group of 55 marines were assigned to an 11-acre radar station at Kahuku Ranch. The Marine unit’s headquarters was established at the base of Pu‘u o Lokuana and northeast to the Kahuku Ranch core, immediately mauka and north of Volcano Road (an earlier iteration of Highway 11). This area was selected for its well-concealed location and was named the Kahuku Base Camp.

The Kahuku Base Camp was released from military control in 1947. Given this, the developments in this area do not contribute to the Kahuku Ranch landscape under the ranching context within the period of significance of 1912 to 1947; however, it is a separate cultural landscape and has historical significance in its own right as a military site with a period of significance from 1939 through 1947. In 2011, the Kahuku Base Camp received State Historic Preservation Office concurrence that it is eligible for the NRHP under Criterion A specifically for its association with the context of World War II military history.

At least seven buildings/structures were constructed at the Kahuku Base Camp during the military era: the Military Dormitory (Building 404), Military Electric Generator House (Building 406), Vehicle Maintenance Shed (Building 407), Concrete Storage Vault (Building 414), Radar Room/Air Vent (Building 415a/b), Radar Antenna Support Structures, and the Mid-Level Tank Foundations.¹ Three buildings (406, 414, and 415) and the current circulation loop and access road to this area were identified as historic properties that contribute to the World War II Kahuku Ranch Base Camp. All other building placements appear to have been altered significantly since original military construction. However, some original materials have been recycled, as represented mostly in the reuse of wood materials for reconstructions, exterior siding replacement, and windows, albeit with some wood materials not used in their original situations.

¹ The determination of eligibility documents 12 extant buildings/structures at Kahuku Base Camp; it is possible that, like Building 407, a building/structure from the military period was removed and built over in other areas of the site, or that some features might have been removed altogether.

3.2.1.1.3 *Ethnographic Landscape*

Ethnographic landscapes are associated with contemporary groups who use and value the land in ways that continue long-established cultural practices. In a traditional Hawaiian context, there is no division between nature and culture, and the two are deeply intertwined. Natural phenomenon are the foundation of life and source of spirituality between people and the environment. The archaeological record, historic documentation, and oral traditions tied to Kahuku demonstrate many centuries of habitation, human presence, and interaction with the land. Traditional practices include bird catching, logging koa for canoes, farming, fishing, hunting, ritual/spiritual practice, amongst others. Ranching and other historic uses of the lands of Kahuku also established their own unique cultural practices and traditions. All of these types of traditional activities and cultural practices embody the ethnographic landscape and the human story linked to the land. Documentation of the ethnographic landscape in the ahupua‘a of Kahuku is currently in process to identify and document the resources and places that the associated people define as heritage resources. There are likely many overlaps in ethnographic resources, archaeology, and some of the ranching features.

3.2.1.1.4 *Kahuku-Pōhue Archaeological Landscape*

Based on archaeological studies, Kahuku-Pōhue possesses a rich archaeological history associated with use of the area from traditional Hawaiian times through the ranching period of the nineteenth century, with relatively little disturbance from modern activities. The traditional Hawaiian settlement pattern of the makai portion of the Kahuku ahupua‘a was anchored at the villages established at Pōhue Bay and at Kahakahakea, two areas with beaches that provide good canoe landings. Smaller settlements, such as Kanonone, are also found at the coast, near one or more sources of brackish water.

Remnants of the Ala Kahakai National Historic Trail once linked the Kahuku settlements with one another settlement and with settlements outside the ahupua‘a. Travel inland from the coast was primarily along two major mauka-makai trails that were used well into the ranching period. The area is dense in archaeological resources, including an abundance of house sites, resource extraction areas, heiau, and large numbers of petroglyphs, amongst other evidence of past habitation. Petroglyph motifs include traditional anthropomorphic and geometric figures, and a variety of words, names, letters, and other historic-era motifs, including dates in the nineteenth century.

3.2.2 **Environmental Effects**

Under the proposed action, cultural landscapes could be impacted if increased visitation or proposed management actions are inconsistent with the historic landscape. The introduction of new facilities within the Lower Kahuku visitor services area, such as a new entrance station kiosk, asphalt-paved parking area improvements, new education pavilion, loop trail, and a new restroom building, could further alter the landscape within the Kahuku Ranch and Kahuku Base Camp from how it appeared during the first half of the twentieth century. However, current visitor use and infrastructure within the Lower Kahuku visitor services area have not detracted from the historic setting and feeling of this landscape. The park would continue to design new development and infrastructure, applying the Secretary of the Interior Standards for Historic Preservation to be compatible with and not detract from the surrounding cultural landscape,

including siting to avoid cultural resources, to the extent possible. Additionally, the NPS would implement preservation measures established in the 2016 GMP (NPS 2016). Although much of ranch systems' and Kahuku Base Camp's integrity have diminished over time, the proposed action would preserve what remains of the historic landscape.

The introduction of trails, trailhead parking, and group and hike-in campsites in Upper and Lower Kahuku are not anticipated to affect any of the Kahuku Unit cultural landscapes, as these features would have limited capacity for camping with few support services (e.g., toilets, picnic tables). Therefore, impacts to the overall historic pastoral landscape within the Kahuku Ranch area, or to the broader biological diversity of the unit as a whole, would be limited. The park would continue to carry out ongoing restoration activities to protect and restore native ecosystems across these cultural landscapes. Additionally, most proposed trails or roads in the site management plan would use existing old Kahuku Ranch roads or paddock roads, although some new trail development or minor road improvements, such as limited grading or leveling, could occur. Reuse of historic road alignments and trails would ensure the preservation and maintenance of elements that are historic, which would have beneficial impacts on cultural landscapes.

Many of the project activities under proposed action could have positive effects on the ethnographic landscape. For many decades, much of the lands within the Kahuku ahupua'a were closed and inaccessible to the general public. Providing access to more areas of Kahuku would assist in re-establishing traditional connections to the lands and provide opportunities for people to immerse themselves in the natural environment and engage in traditional practices such as fishing. Negative consequences to the ethnographic landscape in relation to providing access could include overharvesting of ocean resources and damage to sensitive archaeological sites that are also ethnographic resources. This could be mitigated or minimized by providing educational materials to those that are issued permits for access and having backcountry staff presence to patrol the area. Conducting forest restoration and rehabilitation the land from some of the damaging effect of the ranching era would also be positive effects on the ethnographic landscape. Forest restoration would have a positive influence on the ecosystems and the watershed, all of which are interconnected and important factors of the ethnographic landscape. No changes are proposed for the pastures or ranching infrastructure, therefore the ethnographic resources tied to the cultural practices related to ranching may not be affected. Traditional routes that connect areas of the ahupua'a would be reestablished—like the Kahuku- Āinapō Trail, which was a route used by ranchers prior to the establishment of ranching in the area—and would serve to reconnect people to areas that have not been accessible for many decades.

Providing public access and improvements to trails, along with installation of limited signage, campground improvements, fencing, and composting toilets, are not anticipated to adversely affect the Kahuku-Pōhue archaeological landscape, as the NPS would implement the minimum number of facilities needed to support increased visitor use while also maintaining resource protection. The park would limit impacts by siting infrastructure to avoid sensitive resources and by controlling visitor use and providing education on protection of the resources through a park permitting system. Although public access to Kahuku-Pōhue could cause archaeological resources adjacent to or easily accessible from proposed infrastructure to be vulnerable to surface disturbance, inadvertent damage, and vandalism, continued ranger patrol, cyclical archaeological

condition assessments, and staff presence in the NPS would discourage damage or destruction of cultural remains.

As stated in Section 2.3.4.1, each individual proposed infrastructure improvement would undergo NEPA compliance and the Section 106 of the National Historic Preservation Act (36 CFR 800) process to take into full consideration the potential effects to historic properties.

3.3 IMPACT TOPIC 3: HISTORIC STRUCTURES

3.3.1 Affected Environment (Current and expected future condition of the environment if no action is taken)

This section describes the current and expected future conditions of historic structures under the no action. Because no foreseeable management actions would be implemented under the no action, the affected environment and expected impacts are the same and discussed together.

One historic structure is present within the Lower Kahuku visitor services area that could be impacted by management actions: Building 402 (comprising a sawmill facility and an electrical plant). Because the structure was constructed after the period of significance of the ranching period, it is a non-contributing element for Kahuku Ranch; however, it is a historic structure because it was constructed in 1948 for the logging operation.

The Kahuku Base Camp was developed into a koa (*Acacia koa*) sawmill operation based on timber harvesting and processing from 1947 to 1958. A building permit was obtained in 1948 to construct the sawmill facility, including the electrical plant. In 2013, the remnants of Building 402's sawmill facility were uncovered a few meters west of the main Kahuku Ranch entrance road. Archaeological documentation of the site revealed that the Glover-era sawmill facility measured approximately 24 feet wide × 40 feet long and contained remnants of the sawmill concrete slab foundations, among other features. In 1958, public tax records showed that all but the electrical plant at the sawmill facility were demolished. This suggests that the electrical plant was likely used to serve the operational needs of the ranch through the Damon Estate era.

3.3.2 Environmental Effects

Under the proposed action, Building 402 could be impacted if proposed management actions either result in noticeable physical impacts to the historic property's historic character, such as major earthmoving or construction of new buildings and structures, or result in impacts to the historic property that do not directly alter its physical character, but are noticeable, such as changes to the viewshed during construction.

Under the proposed action, Building 402 would be reconstructed applying the Secretary of the Interior Standards for Historic Preservation to serve as a storage facility. Due to the existing building's poor condition and elevated finished floor, it would not be feasible to rehabilitate the building without replacing most of the original material. The building would likely require major changes to be compliant with structural and accessibility codes. Impacts could be minimized by designing a new structure that would replicate the original look of the exterior of the building and be compatible with the character of the historic landscape such as siting the building in the

same location, using the same building form and footprint and massing, and using the same or similar materials and colors and finishes as the existing structure.

3.4 IMPACT TOPIC 4: VISITOR USE AND EXPERIENCE

3.4.1 Affected Environment (Current and expected future condition of the environment if no action is taken)

This section describes the current and expected future conditions for visitor use and experience under the no action. Because no foreseeable management actions would be implemented under the no action, the affected environment and expected impacts are the same and discussed together.

The Kahuku Unit is currently managed under an interim operating plan that allows limited day-use visitation (8 hours per day) on Thursday through Sunday and during special events. Based on internal tracking, visitation to Lower Kahuku has increased in recent years, rising from 5,318 visitors in 2016 to 22,535 visitors in 2023. The area offers limited amenities, including a small visitor contact station, a vault toilet, and a small number of trails, and existing visitor infrastructure does not meet current accessibility standards under the Architectural Barriers Act or International Code Council family of codes. Continued increases in visitation have resulted in growing demand for expanded trail systems and visitor infrastructure.

Prior to NPS acquisition, Kahuku-Pōhue was privately managed with limited access to the public. It was accessed by way of a private road for recreational activities such as hiking, fishing, and beachside camping, as well as for traditional cultural practices such as fishing. Since its acquisition by the NPS to Hawai'i Volcanoes National Park, public access to Kahuku-Pōhue has been restricted. If no action is taken, current visitor access limits, activity types and levels, and resource conditions would continue in Kahuku-Pōhue. Input provided at public meetings in late 2022 and 2024 indicated there is a need to find the appropriate balance among visitor access, activity types and levels, and resource protection in Kahuku-Pōhue.

Project elements described in this plan would occur within the park's three management zones: Visitor Services Zone, Transitional/Semi-Primitive Zone, and Wild/Primitive Zone. The Visitor Services Zone is the first point of contact visitors have with the park. It contains visitor facilities and generally receives higher visitation levels than other zones. There is one Visitor Services Zone in Kahuku Unit. It encompasses all of the existing ranch buildings in Lower Kahuku and the Pu'u o Lokuana Trail, extending north to the far side of Pu'u o Lokuana and west to the eastern edge of the Old Māmalahoa Highway. Visitor experiences within this zone are anticipated to include some exposure to artificial lighting, human generated sounds, presence of park infrastructure, and views of both historically introduced and native plants.

The Transitional/Semi-Primitive Zone includes areas that are dominated by natural conditions and includes most of Lower Kahuku. Visitor experiences within this zone are anticipated to include opportunities for solitude, relaxation, and exploration in a relatively natural environment with limited interpretation infrastructure.

The Wild/Primitive Zone includes all areas designated wilderness, eligible wilderness, or backcountry. The Wild/Primitive Zone includes Upper Kahuku, and the southwest corner of Lower Kahuku (including the 1887 flows west to the western boundary of Kahuku Unit). Visitor experiences within this zone are anticipated to include opportunities for solitude, remoteness, risk, challenge, self-sufficiency, discovery, and observation of an untrammled ecosystem.

3.4.2 Environmental Effects

Under the proposed action, visitor access and recreational opportunities through infrastructure improvements, expanded public hours, and public access to Kahuku-Pōhue would be increased within the Kahuku Unit, while maintaining some limits to protect the natural and cultural resources and continuing to provide a rustic visitor experience.

The Lower Kahuku visitor services area would incorporate project elements such as an entrance station kiosk, an asphalt-paved parking area, a restroom building, a picnic area, native plant gardens, a soft surface trail, a cultural demonstration area, and an educational pavilion. These features would allow for better visitor orientation and improve the visitor experience by creating a welcoming, purpose-built environment and providing additional interpretation and amenities that better engage visitors and help them enjoy the park and its resources. Management actions would be consistent with desired visitor experiences within the Visitor Services Zone.

Under the proposed action, trails would be designated and low-impact hike-in campsites would be constructed in Upper Kahuku. Lower Kahuku would also be the site of construction of both group and hike-in campsites, along with supporting campsite features such as parking or tent pads, picnic tables, fire rings, and composting or vault toilets. Additionally, Lower Kahuku would be the site of the improvement of Kahuku Road and some of the existing, historic ranch roads, as well as the construction of trailhead parking areas, the creation of spur trails, and an increase in guided activities and the completion of an interpretive media plan for trails and trailheads. These management actions would result in beneficial impacts to the visitor experience by improving access and creating additional recreational opportunities and services for visitors. Management actions would be consistent with desired visitor experiences within the Transitional/Semi-Primitive Zone and Wild/Primitive Zone.

The comprehensive site management plan would establish zoning and desired conditions for the Kahuku- Pōhue area to better define visitor use management direction and protect and preserve resources for the enjoyment of future generations. Existing and proposed road corridors would be zoned as Transitional/Semi-Primitive, whereas the remainder of the area would be zoned as Wild/Primitive. The plan would implement a permitted day-use system and hiking in Kahuku-Pōhue. In the future, when there is a road wholly on NPS land, there would be limited permitted camping. This would modify public access and provide a beneficial impact to the visitors seeking to use the area for recreational activities such as hiking, fishing, and beachside camping, as well as for traditional Native Hawaiian cultural practices. These management actions would be consistent with desired visitor experiences within the Transitional/Semi-Primitive Zone and Wild/Primitive Zone.

Construction of specific project elements could impact visitor use and experience through short-term noise, traffic or access limitations, and visual impacts. Although these impacts would be inconsistent with the typical park setting, all impacts would cease when construction is

completed. Additionally, most impacts would be concentrated geographically near the Kahuku Unit entrance and would be experienced less as visitors proceed further south into the park. The impacts would be mitigated by customary park activities such as landscape plantings and paint colors selected to match existing park structures and the natural, existing setting (see Section 2.3.6).

CHAPTER 4. CONSULTATION AND COORDINATION

No formal consultation has been completed as part of this initial plan and NEPA process. As projects identified in this plan are funded, they would undergo NEPA compliance and any required formal consultation as needed.

In November 2024, Hawai'i Volcanoes National Park managers initiated the civic engagement process to solicit public feedback on the preliminary concepts that would best meet the needs of the park and the public (see Appendix B). On November 6, 2024, the National Park Service issued a news release to area-wide news organizations and posted project information and a story map explaining the project on the Planning, Environment and Public Comment (PEPC) website. The news release and PEPC website provided a project overview and invited the public to participate in the civic engagement process. Members of the public were invited to submit comments on the project through the PEPC website or at a public meeting. Comments were accepted from November 6 to December 7, 2024, and three public meetings were held during this same time period.

On November 6, 2024, the National Park Service distributed civic engagement letters via email or hard copy materials to the Kūpuna consultation group which consists of Native Hawaiian Organizations, Native Hawaiian individuals, and select individuals with institutional knowledge of Hawai'i Volcanoes National Park. Additional discussions regarding the proposed action were held with the consultation group on 11/22/24 and 2/13/26.

In addition to these outreach efforts, the news release was posted on the park website and social media, and the NPS posted reminders about the comment period to encourage participation. Other media coverage included local outlets reprinting or reposting the news release.

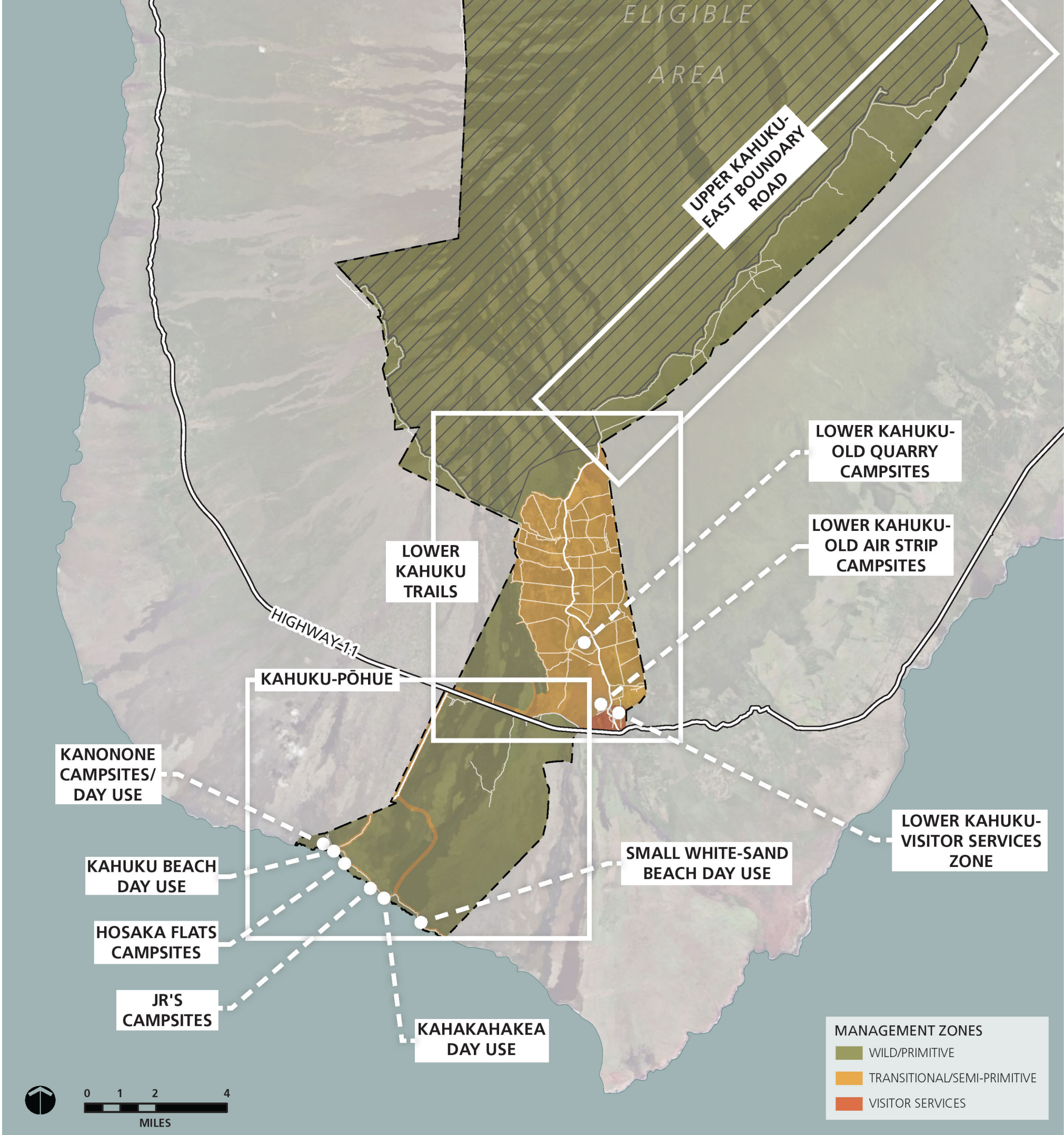
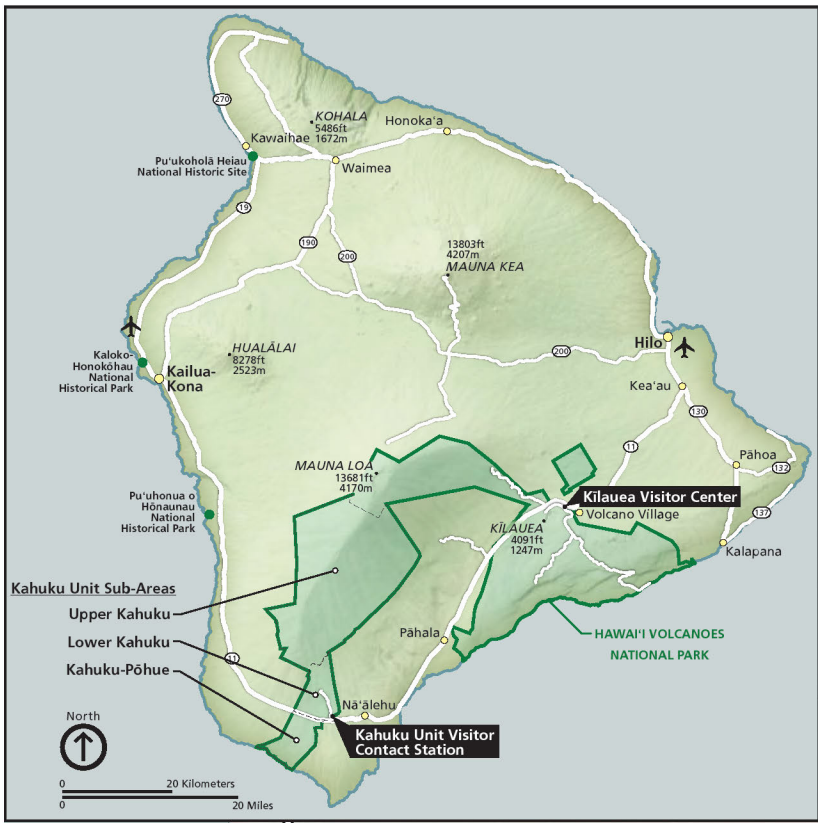
CHAPTER 5. REFERENCES

- National Marine Fisheries Service and U.S. Fish and Wildlife Service. 1998. *Recovery Plan for U.S. Pacific Populations of the Hawksbill Turtle (Eretmochelys imbricata)*. National Marine Fisheries Service, Silver Spring, Maryland.
- National Park Service. 2009. *Ala Kahakai National Historic Trail Comprehensive Management Plan*. Hawai'i County, Hawai'i: National Park Service, Ala Kahakai National Historic Trail.
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ENVIRONMENTAL ASSESSMENT APPENDICES

Appendix A

Proposed Action Figures



Key Map - Sub-Areas & Management Zones

Kahuku Unit Comprehensive Site Management Plan | April 2026

National Park Service
U.S. Department of the Interior

Hawai'i Volcanoes National Park



PROPOSED ACTION

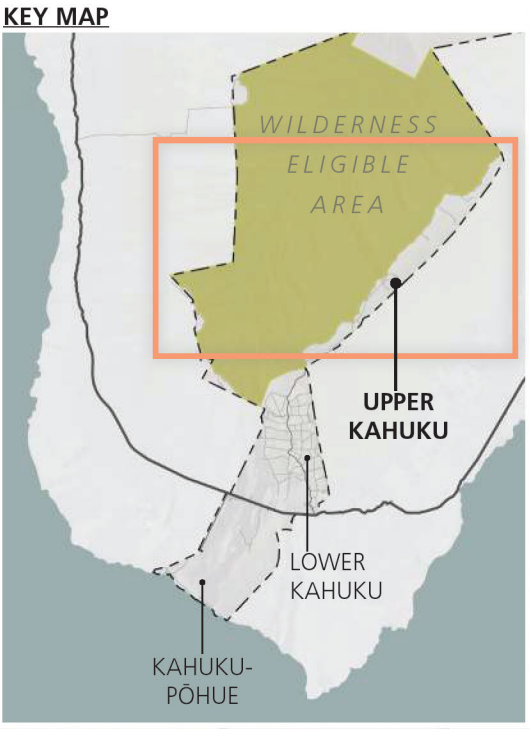
- ① **Reestablish Kahuku-‘Āinapō Trail:**
Reestablish a trail route that follows the historic Kahuku-‘Āinapō Trail alignment as closely as possible. Some sections would need to be improved, and some sections would need to be re-constructed.
- ② **Main Road:**
Designate and maintain main unimproved road (Kahuku Mauka Unit Road & Kahuku East Unit Road) as trail. Portions of the road may overlap with the Kahuku-‘Āinapō Trail.
- ③ **Midpoint Campsites:**
Construct three hike-in campsites at a point approximately midway between Lower Kahuku boundary and northeast boundary campsites. The exact location is to be determined and have lowest possible impacts to existing vegetation. Each campsite would include a tent platform and table. The campsites would be grouped around a shelter with a table. The shelter would be used for rain catchment to provide non-potable water.
- ④ **Kapāpala Boundary Campsites:**
Construct three hike-in campsites in clearing at the end of the existing road near the Kapāpala boundary. Each campsite would include a tent platform and table. The campsites would be grouped around a shelter with a table. The shelter would be used for rain catchment to provide non-potable water.
- ⑤ **‘Āinapō Trail Connection:**
Reestablish the trail connecting the Kahuku-‘Āinapō Trail to the ‘Āinapō Trail in the Kapāpala Forest Reserve. Some sections would need to be improved, and some sections would need to be re-constructed.



LEGEND

- SECONDARY ROADS
- PRIMARY ROADS
- PROPOSED TRAILS
- REESTABLISH KAHUKU-‘ĀINAPŌ TRAIL
- PARK BOUNDARY
- PROPOSED FACILITIES
- EXISTING FACILITIES
- WILDERNESS ELIGIBLE AREA

0 0.5 1 2
MILES



Upper Kahuku - East Boundary Road

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PROPOSED ACTION

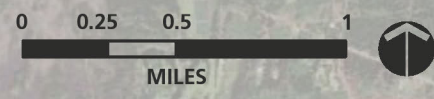
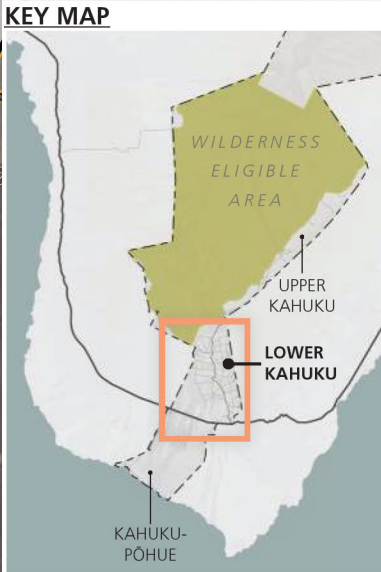
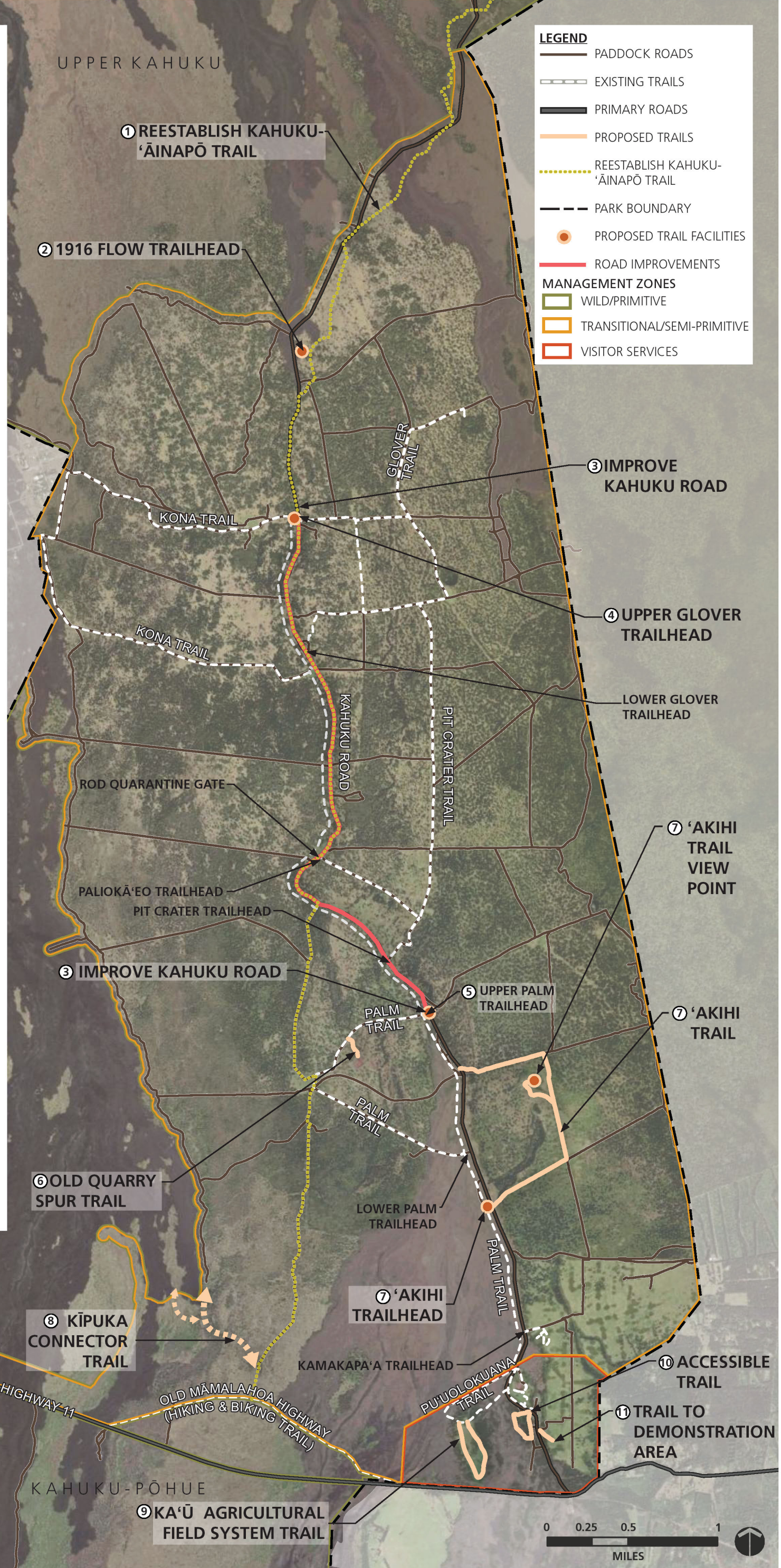
- ① **Reestablish Kahuku-‘Āinapō Trail**
Reestablish a trail route that follows the historic Kahuku-‘Āinapō Trail alignment as closely as possible.
- ② **1916 Flow Trailhead**
Construct a small parking area along Kahuku Road for hiking and backpacking into Upper Kahuku. Include information sign/kiosk and a new gate north of the parking.
- ③ **Kahuku Road**
Improve safety of Kahuku Road with minor grading and leveling, soil stabilization, gravel resurfacing, and widening where needed to provide limited turnout areas to allow for opposing traffic.
- ④ **Upper Glover Trailhead**
Install a new composting toilet at existing trailhead parking area.
- ⑤ **Upper Palm Trailhead**
Expand existing trailhead parking to accommodate spaces for the proposed Old Quarry Campsites (See Lower Kahuku Old Quarry Campsites map).
- ⑥ **Old Quarry Spur Trail**
Designate existing road as spur trail to new campsites (see Lower Kahuku Old Quarry Campsites map).
- ⑦ **‘Akihi Trail**
Designate and maintain existing road as a trail to ‘Akihi. Add spur trail to view point with tables looking out to the coast. Add a trailhead on Kahuku Road with a small parking area and informational sign.
- ⑧ **Kīpuka Connector Trail**
Construct a new trail connecting Kīpukamāmane and the dry forest. Trail alignment and connections to be determined.
- ⑨ **Ka‘ū Agricultural Field System Trail**
Construct a new spur trail with interpretive elements next to a portion of the archaeological remnants of the extensive ancient dryland agricultural field system.
- ⑩ **Accessible Trail**
Improve slopes and pave existing road to meet accessibility requirements of Outdoor Recreation Access Route (see Lower Kahuku - Visitor Services Zone map).
- ⑪ **Trail to Demonstration Area**
Designate portion of existing road as a trail to the proposed cultural demonstration area (see Lower Kahuku Visitor Services Zone map).

LEGEND

- PADDOCK ROADS
- EXISTING TRAILS
- PRIMARY ROADS
- PROPOSED TRAILS
- REESTABLISH KAHUKU-‘ĀINAPŌ TRAIL
- PARK BOUNDARY
- PROPOSED TRAIL FACILITIES
- ROAD IMPROVEMENTS

MANAGEMENT ZONES

- WILD/PRIMITIVE
- TRANSITIONAL/SEMI-PRIMITIVE
- VISITOR SERVICES



Lower Kahuku Trails

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PROPOSED ACTION

New Entrance Station: Construct a small entrance station on Kahuku Road, located near other facilities to minimize impacts of extending utilities to the new building.

Parking Lot Improvements: Pave and formalize the parking area. Provide accessible route connecting parking, picnic shelter, restrooms, education pavilion, and visitor contact station. Provide pedestrian safety measures such as speed humps. Assess parking capacity needs and phase parking improvements as needed. Improve existing paved parking and walkway to have an accessible slope.

New Restroom: Construct a new restroom building with flush toilets in association with water tank improvements. Sewer system would include septic tank and absorption field. Site the new restroom next to the parking lot in a location where the building and related utilities will have minimal impacts to natural and cultural resources.

Picnic Shelters: Construct picnic shelters among the trees near the parking lot.

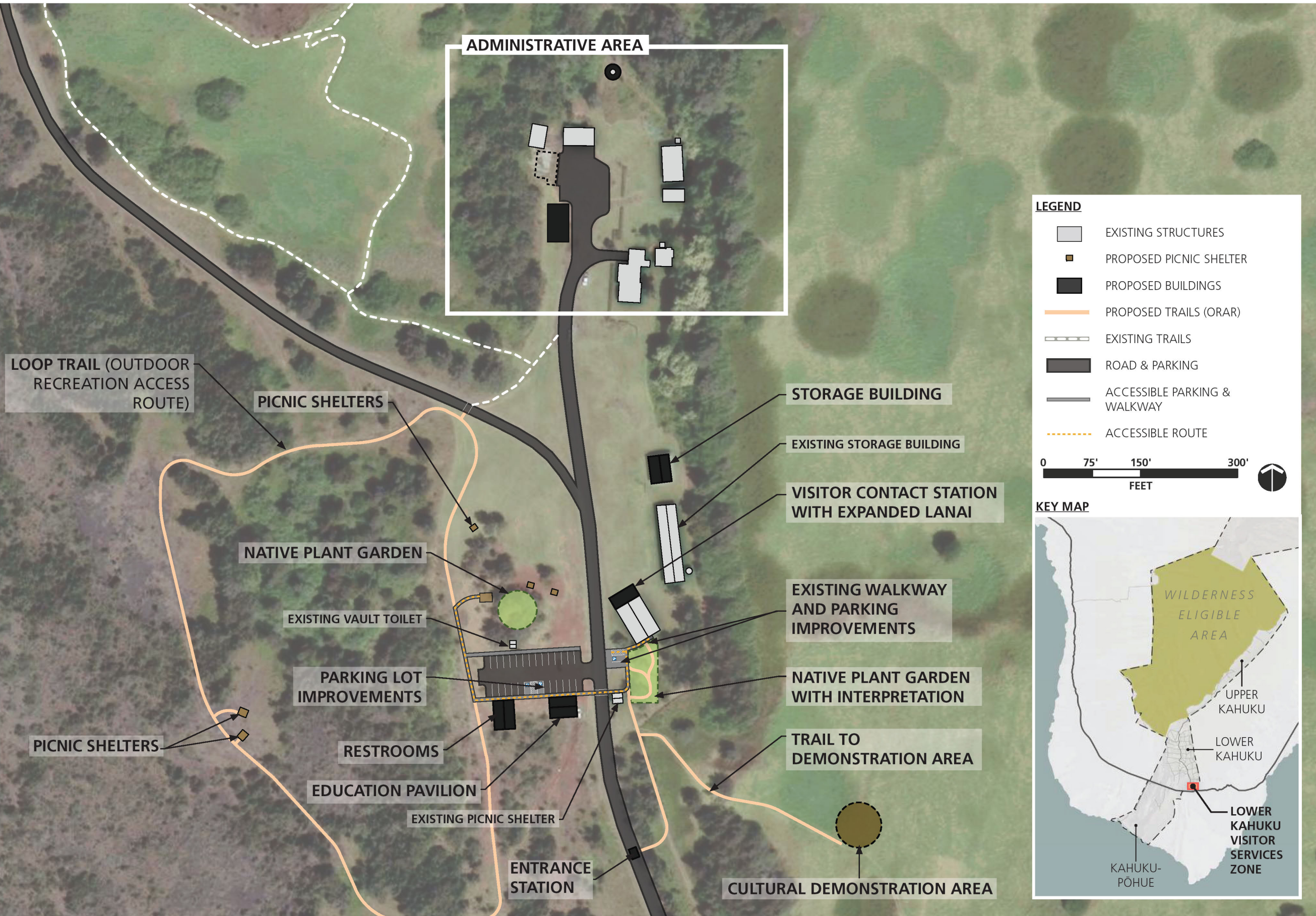
Loop Trail (Outdoor Recreation Access Route - ORAR): Grade and pave old roads to create an accessible trail with connections for picnic shelters, parking lot, restroom building, and Visitor Contact Station.

Native Plant Gardens: Incorporate small groupings of native plants next to the Visitor Contact Station and picnic area.

Cultural Demonstration Area: Designate and program a portion of the ancient dryland agricultural field system as a cultural demonstration area. Designate a portion of the existing road as a connector trail from the Visitor Contact Station.

Visitor Contact Station Improvements: Expand the lanai of the visitor contact station. Update and complete previously designed exhibits for the station.

Education Pavilion: Construct an open-air education pavilion near parking, restrooms, and visitor contact station.



Lower Kahuku Visitor Services Zone: Visitor Use

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PROPOSED ACTION

Employee Housing Dormitory:

Construct a new one-story dormitory building to house seasonal, volunteer, or field staff.

Water Tank: Replace existing water tank with a new larger tank.

Natural Resource Management Base Yard:

Improve existing stockpile area as an administrative base yard to include greenhouses, vault toilet, and room for storage containers and staff parking. Exact location to be determined and may include other previously disturbed areas in vicinity of administrative facilities.

Storage Building: Replace the old saw mill generator building with a storage building that is designed to reflect the style of the old building.

EMPLOYEE HOUSING DORMITORY

REPLACE WATER TANK

EXISTING RESIDENCE
(REHAB IS CURRENTLY IN
PROCESS)

EXISTING KAHUKU UNIT OFFICES

STORAGE BUILDING

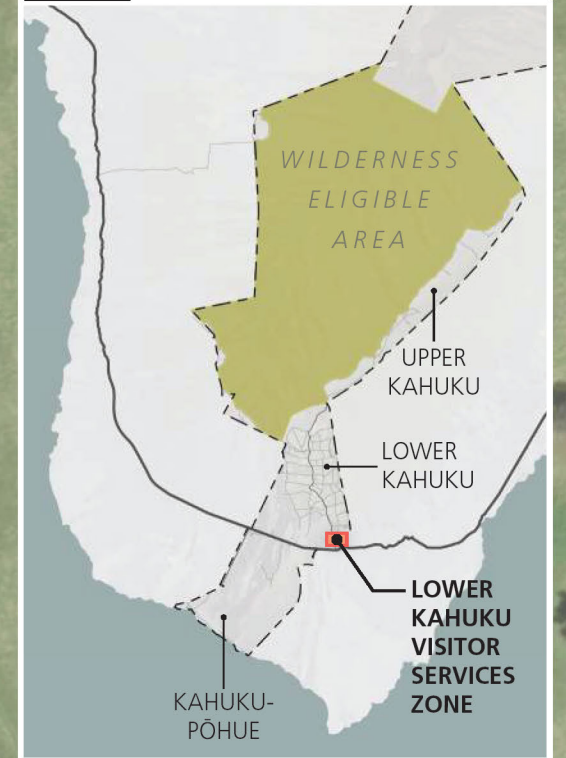
NATURAL RESOURCE
MANAGEMENT BASE YARD

LEGEND

- EXISTING STRUCTURES
- PROPOSED PICNIC SHELTER
- PROPOSED BUILDINGS
- PROPOSED TRAILS
- EXISTING TRAILS
- ROAD & PARKING
- ACCESSIBLE PARKING & WALKWAY



KEY MAP



Lower Kahuku Visitor Services Zone: Administrative Use

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PROPOSED ACTION

Group Campsite: 25-person capacity. Sites are broken into separate clusters to allow for smaller group areas to be reserved separate from one large reservation. Two accessible sites. Accessible route connecting accessible campsites, pavilion, and restroom.

Campground Road: Paved road from the old airstrip and a one-way loop with dispersed groups of parking stalls.

Pavilion: Centrally located to provide a shaded area for group tables and grills.

Restroom: Double vault toilet, located near the entrance for easy maintenance access.

LEGEND

- CAMPSITE (CLEAR AREA)
- TABLE
- FIRE RING
- BUILDINGS
- NATURAL SURFACE TRAIL
- ROAD & PARKING
- ACCESSIBLE PARKING & WALKWAY
- ACCESSIBLE ROUTE

0' 25' 50' 100'
FEET

KEY MAP

WILDERNESS ELIGIBLE AREA

UPPER KAHUKU

LOWER KAHUKU

LOWER KAHUKU OLD AIRSTRIP GROUP CAMPSITES

KAHUKU-PÖHUE



Lower Kahuku Old Airstrip Group Campsites

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Hawai'i Volcanoes National Park



PROPOSED ACTION

Walk-In Campsites: 7 Sites, each with a table and 1-2 tent pad areas. Two accessible sites.

Spur Trail: Natural surface trail following existing road with connections to each campsite and composting toilet. Grade trail to meet ORAR standards between composting toilet and overlook.

Quarry Overlook: Overlook with view into the old quarry and rest area with 2 tables and 2 benches at end of spur trail.

Composting Toilet: Single toilet building with composting tank system.



Lower Kahuku Old Quarry Campsites

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PROPOSED ACTION

Administrative Road:

Construct a 4WD access road fully within NPS property to replace the existing access that requires permission to drive through private property. Alignment would avoid impacts to sensitive areas.

Pōhue Coastal Road:

Designate and maintain road as a trail.

Other Existing Roads: Existing park roads not needed for visitor or administrative access may be abandoned and allowed to return to natural conditions.

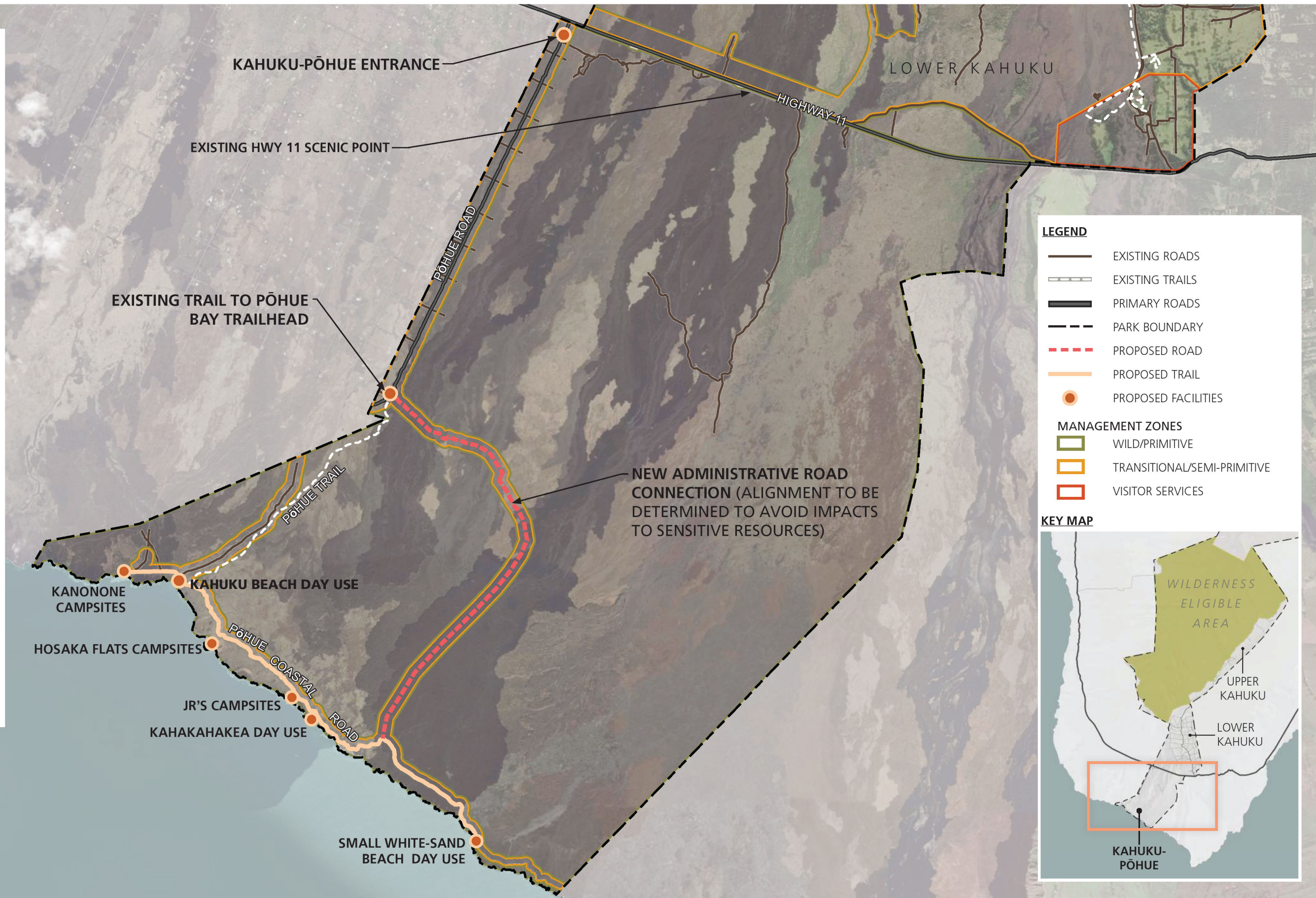
Day-Use Areas: Designate Kahuku Beach, Kahakahakea, and Small White-Sand Beach as day-use only areas. Add information signs and tables. Add a composting toilet at Kahakahakea and Small White-Sand Beach.

Small-Scale Campsites: Construct campsites at Kanonone, Hosaka Flats, and JR's. Add tent pads, tables, rainshed shelters, and signage where needed. Add composting toilet at Hosaka Flats and JR's.

Trail to Pōhue Bay Trailhead: Improve the existing trailhead by adding an informational sign and composting toilet.

Education/Interpretation: Create digital or online options to provide orientation and education, digital or in-person guided walks, etc. while protecting sensitive areas from physical facility development.

Fencing: Install fences in strategic areas to protect fragile resources.

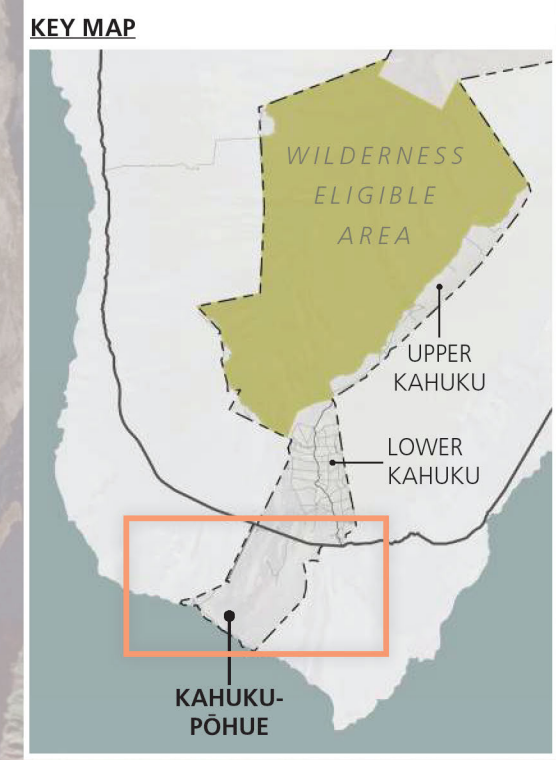


LEGEND

- EXISTING ROADS
- EXISTING TRAILS
- PRIMARY ROADS
- PARK BOUNDARY
- PROPOSED ROAD
- PROPOSED TRAIL
- PROPOSED FACILITIES

MANAGEMENT ZONES

- WILD/PRIMITIVE
- TRANSITIONAL/SEMI-PRIMITIVE
- VISITOR SERVICES



Kahuku-Pōhue

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PROPOSED ACTION

Campsites: 1 double site and 3 single sites, each with a table and 1-2 tent pads. Two accessible sites.

Day-Use: Designated parking area and 2 tables.

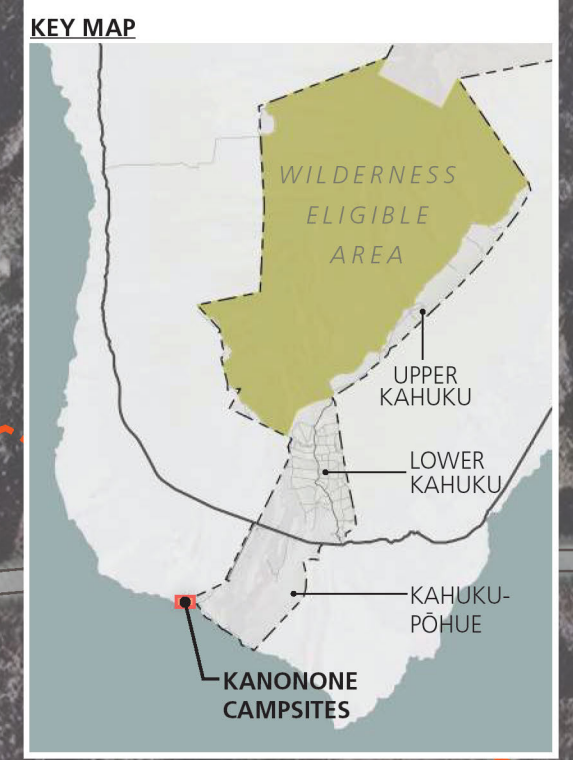
Outdoor Recreation Accessible Route: Route along road connects double campsite, 1 single campsite, day-use parking and tables, and composting toilet.



LEGEND

- CAMPSITE (CLEAR AREA)
- TABLE
- EXISTING STRUCTURE
- REGULATORY FLOODPLAIN (PER CISA)
- OUTDOOR RECREATION ACCESS ROUTE (ORAR)

0' 45' 90' 180'
FEET



Kanonone Campsites & Day-Use

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PROPOSED ACTION

Day Use: Designated parking area and 4 tables.

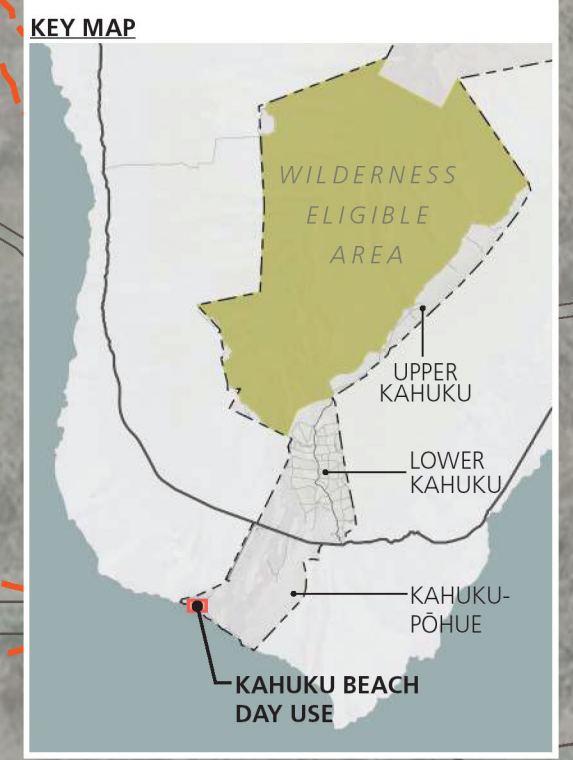
Outdoor Recreation Accessible Route: Route along road connects parking, tables, and composting toilet.



LEGEND

- TABLE
- EXISTING STRUCTURE
- REGULATORY FLOODPLAIN (PER CISA)
- OUTDOOR RECREATION ACCESS ROUTE (ORAR)

0' 30' 60' 120'
FEET



Kahuku Beach Day Use

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Hawai'i Volcanoes National Park





PROPOSED ACTION

Campsites: 3 Sites, each with a table and tent pad area. Outdoor Recreation Access Route along the road connects the campsites to the composting toilet.

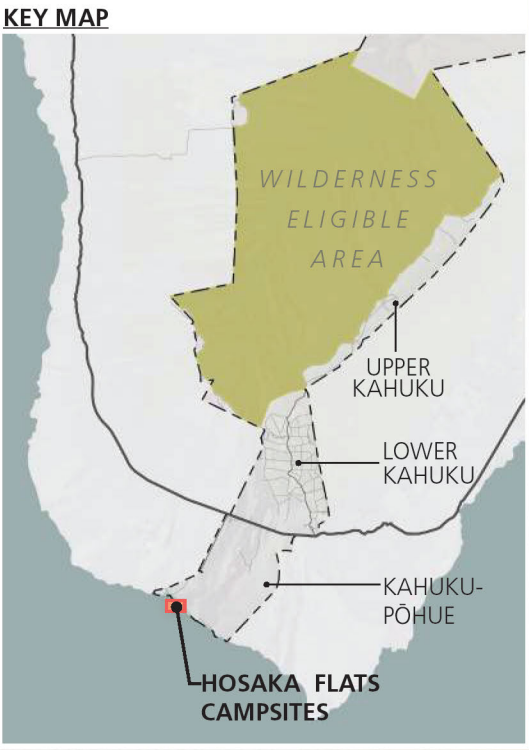
Composting Toilet: Single toilet building with composting tank system.

Secondary facility location: Secondary area for composting toilet that will be closer to fishing activities but on higher ground of flats area.

LEGEND

- CAMPSITE (CLEAR AREA)
- TABLE
- PROPOSED COMPOSTING TOILET
- REGULATORY FLOODPLAIN (PER CISA)
- OUTDOOR RECREATION ACCESS ROUTE (ORAR)

0' 30' 60' 120'
FEET



Hosaka Flats Campsites

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JR's Campsites

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PROPOSED ACTION

Day Use: Designated parking area and 3 tables.


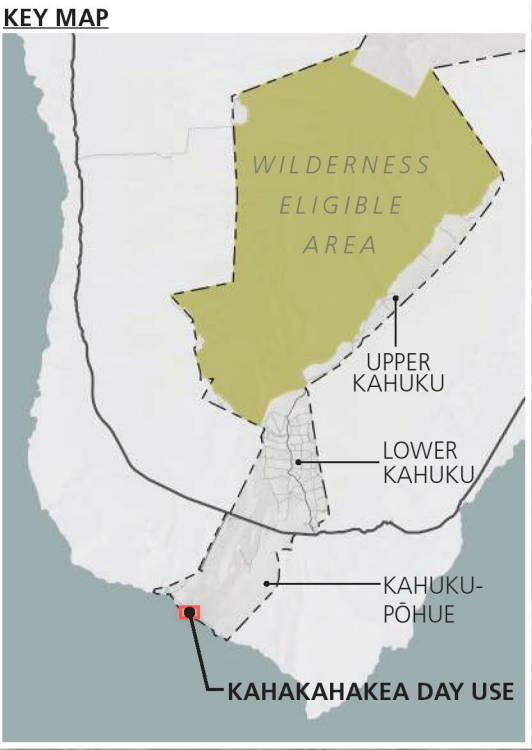
Composting Toilet: Single toilet building with composting tank system.

Outdoor Recreation Accessible Route: Routes connect parking, tables, and composting toilet.

LEGEND

-  TABLE
-  PROPOSED COMPOSTING TOILET
-  REGULATORY FLOODPLAIN (PER CISA)
-  OUTDOOR RECREATION ACCESS ROUTE (ORAR)

0' 30' 60' 120'
FEET

Kahakahakea Day Use

Kahuku Unit Comprehensive Site Management Plan | April 2026

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PROPOSED ACTION

Day Use: Designated parking area and 3 tables.

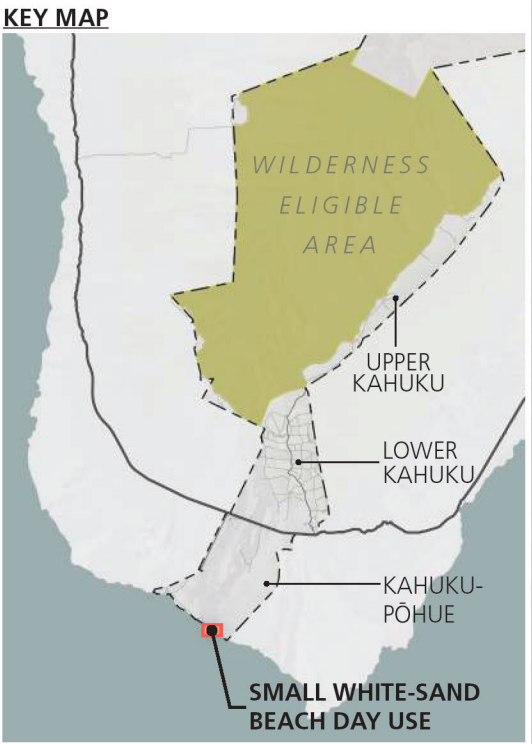
Composting Toilet: Single toilet building with composting tank system.

Outdoor Recreation Accessible Route: Routes connect parking, tables, and composting toilet.

LEGEND

- TABLE
- PROPOSED COMPOSTING TOILET
- REGULATORY FLOODPLAIN (PER CISA)
- OUTDOOR RECREATION ACCESS ROUTE (ORAR)

0' 30' 60' 120'
FEET



Appendix B

Civic Engagement Summary

National Park Service
U.S. Department of the Interior

Hawai'i Volcanoes National Park
January 2025



Kahuku Site Management Plan

Civic Engagement Comment Summary and Comment Analysis Report

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Appendix A – Correspondence Index of Organizations

Appendix B – Correspondence Index by Code

1 INTRODUCTION

The National Park Service (NPS) at Hawai'i Volcanoes National Park (Hawai'i Volcanoes) is preparing a comprehensive site management plan (SMP) for the NPS managed area of Kahuku referred to as the Kahuku Unit. This unit of the park is composed of three sub-areas: Upper Kahuku, Lower Kahuku, and Kahuku-Pōhue. Together these areas straddle the Southwest Rift Zone of Maunaloa and extend across lava fields, coastal areas, pastures, forests, and shrublands and mesic, subalpine, and desert environments in the Ka'ū District of Hawai'i County. The unit includes habitat for several species of federally listed endangered plants and animals and contains numerous cultural resources, including archeological sites, historic structures, ethnographic resources, and sacred sites.

The SMP and the process of civic engagement are essential to define the types of visitor uses and functions for the Kahuku Unit. Called for in the 2016 General Management Plan, the SMP will refine the vision for the unit by assessing the facilities and access needs. The plan will also provide recommendations on additional facilities and improving access. Two initial steps of the process are to identify the overall objectives of the plan and any issues or concerns that need to be addressed or considered.

Hawai'i Volcanoes led a civic engagement process from November 6 to December 6, 2024 to seek community input as it develops the Kahuku SMP. Through civic engagement, NPS wants to learn more about community priorities and use public input to help prioritize projects and locations.

In total, 61 correspondences from three states were submitted through the Planning, Environment and Public Comment (PEPC) website during the civic engagement period, and an additional two correspondences capture the public input that was received during three public meetings. This report summarizes the comments received and discloses how they were organized. This report does not contain responses to the comments received; public comments will solely be used to inform development of the SMP and written responses will not be prepared.

1.1 Civic Engagement Period

1.1.1 News Release and Planning, Environment and Public Comment Website

On November 6, 2024, the NPS issued a news release to area-wide news organizations and posted project information and a story map explaining the project on the PEPC website. The news release and PEPC website provided a project overview and invited the public to participate in the civic engagement process. Members of the public were invited to submit comments on the project through the PEPC website or at a public meeting. Comments were accepted from November 6 to December 7, 2024, and three public meetings were held during this same time period.

In addition to these outreach efforts, the news release was posted on the park website, social media, and the NPS posted reminders about the comment period to encourage participation. Other media coverage included local outlets reprinting or reposting the news release.

1.1.2 Public Meetings

Three public meetings, consisting of two in-person meetings and one virtual meeting, were held during the civic engagement period at the following times and locations:

- In-Person Meeting – Thursday, November 14, 2024
Time: 6 p.m. to 8 p.m.
Location: Nā'ālehu Community Center, 95-5635 Hawai'i Belt Road, Nā'ālehu, Hawai'i 96772

- In-Person Meeting – Saturday, November 16, 2024
Time: 11 a.m. to 1 p.m.
Location: Kahuku Visitor Contact Station, Māmalahoa Highway (Highway 11) MM 70.5, Nā'ālehu, Hawai'i 96772
- Virtual Meeting – December 3, 2024
Time: 6 p.m. to 8 p.m.
Location: Virtual meeting with option to join through Zoom or dial-in by phone (toll free)

The in-person meetings were open-house style and provided an opportunity for the public to learn more about the project, ask questions, and have discussions with park staff. At in-person meetings, park staff took notes on the overarching ideas, concerns, and opinions voiced by the public attendees, which are included in this report as comments. In addition, meeting attendees were directed to submit comments through PEPC.

The virtual meeting began with a presentation followed by an opportunity for the public to ask questions and comment. Questions asked by the public during the virtual meeting question and answer portion are included in this report as comments. In addition, virtual attendees were directed to submit comments through PEPC as an alternative option.

1.2 Summary of Public Participation During the Civic Engagement Period

Sixty-one correspondences from three states were submitted through PEPC during the civic engagement period and an additional two correspondences capture the public input that was received during the three public meetings¹. The majority of comments received during this period expressed the following:

- Commenters provided statements of general support for increased public access and described their preferred method(s) of access (e.g., regular vehicle, four-wheel drive [4WD] vehicle, or hike-in).
- Commenters expressed general support or opposition to increased camping opportunities, trails, roads, and/or visitor facilities (e.g., toilets, picnic tables).
- Commenters expressed support for proposed locations of new trails, roads, campsites, or facilities.
- Commenters expressed general support or opposition to the use of a permit system. For those in favor, many suggested that the permit system be designed to prioritize access for locals and Native Hawaiians above non-locals and tourists.
- Commenters expressed concern over the potential impacts of increased public access on natural and cultural resources, and the visitor experience.
- Commenters suggested limits or restrictions on allowable uses or visitor use numbers to ensure protection of natural and cultural resources, and the visitor experience.
- Commenters expressed concern for the protection of coastal cultural and archaeological resources and requested that coastal access for traditional uses be promoted and prioritized.
- Commenters expressed support for specific types of uses being allowed or prohibited from the park.

¹ One correspondence captures the public input received at both of the in-person meetings, and another correspondence captures public input received at the virtual meeting.

- Commenters made suggestions for natural resource management actions (e.g., for native and invasive species and ungulates).

2 THE COMMENT ANALYSIS PROCESS

2.1 Definition of Terms

Primary terms used in the document are defined below:

Correspondence: A correspondence is the entire document received from the public—including individuals, organizations, government officials, and agency representatives. It can be in the form of a letter, comment card, or PEPC website comment form entry. Specific to this project's civic engagement phase, public meeting notes capturing overarching themes, concerns, and ideas voiced by public attendees also count as a type of correspondence in this report.

Comment: A comment is a portion of the text within a correspondence that addresses a single subject. It could include such information as an expression of support or opposition to a proposed activity, additional data regarding the existing condition, an opinion questioning a matter of policy, or an opinion regarding the adequacy of an analysis.

Code: A code is a grouping centered on a common topic or subject matter with which the public is concerned.

Concern Statement: Concern statements were developed to summarize the multiple issues represented by the comments.

2.2 Guide to this Document

This report is organized as follows:

Content Analysis Report – This is the basic report produced from the PEPC website that provides information on the numbers and types of comments received, organized by code.

Public Comment Summary – This report summarizes the comments received during the civic engagement period. These comments are organized by codes and further organized into concern statements. Comment text is presented as submitted, which can include spelling errors. This text has not been edited.

Correspondence Index of Organizations (Appendix A) – This list identifies the commenters or authors by organization type.

Index by Code (Appendix B) – This list identifies the commenters or authors who commented on the listed topics, as identified by the codes used in this analysis.

3 CONTENT ANALYSIS

This report summarizes 100 comments taken from 63 public correspondences received during the civic engagement period (61 written correspondences and two correspondences which capture input received at the public meetings). Comments were categorized into 16 topics identified by unique codes. Although most comments were assigned one code, a portion of comments were assigned two codes if they addressed more than one topic in a single sentence.

The distribution of comments by code is provided in Table 1.

TABLE 1. COMMENT DISTRIBUTION BY CODE

Code	Description	Number of Comments ¹	Percent of all Comments
PA3000	Public Access: Coastal	21	12.3%
VU6000	Visitor Use: Camping	18	10.5%
VU9000	Visitor Use: Biking	14	8.2%
PA1000	Public Access: General	13	7.6%
VM2000	Visitor Use Management: Permit System	13	7.6%
VU7000	Visitor Use: Trails	13	7.6%
VU8000	Visitor Use: Equestrian	12	7.0%
WH4000	Wildlife and Wildlife Habitat: Impact of Proposal and Alternatives	11	6.4%
VU10000	Visitor Use: Facilities	10	5.8%
VU11000	Visitor Use: Education/Interpretation	10	5.8%
CR4000	Cultural Resources: Impact of Proposal and Alternatives	9	5.3%
VM1000	Visitor Use Management: General	9	5.3%
PE1000	Public Engagement	8	4.7%
PA2000	Public Access: Roads	4	2.3%
VR4000	Vegetation and Riparian Areas: Management Actions	3	1.8%
WI1000	Wilderness	3	1.8%

¹Note: A total of 101 comments were coded. However, since some comments were assigned two codes, the total number of comments in this row adds up to 171.

The majority of correspondences received were from unaffiliated individuals (Table 2).

TABLE 2. CORRESPONDENCE SIGNATURE COUNT BY ORGANIZATION TYPE

Organization Type	Number of Correspondences
-------------------	---------------------------

Recreational Group	1
Business	1
State Government	1
Unaffiliated Individual*	60

*The two correspondences which capture the public input received during public meetings are counted as unaffiliated individuals in this table. Any organizations who were present at the public meetings were instructed to submit comments through PEPC for their organization to be documented in the comment record.

Table 3 shows the distribution of how correspondences were received.

TABLE 3. CORRESPONDENCE DISTRIBUTION BY CORRESPONDENCE TYPE

Type	Number of Correspondences
Web Form (PEPC)	61
Public Meeting	2*

*Note: this does not represent the number of individuals who attended or provided input at the public meetings. All public input provided at public meetings has been consolidated into two correspondences. With Hawai'i Volcanoes being located in the state of Hawai'i, the majority of correspondence was received from commenters within the state (Table 4).

TABLE 4. CORRESPONDENCE DISTRIBUTION BY STATE

State	Number of Correspondences	Percent of all Correspondences
Hawai'i	60	95.3%
California	1	1.6%
Oregon	1	1.6%
Unknown	1	1.6%

The majority of correspondences received were from the United States (**Table 5**).

TABLE 5. CORRESPONDENCE DISTRIBUTION BY COUNTRY

Country	Number of Correspondences	Percent of all Correspondences
United States	62	98.4%
Canada	1	1.6%

4 PUBLIC COMMENT SUMMARY

4.1 Public Access: Coastal

4.1.1 Concern Statement: Road Access for Public

There should be vehicle access via road to the coast/Pohue unit.

Representative Comment(s)

Correspondence Id: 62 Comment Id: 1412927

Comment Text: Prefer road further away from subdivision

Correspondence Id: 63 Comment Id: 1413067

Comment Text: I would like to see the road to the parking area below the highway for the access trail to the beach be made accessible for passenger cars and not just 4x4's.

Correspondence Id: 43 Comment Id: 1412222

Comment Text: I absolutely do NOT agree with the creation of a park, that can only be used by obtaining a day pass, or paying any amount of money to access the beach. FOR TOO LONG resident tax payers living in Ocean View have been denied access by private entities. Now the state finally obtained this property and you want to keep it basically inaccessible by cars, etc.. It absolutely needs to have a road put in to access, and bathrooms installed. For all these years my family has wished and prayed, that we the community living in Ocean view would finally have a beach our children could be proud to be apart of, to represent, just like every other beach has local children that represent the beach in there community. It will be an absolute shame, and abuse of power to not finally give our community vehicle access

4.1.2 Concern Statement: Road Access Limited

There should be vehicle road access to the coast in a limited capacity (i.e., emergency response or for disabled visitors).

Representative Comment(s)

Correspondence Id: 62 Comment Id: 1413035

Comment Text: Work with property owners for Kupuna access to beach via car for disabled only

Correspondence Id: 62 Comment Id: 1412917

Comment Text: Good access road for LE/emergency response

Correspondence Id: 60 Comment Id: 1412265

Comment Text: The road corridors only should be for rare park maintenance and maybe for honu monitoring.

4.1.1 Concern Statement: Four-Wheel-Drive Access

There should be access to the coast via 4WD vehicle.

Representative Comment(s)

Correspondence Id: 16 Comment Id: 1412167

Comment Text: Please keep 4wd access open to the Kanaka Maoli and lawai'a for sustenance and cultural purposes.

Correspondence Id: 15 Comment Id: 1412164

Comment Text: I would like to see a plan similar to how the previous owners and caretakers managed the area with four-wheel drive road access to the various fishing/camping spots in the area.

Correspondence Id: 28 Comment Id: 1412196

Comment Text: I am writing specific to Pohue Bay and neighboring campsite access. My family has been going there for over 20 years. We were privileged to enjoy camping, gathering of seafood and building memories in such a special place. My family and I would like to request continued access there via 4 wheel drive. The Kupuna and young kids will not be able to hike in if that turns out to be the only way down. I feel that will be unfair to so many people, giving access only to those who are physically fit and capable of making that grueling hike. With so many of our fishing, swimming and hunting spots being blocked off or restricted access for whatever reasons (military, Kam school, private owners), we would hate to see another spot lost.

4.1.1 Concern Statement: Trail Access

There should only be hike-in access to the coast via trail.

Representative Comment(s)

Correspondence Id: 60 Comment Id: 1412263

Comment Text: We have hiked from Ranchos to Pohue Bay for years. Please make Pohue Bay access strictly by hiking, with the distance at least a mile, and longer would be good. People who hike in are more likely to take care of the resource than those who drive in (ATV, UTV, 4wd, or passenger vehicle).

Correspondence Id: 63 Comment Id: 1413072

Comment Text: Is the proposed vehicle access to the Pohue Kahuku going all the way to the coast? Why not have a parking area at the end of that old spur and then a hiking trail to the coast?

4.1.1 Concern Statement: Suggested Uses

Questions or comments about what public uses would or should be allowed at the beach, such as cultural practices, camping, or dog walking.

Representative Comment(s)

Correspondence Id: 63 Comment Id: 1413097

Comment Text: What would be the status of resource gathering such as fishing along the coastline for residents of Ka'ū or residents of Hawaii?

Correspondence Id: 62 Comment Id: 1412939

Comment Text: Canoe launch and land

Correspondence Id: 62 Comment Id: 1412912

Comment Text: Responsible dog owners allowed access to beach

Correspondence Id: 28 Comment Id: 1412197

Comment Text: Please have empathy with our local families and consider opening up the access on a regulated basis. Regulated camping with a specific number of campers per spot. Also requesting regulated harvesting.

4.1.2 Concern Statement: Resource Impacts

NPS should recognize and account for concerns over potential resource impacts resulting from increased coastal access.

Representative Comment(s)

Correspondence Id: 62 Comment Id: 1412929

Comment Text: Kahuku (Pohue) Hope priority during Hawksbill nesting season - access for turtle monitoring, limit night use on nesting beach, guardian volunteers

Correspondence Id: 62 Comment Id: 1412923

Comment Text: Roads in Pohue would be detrimental to the area and potentially lead to increased opala and other destruction

Correspondence Id: 62 Comment Id: 1412919

Comment Text: Concern with overuse of coastal resources if road access goes beyond Kahakahakea towards KS

Correspondence Id: 60 Comment Id: 1412266

Comment Text: Please protect the petroglyph field near Pohue Bay, but make it accessible to the hikers.

Correspondence Id: 53 Comment Id: 1412234

Comment Text: Pōhue Bay is home to the honue'a, Hawaiian monk seal native flora/fauna birds etc., and also a very extensive archaeological site including petroglyphs and a large burial area to the North. There is an old Hawaiian trail cutting through Hawaiian Ranchos down to the bay. It is essentially a wilderness area that is accessible due to it's proximity to the highway, making it challenging on how to minimize over-visitation. Local people currently use this coast line for fishing, gathering, and camping with private access, but not with an overwhelming environmental impact. The actual Pōhue Bay area is not appropriate for camping, usually just the turtle volunteers are there.

Correspondence Id: 62 Comment Id: 1412983

Comment Text: No vehicles on the beach

4.1.3 Concern Statement: Residential Impacts

NPS should recognize and address potential impacts to coastal neighborhoods from increased public access.

Representative Comment(s)

Correspondence Id: 17 Comment Id: 1412170

Comment Text: Concerns about access to pohue as I live in ranchos and don't want access to go past my home increasing vehicle traffic in the private roads and neighborhood. I would like to be able to day use the area though. It's special because it is unknown to most. If signage and access is too easy it will be overused and damaged I would think. Maybe access though ranchos for owners and a separate park road access off the highway South of ranchos?

4.1.4 Concern statement: Existing Access

The NPS should clarify existing beach access rules and restrictions.

Representative Comment(s)

Correspondence Id: 63 Comment Id: 1413086

Comment Text: My understanding is that the Park has prohibited hikers from going to the beach even though the state has identified 1892 established trail all the way to the high water mark, so does the Park recognize the State's designation?

Correspondence Id: 63 Comment Id: 1413083

Comment Text: The Na-ala-hele trail goes down to the Pohue beach. I think the question was that if one goes down that trail, can they spend time at the beach?

Correspondence Id: 63 Comment Id: 1413080

Comment Text: Follow up Because the ancient mauka makai trail goes all the way to the highwater mark, does the Park permit hikers beach access?

Correspondence Id: 63 Comment Id: 1413076

Comment Text: How do the Hawaii State beach high water public access law and Park policies interplay at Pohue?

Correspondence Id: 48 Comment Id: 1412227

Comment Text: Like many in our Ocean View/Ranchos community I enjoy my hiking trips to Pohue Bay about twice per year. The federal government has had it closed for several years. For those of us that are respectful hikers this is an awful abuse of power and control. Let's be truthful. That's what it is. As for myself, I have been asking about legal access for more than three years now. How sneaky that it is so hard to find information from the rangers, on the nps website or anywhere else for all of that time! I only received my Kau Calendar yesterday (Dec 5, 2024) and happened to read the I have until this evening to comment. Allow us ocean access as HI State legally states that we should have. Allow us to hike. Per your nps map it shows nps management the land from hwy 11 all the way to the sea. Stop the bull feather excuse that the reason access has been denied and even citations have been given is due to private land. NPS owns the land.

4.2 Visitor Use: Camping

4.2.1 Concern Statement: Campsite Facilities

The NPS should or should not consider visitor facilities at campsites.

Representative Comment(s)

Correspondence Id: 62 Comment Id: 1412951

Comment Text: Provide toilets at all camps

Correspondence Id: 63 Comment Id: 1413098

Comment Text: Traditional Kahuku coastline campsites is best to start with composting toilets. For the many years we have been camping there and we have always brought our own tables, but an already placed table is a bonus and if everyone takes care of them.

Correspondence Id: 6 Comment Id: 1412134

Comment Text: 2. Establish several road-accessible camping areas in each section of the park, along with pit or composting toilets.

Correspondence Id: 62 Comment Id: 1412922

Comment Text: Don't want to see facilities at campsites (people should bring in and bring out everything)

4.2.2 Concern Statement: General Support

NPS should provide a variety of camping opportunities in the Kahuku Unit.

Representative Comment(s)

Correspondence Id: 8 Comment Id: 1412138

Comment Text: I really like the idea of camping at the Kahuku, both trail and vehicle campsites. Big Island needs more places for locals to camp.

Correspondence Id: 9 Comment Id: 1412141

Comment Text: My family and I have been very excited at the prospect of camping here and hike in backpack camping even better.

Correspondence Id: 17 Comment Id: 1412168

Comment Text: Like the idea of permits for camping for all areas, drive in and walk in would be best. A hiking trail with primitive camping.

Correspondence Id: 62 Comment Id: 1413031

Comment Text: Family campground with facilities and groups

4.2.3 Concern Statement: General Opposition

NPS should not propose more development in the unit or certain areas of the unit.

Representative Comment(s)

Correspondence Id: 2 Comment Id: 1412065

Comment Text: We are resistant to the proposed camping areas. The beauty of Kahuku is its lack of development! If we want a more "pedestrian"; experience, we can get that at HVNP.

Correspondence Id: 62 Comment Id: 1412966

Comment Text: No vehicular camping in mauka area.

Correspondence Id: 60 Comment Id: 1412268

Comment Text: I do not support developing campsites near Pohue Bay. If you must, make them hike-in (backpack) only. No cars. The old road along the coast should be hiking only.

4.2.4 Concern Statement: Camp Limits

NPS should enforce limitations on camping.

Representative Comment(s)

Correspondence Id: 63 Comment Id: 1413070

Comment Text: Kahuku ranch used to limit weekend camping reservation to friday thru sunday and also limit the number of cars per location / per reservation. is that something you guys will be doing also?

Correspondence Id: 62 Comment Id: 1412914

Comment Text: Pohue- Only 2 campsites - max 12-16 at each area

Correspondence Id: 62 Comment Id: 1412928

Comment Text: Recommend campsite monitoring if camping is allowed - limit number of campers

4.2.5 Concern Statement: Upper/Lower Kahuku Camping

NPS should provide increased camping opportunities in Lower and Upper Kahuku.

Representative Comment(s)

Correspondence Id: 56 Comment Id: 1412239

Comment Text: The upper areas should be opened for camping in many locations as well as trail build outs for some of the makai sights.

Correspondence Id: 60 Comment Id: 1412269

Comment Text: Camping in Lower Kahuku (mauka of the highway or even slightly makai of it) is a good idea. I am concerned, however, about the price if the Volcano House manages it. Since we live nearby, we would not be affected by the price, but that is a barrier for some people visiting the park.

Correspondence Id: 57 Comment Id: 1412247

Comment Text: Camping at Kipukaakala would be nice however the road into the kipuka would need maintenance from tree falls, etc. Could be a fire risk. Keep use for park personnel.

Correspondence Id: 34 Comment Id: 1412208

Comment Text: I would particularly advocate hiking and bike access to the upper Kahuku unit, along with back country camping areas. Connection to the Ainapo trail would be an excellent addition. If 4WD vehicle access is to be allowed to this area, I advocate restricting this to certain days of the week in order to allow hikers and bikers to enjoy the area with contending with 4WD vehicles on the road / trail.

Correspondence Id: 63 Comment Id: 1413091

Comment Text: On the campsite question - the site at Upper Kona Trail would be attractive as it gives a starting point for daytime hiking in upper Kahuku.

Correspondence Id: 63 Comment Id: 1413093

Comment Text: Old Tree Farm would be a great walk in camping area.

Correspondence Id: 62 Comment Id: 1413019

Comment Text: Permit campsites - Kanonone, JR, Hosaka Flats (no camping at the beach)

4.3 Public Access: General

4.3.1 Concern Statement: Increased Access

General support for increased access park wide.

Representative Comment(s)

Correspondence Id: 22 Comment Id: 1412188

Comment Text: Our community is grateful for the acquisition of the Kāhuku parcels both ma uka and ma kai. These two parcels have great potential for more public outdoor use which is desperately needed here on Hawai'i island.

Correspondence Id: 9 Comment Id: 1412139

Comment Text: I've read through the planning web site and have to say that I love the idea of adding more access and trails through this beautiful area especially upper kahuku.

4.3.2 Concern Statement: Managed Access

NPS should manage increased access to ensure protection of resources.

Representative Comment(s)

Correspondence Id: 62 Comment Id: 1412925

Comment Text: Manage access to protect aina

Correspondence Id: 62 Comment Id: 1413008

Comment Text: Reasonable, responsible access

Correspondence Id: 62 Comment Id: 1412926

Comment Text: Concern with road and increased opala and resource

4.3.3 Concern Statement: Traditional Access

NPS should ensure access to Native Hawaiians for traditional uses.

Representative Comment(s)

Correspondence Id: 62 Comment Id: 1413012

Comment Text: Access for cultural practitioners to areas not available to the general public

Correspondence Id: 40 Comment Id: 1412217

Comment Text: I think that the commitment to access and expanding capacity for usage of these areas is a great start. However, I think it would be valuable to the community in Kau if more of a formal commitment was made to ensuring usage of these areas for subsistence gathering (fishing, hunting, etc.) was publicized, or at least promised to the people of Kau. I went to the exhibition that was held in Naalehu and while some of the presenters explained that there is intent to open areas like Pohue for subsistence gathering, there was not much of that reflected in the actual language of the exhibitions themselves.

4.3.4 Concern Statement: Four-Wheel-Drive Access

NPS should provide for 4WD access.

Representative Comment(s)

Correspondence Id: 62 Comment Id: 1413013

Comment Text: 4 wheel access to all camp spots

Correspondence Id: 62 Comment Id: 1412986

Comment Text: 4X4 Access to Upper Kahuku

4.3.5 Concern Statement: Americans with Disabilities Act Accessibility

NPS should provide for additional Americans with Disabilities Act (ADA) accessibility.

Representative Comment(s)

Correspondence Id: 57 Comment Id: 1412259

Comment Text: ADA wherever possible.

Correspondence Id: 63 Comment Id: 1413100

Comment Text: Are there plans for ADA accessible routes in pohue area?

4.3.6 Concern Statement: Shuttles

NPS should consider alternative access options such as shuttles or buses.

Representative Comment(s)

Correspondence Id: 62 Comment Id: 1413007

Comment Text: Shuttle access to limit road use

Correspondence Id: 62 Comment Id: 1412967

Comment Text: (Upper Kahuku) Consider more accessible options such as 4WD shuttles or buses so locals can visit and experience area and nature and birds. Guided tours could also be an option

4.3.7 Concern Statement: Dogs

NPS should evaluate pet dog access within the unit.

Representative Comment(s)

Correspondence Id: 62 Comment Id: 1412959

Comment Text: (Upper Kahuku) More opportunities for dog walking

Correspondence Id: 62 Comment Id: 1412936

Comment Text: No dogs anywhere

4.4 Visitor Use: Biking

4.4.1 Concern Statement: Opportunities

NPS should provide increased opportunities for mountain bikers to ride and camp.

Representative Comment(s)

Correspondence Id: 52 Comment Id: 1412231

Comment Text: We would love some mountain biking specific trails made available to the local community here on big island. There is so little currently available, and this would provide a way for local residents, nature lovers, and adventure seekers to enjoy this beautiful side of the island.

Correspondence Id: 34 Comment Id: 1412206

Comment Text: Specifically, opening up the upper Kahuku road to Nene Cabin and beyond would be an extremely valuable addition to outdoor recreational opportunities in the Kahuku unit. In addition to opening the road to hikers, please allow mountain bikes on the road. It is highly unlikely that utilization will be high enough to cause contention between bikes and hikers, and allowing bikes would allow people to access more remote areas while remaining consistent with the principles set out in the document. ATVs and other motor vehicles would not be consistent with these principles.

Correspondence Id: 62 Comment Id: 1412957

Comment Text: (Upper Kahuku) Allow bicycles wherever motor vehicles can go

Correspondence Id: 4 Comment Id: 1412070

Comment Text: Some singletrack mountain bike trails would be awesome. Big Island mountain bike association will help.

Correspondence Id: 24 Comment Id: 1412192

Comment Text: It would be nice to build single track bike trails in the area. Many volunteers would be excited to have more options however campsites should be included to give overnight options for camping.

4.4.2 Concern Statement: E-bikes

NPS should consider restricting or prohibiting the use of e-bikes on trails.

Representative Comment(s)

Correspondence Id: 22 Comment Id: 1412190

Comment Text: Finally, we would recommend eliminating e-bike tours in the National Park all together for the safety of all park users. This will greatly reduce accidents and expensive rescues in these remote areas.

Correspondence Id: 57 Comment Id: 1412253

Comment Text: Bicycling use on roads and not in other pedestrian use areas. Ebikes should not be allowed in any portion of Kahuku, too many high accident risks.

Correspondence Id: 22 Comment Id: 1412189

Comment Text: As the executive director for Big Island Mountain Bike Association, we would like to see bicycle access to continue on the ma uka property and be added to the ma kai property as well. We would also recommend Class 1 mountain bicycle pedal assist only (no-throttle) with a 20 mile per hour maximum assisted speed as the only e-bicycle option for the National Park properties. As we have seen in Hawai'i Volcanoes National Park, the use of electric motor bikes with a pedal option have been quite detrimental to the overall experience of park users. The class 2 and class 3 e-bikes which can be propelled up to 28 mph allow not so skilled riders to be put in dangerous situations throughout the park. By limiting the type of e-bike to a Class 1 pedal assist with a maximum assisted speed at 20 mph, this will put more experienced riders on the trails with fewer mishaps and accidents. Also, by conforming to a class 1 pedal assist e-bike format, the Park will be consistent with the Hawai'i State DLNR program, Nā Ala Hele, in which only analogue bicycles and class 1 pedal assist bicycles are only allowed on their trails. The use of the e-bike has allowed the older generation of residents the ability to do longer rides, as it helps with hill climbing. That is the point of the Class 1 pedal assist bicycle. The only way this type of bike moves is by pedaling. The class 2 and class 3 e-bikes are more like electric motor bikes with a pedal option, and thus its use is more like a moped on the roads, which require insurance and special licensing. We see them all the time on the paved roads at HVNP, however these e-motor bikes are not designed to handle the ruggedness of Ka'ū lava off-road trails and extreme descents throughout the park. This recommendation is purely for the safety of the user groups to access these remote wahi pana.

4.5 Visitor Use Management: Permit System

4.5.1 Concern Statement: Support for Permit System

NPS should develop a permit system as part of this plan.

Representative Comment(s)

Correspondence Id: 10 Comment Id: 1412145

Comment Text: Opening Kahuku to various use is important for both preserving the area with designated land use and educating on the area's natural and cultural resources. To balance these interests all areas should be accessible, with ability to get permits for use in more sensitive areas.

Correspondence Id: 10 Comment Id: 1412151

Comment Text: Access should be allowed to all areas some by permit or guides, but access to the land channeling via plan as appropriate.

Correspondence Id: 62 Comment Id: 1412945

Comment Text: (Upper Kahuku) Permit based camping is best for safety and resource protection

Correspondence Id: 57 Comment Id: 1412255

Comment Text: Permits for horses, camping, tour companies, groups. Start out with these being available to obtain at Kilauea office only (staffed 7 days a week).

Correspondence Id: 15 Comment Id: 1412165

Comment Text: I would like to see a fair permitting process to secure a reservation for a maximum of two nights to each designated camping spot with a possible fee attached to fund for the care and security of the area.

4.5.2 Concern Statement: General Opposition

NPS should not consider a permit system.

Representative Comment(s)

Correspondence Id: 46 Comment Id: 1412225

Comment Text: Please do not make people get permits to go to Pohue. If you plan to do this, enforce it for tourists only. Pohue is our closest local beach and locals should be able to access it without issue.

Correspondence Id: 54 Comment Id: 1412235

Comment Text: As a member of a conservation group and resident of this area, my interest is in keeping access to this area open for hikers and people interested in the history and geology of this area. If this area of the park is closed, it would only encourage trespassing and vandalism. Introducing permits might seem a good idea to limit access but it will only cause aggravation with people who would have to police it. It is not an easy hike but a much loved area by those of us who find peace and feel the spirit of the place welcoming.

4.5.3 Concern Statement: Prioritization System

NPS should design the permit system to prioritize local and Native Hawaiian access over non-local access.

Representative Comment(s)

Correspondence Id: 62 Comment Id: 1413042

Comment Text: Hold HI/local spots for permits (Kauai model)

Correspondence Id: 62 Comment Id: 1412974

Comment Text: If permits - allocate a set amount to NH (eg half)

Correspondence Id: 59 Comment Id: 1412262

Comment Text: Pohue is our neighborhood beach, as someone with a cabin in Ocean View. We should have "annual"; permits for free so we can use the beach as we always have. I am assuming that you will have an easy permit process- easy for locals and in our own neighborhood.

Correspondence Id: 56 Comment Id: 1412237

Comment Text: While it is great that you want to open the makai side of the road, the inaccessibility of the road and the locations it brings you too are two of the best parts about it. The flats, road to the sea and the bay are all great camping, fishing, and opihi picking locations. Open it up to the public would benefit many people but would also harm the small community that's keeps the roads manageable and the aina clean. If you open it up with normal regulation, fishing and camping are both going to be pushed out in favor of permits and first come first serve, which isn't fair to the local community. The only way to properly open it would be something similar to Waipi'O valley where only big island residents can go, but unlike Waipi'O there should be a permit system for the tourists. The Makai section is truly one of the last places that you can get too, which makes it that much more special.

Correspondence Id: 19 Comment Id: 1412174

Comment Text: A permit system for Native Hawaiians, along with designated vendor spaces, could significantly enhance the accessibility and cultural representation of Hawaiian communities within the national park. The permit system would ensure that Native Hawaiians have the formal recognition and legal framework to access cultural areas for traditional practices, such as resource gathering or ceremonies, while also safeguarding the park's ecological balance. These permits could be issued for specific activities during designated times, based on traditional Hawaiian customs and needs, and help manage the flow of visitors in culturally sensitive areas.

4.5.4 Concern Statement: In-Person Permits

NPS should issue permits in person as opposed to online.

Representative Comment(s)

Correspondence Id: 62 Comment Id: 1413025

Comment Text: No online reservations, in person only

Correspondence Id: 62 Comment Id: 1412915

Comment Text: No online reservations - in person, or half advance online, half released later for pickup

Correspondence Id: 62 Comment Id: 1412955

Comment Text: More access for locals - in person reservations rather than online is better and more fair

Correspondence Id: 62 Comment Id: 1412956

Comment Text: No online reservations - more availability for people in Ka'u

4.6 Visitor Use: Trails

4.6.1 Concern Statement: General Support

NPS should develop trails and improve them within the Kahuku Unit.

Representative Comment(s)

Correspondence Id: 12 Comment Id: 1412158

Comment Text: The only benefit I saw from this area would be developing trails and maintaining previously established ones.

Correspondence Id: 62 Comment Id: 1413023

Comment Text: More hiking trails, open more of the ranch roads

Correspondence Id: 62 Comment Id: 1412987

Comment Text: More trails in Upper Kahuku

4.6.2 Concern Statement: Opposition

NPS should not develop any new trails in the Kahuku Unit.

Representative Comment(s)

Correspondence Id: 57 Comment Id: 1412244

Comment Text: Lower Kahuku Puuakihi trail: A trail in that location has extra considerations such as being slippery and muddy throughout the year. Steep slopes make the trail hard to maintain and may create more safety hazards. Difficult to access in an emergency. Suggest no trail at Puuakihi and limiting any additional invasive introductions.

4.6.3 Concern Statement: New Trails

NPS should evaluate some specific locations for new trails.

Representative Comment(s)

Correspondence Id: 6 Comment Id: 1412133

Comment Text: 1. Pursue connecting Ainapo Trail to Upper Kahuku road.

Correspondence Id: 9 Comment Id: 1412142

Comment Text: If there is a trail that connects upper kahuku to Mauna Loa summit, that would be amazing. I really like all of the trail proposals. The gulch trail could be really fun!

Correspondence Id: 34 Comment Id: 1412205

Comment Text: Specifically, opening up the upper Kahuku road to Nene Cabin and beyond would be an extremely valuable addition to outdoor recreational opportunities in the Kahuku unit. Correspondence Id: 60 Comment Id: 1412272

Comment Text: I support the Kahuku-'Āinapō Trail to the 'Āinapō Trail in the Kapāpala Forest Reserve connection. I also support having a trail that connects into the trail network near the summit of Mauna Loa.

Correspondence Id: 53 Comment Id: 1412233

Comment Text: I love the idea of reestablishing the Kahuku-'Āinapō Trail to the 'Āinapō Trail in the Kapāpala Forest Reserve. Would the Nene cabin be made available for backcountry wilderness use?

Correspondence Id: 56 Comment Id: 1412239

Comment Text: The upper areas should be opened for camping in many locations as well as trail build outs for some of the makai sights.

Correspondence Id: 60 Comment Id: 1412267

Comment Text: There are many wonderful lava features along the old Hawaiian trail from Ranchos: Lava ball field, trenches (with tropic birds), different types of lava, different flows, lava formations, etc. It would be nice to have hiking access to them, but even cross country is OK. Do not force us to always remain on the trails when there are 118,000 or more acres.

Correspondence Id: 60 Comment Id: 1412270

Comment Text: I would like to see more of the paddock roads in Lower Kahuku open for hiking. A few loops should be opened for bicycling so there are more options beyond the old highway and the Palm trail.

Correspondence Id: 62 Comment Id: 1412931

Comment Text: Trail to east reservoir (rainforest side) with picnic shelter overlooking (aka pizza hut kealakomo[?])

Correspondence Id: 62 Comment Id: 1412942

Comment Text: Connect Kahuku to Mauna Loa volcano via trail

Correspondence Id: 62 Comment Id: 1412950

Comment Text: Connect to Ainapo trail for hiking

Correspondence Id: 62 Comment Id: 1412965

Comment Text: Find Piha Kahuku road - work with other agencies for route from N. Hilo over saddle to Ainapo and Kahuku for hiking

Correspondence Id: 62 Comment Id: 1412998

Comment Text: Walking trail from trailhead to Pu'u lokokuana(?) to access military bunker

Correspondence Id: 62 Comment Id: 1412940

Comment Text: Coastal/Kings trail - 24 hr access

Correspondence Id: 62 Comment Id: 1412941

Comment Text: Maukalmakai traditional trails - 24 hr access Kahuka mauka unit

Correspondence Id: 62 Comment Id: 1412968

Comment Text: (Upper Kahuku) Carefully consider providing access along Mauka Road to get to more remote areas.

4.6.1 Concern Statement: Signage

NPS should provide additional wayfinding signage on trails.

Representative Comment(s)

Correspondence Id: 2 Comment Id: 1412064

Comment Text: We've hiked all the trails and at first were frustrated with the poor signage. We eventually found our way, but it shouldn't be a guessing game. Attention to a better system is warranted.

4.6.2 Concern Statement: Trail Uses

NPS should provide trails that accommodate special uses such as biking, horseback riding, or dog walking.

Representative Comment(s)

Correspondence Id: 62 Comment Id: 1413029

Comment Text: Trails for dogs - off of the road

Correspondence Id: 52 Comment Id: 1412232

Comment Text: More publicly accessible trails in general would be great - or a trail network with some hiking, some equestrian, and some mountain biking specific trails.

Correspondence Id: 34 Comment Id: 1412208

Comment Text: I would particularly advocate hiking and bike access to the upper Kahuku unit, along with back country camping areas. Connection to the Ainapo trail would be an excellent addition. If 4WD vehicle access is to be allowed to this area, I advocate restricting this to certain days of the week in order to allow hikers and bikers to enjoy the area with contending with 4WD vehicles on the road / trail.

4.7 Visitor Use: Equestrian

4.7.1 Concern Statement: Opportunities

NPS should provide increased opportunities for equestrian use of the park.

Representative Comment(s)

Correspondence Id: 27 Comment Id: 1412195

Comment Text: Please allow and let horseback riders access the area. Do not put up only cattle gates but also gates that horses and humans can go through. Access for all is important.

Correspondence Id: 26 Comment Id: 1412194

Comment Text: Please include several horse trails, especially circle rides versus out and back rides. There are too few in the Park as it is, and cattle guards with no man gate for horses to pass through have cut off other areas that previously were accessed by horse riders. Please include trailer parking for horses as well. This used to be a cattle ranch with horses and it is a great way to visit the park. Most hikers and bikers are very respectful and delighted to see us on the trails. As an equestrian, the horse trails right now are few and far between, with some being removed from an original horse designation. It would be even better if some of the trails crossed so we can make up our journey in different directions. Please remember balanced use. Horses on designated trails only leave hoof prints and fertilizer. Very eco-friendly and generally quiet along the way.

Correspondence Id: 63 Comment Id: 1413092

Comment Text: I assume there will be consideration for campsites accessible by horseback.

4.7.2 Concern Statement: Facilities

NPS should provide facilities, such as trailer parking areas, to accommodate equestrian uses.

Representative Comment(s)

Correspondence Id: 33 Comment Id: 1412202

Comment Text: Please reconsider more access for equestrians. Horses have very minimal impact on the environment and most trail riders are very ecologically conscious about staying on trails and packing out their trash. Planning needs to include access to cross cattle guards and designated parking appropriate for horse trailers. In order to have balanced use of the facilities, equestrians need to be included along with people hiking and biking in the park.

Correspondence Id: 31 Comment Id: 1412200

Comment Text: Horseback riding. We would like to have horseback riding trails and trailer parking areas in the Kahuku Unit.

Correspondence Id: 63 Comment Id: 1413075

Comment Text: Suggestion... Use the air strip for horse trailer parking and composting toilet.

Correspondence Id: 63 Comment Id: 1413082

Comment Text: Provide a parking lot and toilet at the top of the road to Pohue Bay for allowing horses to be ridden on the road to the beach (but not on the beach).

4.7.3 Concern Statement: Guidelines

The plan should establish guidelines for equestrian uses.

Representative Comment(s)

Correspondence Id: 57 Comment Id: 1412252

Comment Text: Horses: Allowed to park trailers, ride roads in designated areas, for day use only and by permit. Provide ways to educate and limit invasives brought in on vehicles, feed and the horses. Allowed on designated roads in areas without other pedestrian use. There must be specific guidelines for horse feed and horse waste disposal.

Correspondence Id: 63 Comment Id: 1413102

Comment Text: We groom our horses, including cleaning their feet, before trailering.

4.8 Wildlife and Wildlife Habitat

4.8.1 Concern Statement: Hawksbill Turtles

NPS should consider potential impacts to nesting Hawksbill turtles and implement measures to ensure their protection in the plan.

Representative Comment(s)

Correspondence Id: 36 Comment Id: 1412210

Comment Text: A large concern with this plan is making an important sea turtle nesting beach more accessible to the public. While sharing the island's resources is a benefit, the possibility of human-turtle interactions is much higher at Pohue than at the other nesting beaches within the park due to the volume of nesting activity that occurs there. I think limiting access to Pohue from dusk to dawn would be absolutely necessary, but it would be difficult to enforce. Increasing signage to discourage harmful activity (using white light, disturbing nesting turtles, touching hatchlings) and to encourage the reporting of turtle sightings could help, but again would be hard to enforce. I definitely see benefits to making Pohue a wild/primitive

zone (less infrastructure = maybe less people ?). Maybe closing off camping at the nearby sites like Kanonone during the nesting season (May-December) could potentially reduce the risk of human interference with the turtles as well.

Correspondence Id: 57 Comment Id: 1412248

Comment Text: Kahuku-Pohue During turtle nesting periods only allow access to park personnel. Area is too fragile, remote and not all nests can be identified by a cage.

Correspondence Id: 62 Comment Id: 1412929

Comment Text: Kahuku (Pohue) Hope priority during Hawksbill nesting season - access for turtle monitoring, limit night use on nesting beach, guardian volunteers

Correspondence Id: 5 Comment Id: 1412071

Comment Text: I appreciate the effort of your document. My overall concerns are for the protection of the Hawksbill turtles Honu'ea, that will allow the staff and volunteers to access and monitor the many nesting sites. Concerns about light pollution from camping that may effect the turtle nesting sites, during nesting season: Such as Night travel with car lights, campfires, and camper lights. Your map is confusing with Kahuku Beach label and Pohue Bay label in the ocean. I hope in the future the Hawksbill Turtle Staff can return to monitoring the turtle habitat at night as well as day.

4.8.2 Concern Statement: Ungulates

The plan should include management actions related to ungulates (e.g., where they will be restricted, allowed, or monitored).

Representative Comment(s)

Correspondence Id: 62 Comment Id: 1412973

Comment Text: Other zone(s) - allow ungulates to control grass and allow hunting; needs to be balanced

Correspondence Id: 62 Comment Id: 1412972

Comment Text: Consider zones - protection from ungulates for native species in certain areas

Correspondence Id: 57 Comment Id: 1412249

Comment Text: Maintain active monitoring and management of goats and other ungulates at Pohue and throughout the park. Fence Pohue coast and any vegetated areas to protect from ungulates.

4.8.3 Concern Statement: Visitor Limits

The plan should limit visitor use to ensure the protection of wildlife and wildlife habitat.

Representative Comment(s)

Correspondence Id: 10 Comment Id: 1412146

Comment Text: Wildlife designation of the Kahuku Pohue area is tricky. Roads and access should be provided but it's acceptable to limit numbers. Wildlife (birds) as well as cultural sites need to be protected.

Correspondence Id: 44 Comment Id: 1412223

Comment Text: I love that the NPS is considering how to best treat the Kahuku unit. I hope that conservation of the flora and fauna is the focus. Trails for hiking among the wild land is second. Keeping the Big Island wild is important.

Correspondence Id: 61 Comment Id: 1412274

Comment Text: The protection of archeological sites and native habitats for endangered species is of utmost importance to me and my family - even if it means areas are off limits to the public.

4.8.4 Concern Statement: Axis Deer

NPS should consider management of axis deer in the planning effort.

Representative Comment(s)

Correspondence Id: 62 Comment Id: 1412984

Comment Text: Axis deer along Hwy 3 days ago (3 of them)

Correspondence Id: 63 Comment Id: 1413095

Comment Text: Are there any axis deer left alive in the area?

4.9 Visitor Use Facilities

4.9.1 Concern Statement: Minimal Facilities

NPS should keep facilities minimal to maintain the natural and undeveloped condition.

Representative Comment(s)

Correspondence Id: 2 Comment Id: 1412063

Comment Text: Being developed minimally is what makes it such a beautiful place along with the historical and cultural significance especially for my husband who is Native Hawaiian.

Correspondence Id: 62 Comment Id: 1413059

Comment Text: Keep Pohue primitive

Correspondence Id: 62 Comment Id: 1412922

Comment Text: Don't want to see facilities at campsites (people should bring in and bring out everything)

Correspondence Id: 15 Comment Id: 1412163

Comment Text: For the future site management of this area, I would like to see it managed with as little development as possible to keep the area as pristine as possible while, still allowing permitted access for the public to use and enjoy.

4.9.2 Concern Statement: Toilets

The plan should include new toilet facilities.

Representative Comment(s)

Correspondence Id: 62 Comment Id: 1413020

Comment Text: Visitor SVCS Zone - more restrooms

Correspondence Id: 62 Comment Id: 1412999

Comment Text: More bathrooms higher up past the main entrance in key places that people access

Correspondence Id: 62 Comment Id: 1412995

Comment Text: Improve restroom facilities - especially for events

Correspondence Id: 62 Comment Id: 1412951

Comment Text: Provide toilets at all camps

Correspondence Id: 62 Comment Id: 1413050

Comment Text: Toilets in backcountry areas: evaporative (they are at Chimney Rock National Monument)

4.9.3 Concern Statement: Water Sources

NPS should consider water needs for visitors and potential water sources.

Representative Comment(s)

Correspondence Id: 63 Comment Id: 1413101

Comment Text: Suggestion: catch water off of roofs of composting toilets for watering horses and other non-potable uses.

Correspondence Id: 62 Comment Id: 1413058

Comment Text: What will we do for water since county water is very limited?

4.9.4 Concern Statement: Equestrian Facilities

The plan should include and evaluate facilities for equestrian users.

Representative Comment(s)

Correspondence Id: 63 Comment Id: 1413082

Comment Text: Provide a parking lot and toilet at the top of the road to Pohue Bay for allowing horses to be ridden on the road to the beach (but not on the beach).

Correspondence Id: 63 Comment Id: 1413075

Comment Text: Suggestion... Use the air strip for horse trailer parking and composting toilet.

4.9.5 Concern Statement: Picnic Tables

The plan should include more picnic tables.

Representative Comment(s)

Correspondence Id: 63 Comment Id: 1413098

Comment Text: Traditional Kahuku coastline campsites is best to start with composting toilets. For the many years we have been camping there and we have always brought our own tables, but an already placed table is a bonus and if everyone takes care of them.

Correspondence Id: 62 Comment Id: 1413036

Comment Text: Picnic tables with views

Correspondence Id: 62 Comment Id: 1412952

Comment Text: Lower Kahuku more picnic area

Correspondence Id: 62 Comment Id: 1412931

Comment Text: Trail to east reservoir (rainforest side) with picnic shelter overlooking (aka pizza hut kealakomo[?])

Correspondence Id: 60 Comment Id: 1412271

Comment Text: I have been to some cultural events near the visitor contact station, and they are a good idea. Be sure that there are enough parking and toilet facilities. A bit of picnic facilities in this area would be a nice addition, especially if they were covered to reduce the impact of the midday sun.

4.9.6 Concern Statement: Other

Specific suggestions for other types of facilities.

Representative Comment(s)

Correspondence Id: 62 Comment Id: 1412939

Comment Text: Canoe launch and land

Correspondence Id: 62 Comment Id: 1413021

Comment Text: More trail signs and wayfinding - people get lost

Correspondence Id: 62 Comment Id: 1412935

Comment Text: More park housing for employees

Correspondence Id: 62 Comment Id: 1412932

Comment Text: Dog park by gravel pit

4.10 Visitor Use: Education/Interpretation

4.10.1 Concern Statement: Cultural Education

The plan should propose and evaluate educational opportunities on the park's cultural history.

Representative Comment(s)

Correspondence Id: 63 Comment Id: 1413077

Comment Text: There was mention of informational signage being posted up along the trails. Would there be information containing historical context and possibly cultural insights? Perhaps as a means to have visitors build a connection-to-place during their journey?

Correspondence Id: 19 Comment Id: 1412175

Comment Text: In addition to access permits, creating designated vendor spaces for Native Hawaiian artisans and cultural practitioners could offer an important economic opportunity while promoting Hawaiian culture within the park. These spaces could be used to sell handmade crafts, food, and educational materials that reflect Hawaiian heritage. The vendors could also offer cultural experiences, such as hula performances, lei-making demonstrations, or storytelling sessions, providing visitors with authentic insights into Hawaiian traditions.

4.10.2 Concern Statement: Environmental Education

The plan should propose and evaluate educational opportunities about the native environment and stewardship.

Representative Comment(s)

Correspondence Id: 62 Comment Id: 1412990

Comment Text: Education/interpretation for visitors of vegetation/veg types

Correspondence Id: 57 Comment Id: 1412257

Comment Text: Leave No Trace: promote this important concept throughout Kahuku.

Correspondence Id: 10 Comment Id: 1412152

Comment Text: Do not miss the opportunity to educate on the cultural, and habitat.

Correspondence Id: 62 Comment Id: 1413032

Comment Text: Environmental learning center

Correspondence Id: 57 Comment Id: 1412243

Comment Text: Visitor Services All visitors to Lower and Upper Kahuku must check in at welcome station for education and understanding hours, location of services, cell coverage, emergency procedures, learning about native and invasive plants and animals, fire safety, etc. Expand exhibits, educational space and lanai.

4.10.3 Concern Statement: Military History

The plan should evaluate interpretation of military history and historic sites.

Representative Comment(s)

Correspondence Id: 62 Comment Id: 1413000

Comment Text: Interpret the military historic sites

Correspondence Id: 63 Comment Id: 1413084

Comment Text: Any plans of stabilizing any of the WWII features/bunkers for visitors access and tours?

Correspondence Id: 56 Comment Id: 1412240

Comment Text: I also don't think ww2 should be a focus on this part of the park because of how culturally important the new section will be. And the main part of the park already contains a lot of military equipment and housing which should be enough.

4.10.4 Concern Statement: Community Service

The plan should propose and evaluate more volunteer, community service, and youth group opportunities.

Representative Comment(s)

Correspondence Id: 62 Comment Id: 1413053

Comment Text: Ask/open resource/turtle "protector" volunteer opportunity to local community to help monitor and educate

Correspondence Id: 62 Comment Id: 1412976

Comment Text: Boy scout groups use/service projects in lower Kahuku, Kahuku-Pohoe, etc.

Correspondence Id: 62 Comment Id: 1412954

Comment Text: Greenhouses @ Kahuku and volunteer opportunities and seed bank - focus on youth B&G club

Correspondence Id: 62 Comment Id: 1413052

Comment Text: Youth and community dry land farming program - is it coming soon?

4.11 Cultural Resources

4.11.1 Concern Statement: Cultural Practices

The plan should propose and evaluate access for cultural practices.

Representative Comment(s)

Correspondence Id: 62 Comment Id: 1413016

Comment Text: Families with ancestors to reconnect have access and cultural practices

Correspondence Id: 63 Comment Id: 1413097

Comment Text: What would be the status of resource gathering such as fishing along the coastline for residents of Ka'ū or residents of Hawaii?

4.11.2 Concern Statement: Cultural and Archeological Resources

The plan should propose the protection and potential impacts to cultural and archeological resources, including petroglyphs.

Representative Comment(s)

Correspondence Id: 20 Comment Id: 1412178

Comment Text: Mostly my concern is the petroglyphs that are everywhere, and right now people can step on them - in fact during our hike down, even the most mindful people were stepping on the petroglyphs. If you aren't going to cover these or make boardwalks, then they need to be delineated and marked somehow, so that people really can see them and go around them.

Correspondence Id: 61 Comment Id: 1412274

Comment Text: The protection of archeological sites and native habitats for endangered species is of utmost importance to me and my family - even if it means areas are off limits to the public.

Correspondence Id: 39 Comment Id: 1412215

Comment Text: Preserve cultural sites a Pohue and protect nesting turtles.

4.12 Visitor Use Management: General

4.12.1 Concern Statement: Hunting and Fishing (For)

NPS should evaluate how and when hunting and fishing would be allowed.

Representative Comment(s)

Correspondence Id: 15 Comment Id: 1412166

Comment Text: I would like to see size and bag limits, the encouragement of catch and release, closed seasons on certain species depending on the time of the year, and the closure of the area for a few months each year to allow the resources to replenish and prevent overuse. All users of the area will be responsible to keep the area clean by taking their trash with them and report to the landowner when the area is not left cleaned or parties who are not permitted, are in the area. Possible deposits, fines, or the banning of future

access to the area can be considered. I believe the area has been kept in the same condition with this type of management plan for the thirty plus years that I have been accessing the area so it does work.

Correspondence Id: 62 Comment Id: 1412978

Comment Text: Public hunting – unescorted

Correspondence Id: 62 Comment Id: 1412979

Comment Text: Sustainable Fishing/Hunting

Correspondence Id: 62 Comment Id: 1413015

Comment Text: Regulated harvesting of fish

Correspondence Id: 62 Comment Id: 1412982

Comment Text: No hunting, fishing

Correspondence Id: 62 Comment Id: 1412994

Comment Text: Hunting upper Kahuku - why?

4.12.2 Concern Statement: Limit Development

NPS should limit development to allow for a natural and primitive visitor experience.

Representative Comment(s)

Correspondence Id: 61 Comment Id: 1412273

Comment Text: We love the Kahuku unit and hope to see the continuation of immersion in the natural environment, we hope it continues to be a low likelihood of encountering others, particularly in the deeper interior of Kahuku unit. We greatly appreciate the ability to experience solitude, risk, adventure, and wilderness.

Correspondence Id: 62 Comment Id: 1412970

Comment Text: (Upper Kahuku) Be sensitive to natural and cultural resources. Limit paving but allow for interpretation and observation of resources.

Correspondence Id: 63 Comment Id: 1413104

Comment Text: Natural and rustic is good.

Correspondence Id: 63 Comment Id: 1413090

Comment Text: Thanks to the Park for preserving the Kahuku Pohue unit from commercial development.

Correspondence Id: 57 Comment Id: 1412254

Comment Text: Also, no drones.

4.12.3 Concern Statement: Use Limits

NPS should limit visitor numbers to ensure resource protection.

Representative Comment(s)

Correspondence Id: 45 Comment Id: 1412224

Comment Text: Pohue Bay Beach as you know is extremely small. It is a nice place for families to spend the day. I would suggest keeping the number of people at one time down there to a minimum. Make them sign

a consent form to abide by the rules that are laid for the turtle nests and any other wildlife down there. I just hope it doesn't turn into a tourist attraction.

Correspondence Id: 10 Comment Id: 1412147

Comment Text: Limited day use for non- Hawaiian practitioners is a good tool.

4.12.4 Concern Statement: Monitoring

NPS should propose and evaluate monitoring of resources and visitor use impacts.

Representative Comment(s)

Correspondence Id: 20 Comment Id: 1412183

Comment Text: It's such a special site, and really seems like it will need monitoring, not just letting people go there freely, it would be a nightmare. It would turn into Green Sand Beach, which is such a disrespect to the land.

Correspondence Id: 20 Comment Id: 1412180

Comment Text: We cleaned up a fair amount of trash, how will that be done on a regular basis? How will the Park prevent damage or misuse or disrespect to the site?

Correspondence Id: 20 Comment Id: 1412179

Comment Text: My other concern is down at the beach, where we were not allowed to swim - how is swimming going to be monitored? It's too beautiful of a beach to not swim in! But how many people will be allowed there at one time, and how will this be managed?

Correspondence Id: 62 Comment Id: 1412916

Comment Text: Ensure ranger presence for resource protection

4.12.5 Concern Statement: Funding

NPS should evaluate the costs and feasibility of implementing projects proposed in the plan.

Representative Comment(s)

Correspondence Id: 63 Comment Id: 1413071

Comment Text: How much funding has the federal government allocated for Pohue development?

4.12.6 Concern statement: Caving

Consider caving opportunities.

Representative Comment(s)

Correspondence Id: 63 Comment Id: 1413079

Comment Text: Any possibility of caving opportunities to open up in the unit?

4.13 Public Engagement

4.13.1 Concern Statement: Stakeholder Input

NPS should evaluate and include stakeholder input.

Representative Comment(s)

Correspondence Id: 62 Comment Id: 1413048
Comment Text: Invite Pahala Fire to view for Emergency Planning

Correspondence Id: 62 Comment Id: 1413033
Comment Text: Establish relationship with Pahala and Na'alelu Fire department/emergency SKS + Ocean View (county)

4.13.2 Concern Statement: Community Input

NPS should consider the importance of local community needs and preferences.

Representative Comment(s)

Correspondence Id: 56 Comment Id: 1412241
Comment Text: Over all I'm glad that the park is being expanded but I hope the consideration of the local community is put over that of the visitors, because in reality we already have a park.

Correspondence Id: 19 Comment Id: 1412176
Comment Text: Both the permit system and vendor spaces should be developed in consultation with Native Hawaiian leaders to ensure they align with cultural values, are sensitive to the land's environmental needs, and provide fair opportunities for Native Hawaiian businesses and cultural practitioners. This approach would not only honor the rights and practices of Native Hawaiians but also create a more inclusive and educational experience for visitors to the park.

Correspondence Id: 12 Comment Id: 1412156
Comment Text: The importance of preserving cultural resources whilst balancing recreational use is not something taken lightly by the local people. It is a very important task that the Park is now charged with completing since it has acquired ownership of this land. I believe that the park may benefit from having a local coordinating group be involved in the stewardship of the Pohue area. I am positive there are many Hawaiians that would volunteer and advocate collectively to support the balance the Park Service is trying to achieve.

Correspondence Id: 7 Comment Id: 1412136
Comment Text: After traveling to the big island for at least 24 times since 1998, my wife and I strongly suggest that the Hawaiian people have a huge say in what will transpire to their land.

4.14 Public Access: Roads

4.14.1 Concern Statement: New Road Suggestions

NPS should consider locations for new roads.

Representative Comment(s)

Correspondence Id: 56 Comment Id: 1412242
Comment Text: but also you should make a road connecting volcano to Naalehu through the mauka side and in between those beautiful puu above Punaluu

Correspondence Id: 62 Comment Id: 1412968

Comment Text: (Upper Kahuku) Carefully consider providing access along Mauka Road to get to more remote areas

Correspondence Id: 62 Comment Id: 1412964

Comment Text: Consider allowing driving further into Mauka area

Correspondence Id: 62 Comment Id: 1413060

Comment Text: If constructing vehicle access to coast, keep road away from subdivision - ok if road goes to Kahuku

Correspondence Id: 57 Comment Id: 1412245

Comment Text: Reestablish some old paddock roads for fuel and administrative use.

4.14.2 Concern Statement: Road Improvements

The plan should evaluate improving existing roads for better vehicle access and how that would impact visitor use and natural resources.

Representative Comment(s)

Correspondence Id: 62 Comment Id: 1412996

Comment Text: More access roads that are not limited to 4WD

Correspondence Id: 62 Comment Id: 1413034

Comment Text: Maintain and repair 4x4 road for vehicles

Correspondence Id: 62 Comment Id: 1413056

Comment Text: Please consider Kupuna travel for roads (not all can walk long miles)

Correspondence Id: 62 Comment Id: 1412949

Comment Text: (Upper Kahuku) Improve the road

Correspondence Id: 57 Comment Id: 1412246

Comment Text: Upper Kahuku Access by permit only beyond locked gate. Improve road and add to areas used by personnel. Parking near locked gate for hikers accessing upper Kahuku.

Correspondence Id: 57 Comment Id: 1412256

Comment Text: Roads and fences: Improve road from visitor services road up to Kona trail junction. Maintain the cross/ROD fence and gate.

4.15 Vegetation and Riparian Areas

4.15.1 Concern Statement: Native Species

The plan should include measures to restore native habitats and protect native species.

Representative Comment(s)

Correspondence Id: 62 Comment Id: 1413038

Comment Text: Restore native plants to right areas

Correspondence Id: 62 Comment Id: 1412993

Comment Text: Forest restoration - varieties of native plants specific to the area, bio survey/study to see what types of plants

Correspondence Id: 62 Comment Id: 1412972

Comment Text: Consider zones - protection from ungulates for native species in certain areas

Correspondence Id: 62 Comment Id: 1413039

Comment Text: Restrict access to regrowth areas

4.15.2 Concern Statement: Invasive Species

The plan should include measures to control invasive species.

Representative Comment(s)

Correspondence Id: 63 Comment Id: 1413078

Comment Text: Is the park considering the emerging threat of invasive spittle bugs on the ranch landscape ie grasses?

Correspondence Id: 57 Comment Id: 1412258

Comment Text: Continue native plant restoration and invasive removal programs.

4.15.3 Concern Statement: Maintenance

The plan should consider vegetation maintenance measures such as grazing.

Representative Comment(s)

Correspondence Id: 62 Comment Id: 1412973

Comment Text: Other zone(s) - allow ungulates to control grass and allow hunting; needs to be balanced

Correspondence Id: 62 Comment Id: 1413028

Comment Text: Consider livestock grazing to maintain fields - talk to South Kona ranches on spittle bug

Correspondence Id: 62 Comment Id: 1413030

Comment Text: Expose more of the ag field system

Correspondence Id: 63 Comment Id: 1413089

Comment Text: Why haven't you mowed or dug out a wildfire path along your boundary fence, bordering residential properties as a prevention. you are overgrown.

4.16 Wilderness

4.16.1 Concern Statement: General Support

General support for wilderness designation and management.

Representative Comment(s)

Correspondence Id: 10 Comment Id: 1412149

Comment Text: mauka wilderness designation is appropriate as there are many opportunities for restoration of the native forests and possibly birds, but access should be allowed via permit for some areas and less restrictive for greater public use. Picnic areas, hikes and educational facilities as appropriate.

Correspondence Id: 61 Comment Id: 1412273

Comment Text: We love the Kahuku unit and hope to see the continuation of immersion in the natural environment, we hope it continues to be a low likelihood of encountering others, particularly in the deeper interior of Kahuku unit. We greatly appreciate the ability to experience solitude, risk, adventure, and wilderness.

Appendix A
Correspondence Index of Organizations

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Correspondence Index of Organizations

Org. Type*	Organization Name	Correspondence ID	Code	Description
B	Puna Goat Cheese	37	VU8000	Visitor Use: Equestrian
H	Big Island Mountain Bike Association	22	PA1000	Public Access: General
S	Game Management Advisory District 1 Commissioner	1	VU6000	Visitor Use: Camping

*B=Business, H=Recreational Groups, S=State Government

Appendix B
Correspondence Index by Code

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Correspondence Index by Code

Code	Description	Organization	Corr. ID
CR4000	Cultural Resources: Impact of Proposal and Alternatives		20
CR4000	Cultural Resources: Impact of Proposal and Alternatives		2
CR4000	Cultural Resources: Impact of Proposal and Alternatives		10
CR4000	Cultural Resources: Impact of Proposal and Alternatives		39
CR4000	Cultural Resources: Impact of Proposal and Alternatives		56
CR4000	Cultural Resources: Impact of Proposal and Alternatives		60
CR4000	Cultural Resources: Impact of Proposal and Alternatives		61
CR4000	Cultural Resources: Impact of Proposal and Alternatives		62
CR4000	Cultural Resources: Impact of Proposal and Alternatives		63
PA1000	Public Access: General	Big Island Mountain Bike Association	22
PA1000	Public Access: General		40
PA1000	Public Access: General		58
PA1000	Public Access: General		9
PA1000	Public Access: General		10
PA1000	Public Access: General		13
PA1000	Public Access: General		17
PA1000	Public Access: General		34
PA1000	Public Access: General		39
PA1000	Public Access: General		51
PA1000	Public Access: General		57
PA1000	Public Access: General		62
PA1000	Public Access: General		63
PA2000	Public Access: Roads		34
PA2000	Public Access: Roads		56
PA2000	Public Access: Roads		57
PA2000	Public Access: Roads		62
PA3000	Public Access: Coastal		14
PA3000	Public Access: Coastal		20
PA3000	Public Access: Coastal		6
PA3000	Public Access: Coastal		11
PA3000	Public Access: Coastal		12
PA3000	Public Access: Coastal		15

PA3000	Public Access: Coastal	16
PA3000	Public Access: Coastal	17
PA3000	Public Access: Coastal	21
PA3000	Public Access: Coastal	28
PA3000	Public Access: Coastal	38
PA3000	Public Access: Coastal	39
PA3000	Public Access: Coastal	41
PA3000	Public Access: Coastal	43
PA3000	Public Access: Coastal	48
PA3000	Public Access: Coastal	53
PA3000	Public Access: Coastal	55
PA3000	Public Access: Coastal	57
PA3000	Public Access: Coastal	60
PA3000	Public Access: Coastal	62
PA3000	Public Access: Coastal	63
PE1000	Public Engagement	7
PE1000	Public Engagement	3
PE1000	Public Engagement	9
PE1000	Public Engagement	12
PE1000	Public Engagement	19
PE1000	Public Engagement	56
PE1000	Public Engagement	62
PE1000	Public Engagement	63
VM1000	Visitor Use Management: General	20
VM1000	Visitor Use Management: General	10
VM1000	Visitor Use Management: General	15
VM1000	Visitor Use Management: General	25
VM1000	Visitor Use Management: General	45
VM1000	Visitor Use Management: General	57
VM1000	Visitor Use Management: General	61
VM1000	Visitor Use Management: General	62
VM1000	Visitor Use Management: General	63
VM2000	Visitor Use Management: Permit System	54
VM2000	Visitor Use Management: Permit System	30
VM2000	Visitor Use Management: Permit System	10
VM2000	Visitor Use Management: Permit System	15
VM2000	Visitor Use Management: Permit System	19
VM2000	Visitor Use Management: Permit System	34
VM2000	Visitor Use Management: Permit System	46
VM2000	Visitor Use Management: Permit System	56
VM2000	Visitor Use Management: Permit System	57
VM2000	Visitor Use Management: Permit System	59
VM2000	Visitor Use Management: Permit System	60

VM2000	Visitor Use Management: Permit System		62
VM2000	Visitor Use Management: Permit System		63
VR4000	Vegetation and Riparian Areas: Management Actions		57
VR4000	Vegetation and Riparian Areas: Management Actions		62
VR4000	Vegetation and Riparian Areas: Management Actions		63
VU10000	Visitor Use: Facilities		20
VU10000	Visitor Use: Facilities		2
VU10000	Visitor Use: Facilities		10
VU10000	Visitor Use: Facilities		12
VU10000	Visitor Use: Facilities		15
VU10000	Visitor Use: Facilities		42
VU10000	Visitor Use: Facilities		57
VU10000	Visitor Use: Facilities		60
VU10000	Visitor Use: Facilities		62
VU10000	Visitor Use: Facilities		63
VU11000	Visitor Use: Education/Interpretation		20
VU11000	Visitor Use: Education/Interpretation		9
VU11000	Visitor Use: Education/Interpretation		10
VU11000	Visitor Use: Education/Interpretation		16
VU11000	Visitor Use: Education/Interpretation		19
VU11000	Visitor Use: Education/Interpretation		56
VU11000	Visitor Use: Education/Interpretation		57
VU11000	Visitor Use: Education/Interpretation		60
VU11000	Visitor Use: Education/Interpretation		62
VU11000	Visitor Use: Education/Interpretation		63
VU6000	Visitor Use: Camping	Game Management Advisory District 1 Commissioner	1
VU6000	Visitor Use: Camping		20
VU6000	Visitor Use: Camping		2
VU6000	Visitor Use: Camping		6
VU6000	Visitor Use: Camping		8
VU6000	Visitor Use: Camping		9
VU6000	Visitor Use: Camping		11
VU6000	Visitor Use: Camping		17
VU6000	Visitor Use: Camping		24
VU6000	Visitor Use: Camping		28
VU6000	Visitor Use: Camping		34
VU6000	Visitor Use: Camping		42
VU6000	Visitor Use: Camping		49
VU6000	Visitor Use: Camping		56

VU6000	Visitor Use: Camping		57
VU6000	Visitor Use: Camping		60
VU6000	Visitor Use: Camping		62
VU6000	Visitor Use: Camping		63
VU7000	Visitor Use: Trails		2
VU7000	Visitor Use: Trails		6
VU7000	Visitor Use: Trails		9
VU7000	Visitor Use: Trails		12
VU7000	Visitor Use: Trails		17
VU7000	Visitor Use: Trails		34
VU7000	Visitor Use: Trails		44
VU7000	Visitor Use: Trails		52
VU7000	Visitor Use: Trails		53
VU7000	Visitor Use: Trails		56
VU7000	Visitor Use: Trails		57
VU7000	Visitor Use: Trails		60
VU7000	Visitor Use: Trails		62
VU8000	Visitor Use: Equestrian	Puna Goat Cheese	37
VU8000	Visitor Use: Equestrian		23
VU8000	Visitor Use: Equestrian		26
VU8000	Visitor Use: Equestrian		27
VU8000	Visitor Use: Equestrian		29
VU8000	Visitor Use: Equestrian		31
VU8000	Visitor Use: Equestrian		32
VU8000	Visitor Use: Equestrian		33
VU8000	Visitor Use: Equestrian		35
VU8000	Visitor Use: Equestrian		57
VU8000	Visitor Use: Equestrian		62
VU8000	Visitor Use: Equestrian		63
VU9000	Visitor Use: Biking	Big Island Mountain Bike Association	22
VU9000	Visitor Use: Biking		18
VU9000	Visitor Use: Biking		4
VU9000	Visitor Use: Biking		24
VU9000	Visitor Use: Biking		34
VU9000	Visitor Use: Biking		39
VU9000	Visitor Use: Biking		47
VU9000	Visitor Use: Biking		49
VU9000	Visitor Use: Biking		50
VU9000	Visitor Use: Biking		52
VU9000	Visitor Use: Biking		57
VU9000	Visitor Use: Biking		60
VU9000	Visitor Use: Biking		62

WH4000	Wildlife and Wildlife Habitat: Impact of Proposal and Alternatives	20
WH4000	Wildlife and Wildlife Habitat: Impact of Proposal and Alternatives	5
WH4000	Wildlife and Wildlife Habitat: Impact of Proposal and Alternatives	8
WH4000	Wildlife and Wildlife Habitat: Impact of Proposal and Alternatives	10
WH4000	Wildlife and Wildlife Habitat: Impact of Proposal and Alternatives	36
WH4000	Wildlife and Wildlife Habitat: Impact of Proposal and Alternatives	39
WH4000	Wildlife and Wildlife Habitat: Impact of Proposal and Alternatives	44
WH4000	Wildlife and Wildlife Habitat: Impact of Proposal and Alternatives	57
WH4000	Wildlife and Wildlife Habitat: Impact of Proposal and Alternatives	61
WH4000	Wildlife and Wildlife Habitat: Impact of Proposal and Alternatives	62
WH4000	Wildlife and Wildlife Habitat: Impact of Proposal and Alternatives	63
WI1000	Wilderness	9
WI1000	Wilderness	10
WI1000	Wilderness	61

Appendix C

Impact Topics Dismissed

Table C-1 provides a brief explanation of impact topics that were dismissed from detailed analysis.

TABLE C-1. IMPACT TOPICS DISMISSED FROM DETAILED ANALYSIS

Impact Topic	Reason Dismissed
Archaeological resources	Archaeological sites are present in the Kahuku Unit. The comprehensive site management plan would include implementation guidance on how to preserve and protect archaeological sites while facilitating visitor use and enjoyment of these resources. Implementation of management actions related to visitor access and capacities would be sited to avoid known archaeological sites. Archaeological education/interpretation may foster a greater appreciation and minimize visitors' impacts. There is the potential for damage to previously unknown archaeological resources from project construction activities, however, measures listed in Section 2.3.4 are designed to avoid these potential discoveries. In Kahuku-Pōhue, all project activities, including the construction of the administrative road, would be designed to avoid impacts to known sites. The National Park Service (NPS) would ensure compliance with all federal and state cultural regulations prior to construction. Therefore, this topic is dismissed from further analysis.
Air quality	There would be localized increases in dust and vehicle emissions in and around the project area throughout construction that would cease once construction is completed. Air quality mitigations described in Section 2.3.7 would minimize dust and emissions so that the project would not result in significant air quality impacts. The proposed action would not introduce new permanent, stationary sources that would generate measurable air pollutants or greenhouse gas emissions. Hawai'i Volcanoes National Park is a designated Class I air quality area. Although industrial sources of air pollution are negligible in the park area, emissions of sulfur dioxide and other gases from Kīlauea volcano and this interaction of sulfur dioxide, sunlight, oxygen, water, and dust form acidic volcanic smog or "vog." The proposed action, particularly the use of heavy equipment and motor vehicles, would have a negligible localized, short-term impact on air quality; therefore, this topic is dismissed from detailed analysis.
Avian species	There would be minimal removal of trees that could be used by forest birds. No more than 7 days prior to tree removal, nest surveys would be completed. Trees with active nests would not be cut until the young are fledged. No in-water management actions would occur. Impacts to seabirds using beaches or other terrestrial habitat would be mitigated by measures disclosed in Section 2.3. Therefore, this topic is dismissed from detailed analysis.
Floodplains, wetlands, streams	Streams and wetlands would be avoided during construction. Minor activities such as installation of campsites and picnic tables are proposed along the coast in Kahuku-Pōhue. The majority of facilities would be located outside of the regulatory floodplain. Implementation of stormwater mitigation during construction would reduce impacts to floodplains, wetlands, and streams below significant levels and thus, this topic is dismissed from detailed analysis.
Geologic features	Potential impacts to lava tube caves from soil turnover would be minimized by preconstruction surveys that would identify any geologic features so they could be avoided. If unanticipated lava tube caves are identified during construction, the NPS would implement additional mitigation.
Historic resources	A portion of the Ala Kahakai National Historic Trail (NHT) crosses Kahuku-Pōhue. The NPS administers the Ala Kahakai NHT, which was added to the National Trails System by the U.S. Congress on November 13, 2000, to preserve, protect, and interpret traditional Native Hawaiian culture and natural resources. The trail is currently managed in accordance with the 2009 Ala Kahakai NHT Comprehensive Management Plan (NPS 2009). Because any proposed activities in this plan would be consistent with the comprehensive management plan, no further analysis of this topic is warranted.

Impact Topic	Reason Dismissed
Lightscapes	All new lighting would be compliant with the NPS’s dark sky/night lighting avoidance and minimization policies (NPS 2018).
Land use	Kahuku-Pōhue would experience a change in land use from open space not currently open to the public, to public open space used for recreational purposes. However, the proposed land use would be consistent with the NPS’s mission and resulting impacts on individual resources or visitor uses would be analyzed in those respective sections.
Nonnative species	Several nonnative species occur within the Kahuku Unit and there is a continued need for removal of invasive nonnative species and replacement with native plant species. Construction activities and increased visitor access associated with the proposed action could result in a greater potential for the introduction or spread of nonnative species or invasive pests within the park, particularly in areas where new or improved trails, roads, campsites, and other facilities are developed. These activities could disturb soil, vegetation, and other natural features, creating conditions conducive to the establishment of invasive species. The plan includes implementation guidance for the continued management of nonnative species within the Kahuku Unit, including invasive plants and pests. Mitigation measures identified in Sections 2.3.1 and 2.3.2—such as inspection of construction equipment prior to park entry and the implementation of invasive species prevention measures for visitors—would reduce the likelihood and severity of these potential impacts.
Sensitive vegetation	There are 32 rare, five species of concern, one threatened, and 22 endangered plants in the Kahuku Unit, which includes Kahuku-Pōhue. If left unmanaged, nonnative ungulates and predators can trample or graze on sensitive vegetation or species. The plan would provide an overall recommendation to fence where needed to protect important resources. Surveys for sensitive plant species would be completed prior to any ground disturbance and individual plants would be avoided. Surveys would be completed during the peak time for flowering when identifiable features of the plants are more likely to be visible. If avoidance is not possible, the NPS would work with the U.S. Fish and Wildlife Service to transplant the plants to suitable undisturbed habitat. Therefore, this topic is dismissed from detailed analysis (see Section 2.3.2).
Other special status species	‘Ōpe‘ape‘a (Hawaiian hoary bat) is an endangered, insectivorous, endemic subspecies of the widespread continental hoary bat. The ‘io (Hawaiian hawk; <i>Buteo solitarius</i>) is a state-listed endangered raptor that preys upon rodents and birds. Disturbance, removal, or trimming woody plants greater than 15 feet tall during the ‘ōpe‘ape‘a birthing and pup rearing season (June 1 through September 15) would be avoided. Barbed wire would also not be used for fencing to remove the potential impalement of hoary bats. With the application of these mitigation measures, impacts to sensitive species would be precluded. Therefore, this topic is dismissed from detailed analysis.
Soundscapes	There would be increased noise during construction. However, mitigation measures would reduce noise as much as possible (see Section 2.3.7). The impact of this increased noise is discussed under the applicable resource topics such as nēnē and visitor use in Section 3. Therefore, this topic will not be analyzed as a stand-alone topic.
Socioeconomics	There could be temporary disruptions to current limited commercial services in the Kahuku Unit and decreased revenue to services surrounding the unit in Ocean View Ranchos, Nā‘ālehu, or the surrounding communities due to the displacement of visitors during construction periods. There would also be potential for increased employment in the local communities during those times. However, it is not known if construction crews would come from local communities. Additional visitors to the area would result in a small amount of additional revenue to services surrounding the Kahuku Unit in Ocean View, Nā‘ālehu, and nearby communities.
Coastal Zone Management Act	Implementation of the comprehensive site management plan would have no direct impact to coastal zones outside of the park boundary. The risk for erosion and sediment movement from the construction in Kahuku-Pōhue to the coast is unlikely due to substrate. The area is a relatively recent lava flow with little erosive potential. Construction best management practices would be required to prevent erosion and control sediment so it does not leave the area.

Impact Topic	Reason Dismissed
Human health and safety	<p>There would be an increase in traffic and equipment movement during construction. Increased visitor use and increased public access to remote areas of the park both have the potential to increase the likelihood of human-started wildfires and increase the need for wildfire preparedness and response. These also have the potential to increase the demand for emergency response from park managers and local emergency service providers. Development of campsites along the coast would require education and signage for visitors regarding tsunami awareness. Because the increase in visitor use is expected to be minor, and because mitigation measures would minimize safety incidents and demands on providers, this topic is dismissed from detailed analysis.</p>
Viewsheds	<p>Construction of new visitor facilities would introduce new features and contrasts to the landscape and would change the existing landscape character and scenic quality. Opening currently inaccessible areas (e.g., Kahuku-Pōhue) to the public would also create new viewpoints for the public to enjoy. These views are important in furthering park interpretive themes and stories in addition to their importance as sacred sites for many Native Hawaiians. Facilities would be sited and designed as appropriate for the desired conditions of each management zone. Scenic viewpoints would not be affected by any proposed structures.</p>
Water resources	<p>The existing water tank in the facilities area in Lower Kahuku would be replaced with a higher capacity tank using the existing waterline. Therefore, there would be no impact to water quantity. Surface water quality could be temporarily degraded by ground-disturbing activities during construction, which would alter stormwater runoff patterns and increase erosion and sedimentation in downstream water bodies. Implementation of stormwater mitigation during construction would reduce impacts to surface water quality below significant levels and thus, this topic is dismissed from detailed analysis.</p>
Ethnographic resources	<p>The NPS Director’s Order 28: Cultural Resource Management defines ethnographic resources as any site, structure, object, landscape, or natural resource feature assigned traditional legendary, religious, subsistence, ceremonial, or other significance in the cultural system of a group traditionally associated with it. Ethnographic resources in the project area include the volcanic landscape and the vegetation, which connects the Hawaiian people to the park, trail systems, petroglyph fields, culturally used caves, traditional Native Hawaiian ceremonial sites, ranching era sites, among others. This landscape sustains life for both plants and animals, including humans. The native plants that still occur in the area are important for Native Hawaiian practitioners to use in ceremonies and medicine.</p> <p>Increased public access and use of Kahuku-Pōhue could impact sacred sites physically through ground disturbance during construction of new visitor use facilities (roads, trails, and campsites). However, facilities would be sited to avoid sacred sites. Visitor use could also change the setting and feel of the sites through noise and human presence since natural scenery and quiet solitude are sought after and valued during some cultural practices. However, visitor use restrictions and education/interpretation would be put in place to minimize visitor use impacts, therefore this topic is not carried forward for detailed analysis.</p>
Wilderness	<p>The park conducted a Wilderness Assessment in 2012 for Upper and Lower Kahuku (mauka of Highway 11) and found that 121,015 acres of the lands acquired in 2003 are eligible for wilderness designation. The park would manage these areas as Wild/Primitive Zone to ensure that the land’s primeval character and influence is retained and protected; that visitors continue to find opportunities for solitude or primitive and unconfined recreation; and that the landscapes generally appear to have been affected primarily by the forces of nature with the imprint of human work substantially unnoticeable. Activities proposed in the Wild/Primitive Zone are intended to meet these requirements, therefore, this topic is dismissed from detailed analysis.</p>

Appendix D

Desired Conditions Report



**NPS Hawai'i Volcanoes National Park
Kahuku Site Management Plan and Environmental Assessment**

Desired Conditions Workshop

Final Report

Submitted to:

National Park Service
Denver Service Center

Prepared by:

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April 25, 2024

PMIS No. 249585

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Section 1. Introduction

The National Park Service (NPS) at Hawai'i Volcanoes National Park is preparing a comprehensive Site Management Plan and Environmental Assessment (EA) for the 132,000 plus acre Kahuku Unit, a parcel that straddles the Southwest Rift Zone of Mauna Loa and extends across lava fields, pastures, forests, shrublands and mesic, subalpine, and desert environments in the Ka'ū District of Hawai'i County and includes habitat for several species of federally listed endangered plants and animals. The plan will also include guidance for the 16,451-acre Kahuku-Pōhue (Pōhue) parcel which was acquired in 2022. The plan will provide implementation guidance for the desired visitor experience while preserving sensitive natural, cultural, and historical resources.

Articulating desired conditions is an essential aspect of planning and is considered the “heart” of visitor use management efforts. Desired conditions are statements of aspiration that describe resource conditions, visitor experiences and opportunities, and facilities and services that the National Park Service strives to achieve and maintain in a particular area. Desired condition descriptions paint a picture of what an area will look, feel, sound, and function like in the future. They do not answer the question of how conditions will be maintained or achieved.

Desired conditions may vary across the landscape of a park depending on resource types and desired experiences for visitors. A park will typically be divided into geographic management areas or “zones” that delineate differences in management that are compatible with the park's purpose and preserve its fundamental resources and values. Each of these zones should include a description of distinct desired conditions that may be arranged along a continuum or spectrum of visitor opportunities, resource conditions, and realistic kinds and levels of management, access and development that are appropriate for the desired resource conditions and visitor experiences. Zone-specific desired conditions allow for the development of meaningful guidance on the types and levels of use that may be appropriate in an area and how that use may generally be managed. Together zoning and desired conditions help guide management strategies and fulfill aspects of general management planning statutory requirements (54 USC 1005021).

The 2016 GMP established four management zones for the park, along with parkwide desired conditions. These zones include the following: Visitor Services Zone, Transitional/Semi-primitive Zone, Wild/Primitive Zone (which includes designated wilderness and lands found eligible for future designation as wilderness, but not yet designated by Congress), and Park Support Zone (facilities and surrounding areas in the park used primarily for NPS administration). The Visitor Services Zone, Transitional/Semi-primitive Zone, and the Wild/Primitive Zone all exist within the project area for the plan.

As part of a zoning and desired conditions workshop held remotely on April 5, 2024 (see Appendix A for slides used at the workshop), the planning team reviewed the existing three management zones within the project area and decided that the zones as currently specified in Upper and Lower Kahuku were sufficient for management of those areas. Additionally, it was determined that most of the Pōhue parcel would likely be zoned as Wild/Primitive, with some small portions of that parcel with existing or proposed roads being zoned as Transitional/Semi-primitive.

Section 2. Recommended Desired Conditions

The planning team began developing recommended desired conditions during the workshop on April 5, 2024. The project planning team began developing desired conditions by using a photo exercise. Participants provided photos that represented a desired condition in the park. Participants shared these photos during the workshop and were asked a series of open-ended questions to elicit themes about desired conditions in the park. The team then broke into groups and discussed ideas that informed the development of detailed recommended desired conditions statements for visitor use and experience, natural resources, cultural resources, and facility-related attributes for the three management zones present in the project area, which are presented below. All parkwide desired conditions as specified in the 2016 General Management Plan also apply to the project area. Some parkwide desired conditions from the 2016 General Management Plan were carried over into desired conditions for this plan. Desired conditions carried over from the 2016 General Management Plan are displayed in italics in the tables below.

2.1. Visitor Services Zone

Table 1 presents the desired conditions statements for the Visitor Services Zone. The statements cover desired conditions for attributes related to natural resources, cultural resources, visitor use and experience, management operations, and relationships with organizations and local communities for this zone.

Table 1. Desired Conditions – Visitor Services Zone

Attribute	Visitor Services Zone
<p>Natural Resources:</p> <ul style="list-style-type: none"> ▪ Ecosystem Management ▪ Fire Management ▪ Native Species ▪ Non-native Species ▪ RTE Species ▪ Air Quality ▪ Geologic and Soil Resources ▪ Water Quality ▪ Lightscape Management/Night Skies ▪ Soundscape and Acoustic Environment ▪ Scenic Resources/ Viewsheds 	<ul style="list-style-type: none"> ▪ The night environment is Dark Skies compliant and consists of largely natural light, with only the necessary amount of onsite artificial outdoor lighting to provide for visitor safety and comfort. Artificial light sources in this developed area are designed to minimize light pollution and serve as an example to educate visitors about night sky and wildlife friendly lighting. ▪ Opportunities to listen to natural sounds of native insects and birds are possible, with some human generated sounds are present in this more social setting, with sound from traffic from the nearby road also audible. ▪ Plant and animal communities endemic to this area are protected, maintained, and/or restored here as part of the natural ecosystem alongside a built human environment. Some historically introduced plant species remain in this portion of the park. Historically introduced grasses and native blooming flowers coexist in this zone. Visitor interpretation and education enlist visitors and local communities as partners in park stewardship, helping them understand and embrace behaviors that maintain the ability of native plant and animal communities and historically introduced species to coexist in this area, and prevent new non-native, invasive species from overtaking existing vegetation. ▪ Appropriate infrastructure for fire management is present in this zone. <i>All wildland fires are effectively managed and resource values are not only considered but protected. Firefighter and public safety are prioritized in decision making. Fire management utilizes a full range of strategic and tactical operations as described in an approved fire management plan.</i> ▪ Infrastructure exists to facilitate stewardship projects that may involve the community and the public. ▪ <i>Air quality meets national ambient air quality standards for specified pollutants and is maintained or improved with little or no deterioration, except for volcanic related emissions.</i> ▪ <i>Visibility is excellent, such that scenic view within and outside the park are clear, except for volcanic-related and other natural visibility reductions.</i> ▪ <i>Surface water and groundwater are protected, and water quality meets or exceeds all applicable water quality standards, and hydrologic processes continue unimpeded. NPS and NPS-permitted programs and facilities are maintained and operated to avoid pollution of surface water and groundwater.</i>

Attribute	Visitor Services Zone
<p>Cultural Resources:</p> <ul style="list-style-type: none"> ▪ Archeological Resources ▪ Historic Structures ▪ Ethnographic Resources ▪ Cultural Landscapes ▪ Museum Collections 	<ul style="list-style-type: none"> ▪ Overlapping cultural landscapes exist here, including the Kahuku Ranch Cultural Landscape, the Kahuku Military Landscape, as well as the Ethnographic Landscape. ▪ The stewardship, maintenance and interpretation of the significant archeological site, the Ka'ū Agricultural Field System located in the east pastures behind the admin buildings within this zone. Potential for interpretation of and the possibility for the development of experimental gardens and community stewardship programs in the Ka'ū Agricultural Field systems to further interpret the site for visitors and help protect the resources. ▪ Implements of the historic ranching period (paddock fences and water systems) are present, alongside remnants of World War II era military activity. These histories are interpreted to inform visitors of these important aspects of what Kahuku represents to Hawai'i. ▪ Visitor interpretation and education enlist visitors as partners in stewardship, helping them understand the significance of these resources, and embrace behaviors that protect important cultural resources. ▪ <i>The National Park Service accommodates access to and ceremonial use of Hawaiian sacred sites by Hawaiian religious practitioners and avoids adversely affecting the physical integrity of these sacred sites to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions.</i> ▪ The National Park Service accommodates continued traditional practice by Native Hawaiians to maintain or re-establish connection with the land to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions. ▪ Archeological sites are identified and inventoried, and their significance is determined and documented. Some archeological sites that can be adequately protected may be interpreted to visitors. Site conditions are monitored to record changes in resource conditions as a result of environmental conditions or visitor use impacts. To the extent feasible, archeological resources degrading from environmental conditions and visitor impacts are mitigated through stabilization and preservation strategies. ▪ Historic structures and cultural landscapes are monitored, inspected, and managed to enable long-term preservation of a resource's cultural and historic features, qualities, and materials.
<p>Wilderness:</p> <ul style="list-style-type: none"> ▪ Wilderness Resources, Character and Values 	<ul style="list-style-type: none"> ▪ Visitor interpretation and education reinforces the need for visitors to prepare for their experiences in park Wilderness and teaches techniques and behaviors that allow visitors to interact with park resources safely and harmoniously.

Attribute	Visitor Services Zone
<p>Visitor Use and Experience:</p> <ul style="list-style-type: none"> ▪ Visitor Opportunities ▪ Public Health and Safety ▪ Transportation to and within Hawai'i Volcanoes National Park 	<ul style="list-style-type: none"> ▪ This zone provides easy, convenient, accessible, and comfortable access and orientation to the Kahuku area, with modified aggregate paved drive-up access sufficient for small vehicles, dedicated parking spaces, a comfort station with running water, fee collection area, and some concessions (e.g., food, water, park store). ▪ While frequent encounters with other visitors are to be expected in this zone, visitors will still find opportunities to have an enjoyable and fulfilling park experience. ▪ Visitors are able to transition from their vehicles to embark on an accessible pedestrian experience as they enjoy this zone or access trails leading to more remote areas of the park. This zone allows visitors easy access to hikes that are appropriate for all ability levels, on well surfaced trails, have clear wayfinding signage, and are close to parking. ▪ Visitors have opportunities to interact with and learn about cultural resources, that help interpret the Native Hawaiian cultural landscape and natural resources. ▪ Walkways between built structures, and some trails are ABA accessible, providing a variety of experiences for all visitors. ▪ Sufficient covered space (with applicable utilities, such as electric and telecommunications) is available for educational and interpretive programming at or in vicinity of the visitor contact station. ▪ Some limited CUA access to this zone may be possible, such as small passenger van service for guided hiking. ▪ Visitors can expect safe and improved visitor facilities, with some historic buildings rehabilitated for visitor experiences, or new structures that fit with the character of the area, and cultural landscape features that are adapted for universal access. ▪ Hardened surfaces in this zone accept substantial visitation and a wide range of visitor abilities. Built environments in this zone are designed to intuitively guide visitors toward key facilities and services that are designed to help orient them for the rest of their visit. ▪ Information and signage in this area orients visitors and prepares them for experiences in other zones of the park. Basic needs, like restrooms, water, and expanded amenities like picnic areas, accessible to visitors of all abilities, provide for an engaging and enjoyable visitor experience.
<p>Management and Operations:</p>	<ul style="list-style-type: none"> ▪ The NPS strives to identify recognizable threats to safety and health of visitors and staff. There is limited cell phone coverage in this area of the park to contact

Attribute	Visitor Services Zone
<ul style="list-style-type: none"> ▪ Utilities and Communication Facilities 	<p>emergency services. To the extent possible, the park applies appropriate measures to mitigate this limitation.</p>
<p>Relations with Private and Public Organizations, Owners of Adjacent Land, and Governmental Agencies</p>	<ul style="list-style-type: none"> ▪ NPS staff maintains a close working relationship with HDOT to mitigate potential highway safety concerns and potential roadway impacts from visitor use of the area. ▪ NPS staff work with other state agencies and the Three Mountain Alliance to protect landscapes and ecosystems across boundaries.
<p>Relations with Nearby Communities</p>	<ul style="list-style-type: none"> ▪ <i>NPS staff maintain close working relationships with nearby communities</i> and adjacent landowners to mitigate potential impacts to nearby landowners from visitor use. ▪ NPS staff maintains close working relationships, trust, and goodwill with nearby communities, providing the ability for local communities to maintain a meaningful relationship with the landscape while accomplishing the management objectives and maintaining desired conditions in this management zone.

2.2. Transitional/Semi-primitive Zone

Table 2 presents the desired conditions statements for the Transitional/Semi-primitive zone. The statements cover desired conditions for natural resources, cultural resources, visitor use and experience, management operations, and relationships with organizations and local communities for this zone.

Table 2. Desired Conditions – Transitional/Semi-primitive Zone

Attribute	Transitional/Semi-primitive Zone
<p>Natural Resources:</p> <ul style="list-style-type: none"> ▪ Ecosystem Management ▪ Fire Management ▪ Native Species ▪ Non-native Species ▪ RTE Species ▪ Air Quality ▪ Geologic and Soil Resources ▪ Water Quality ▪ Lightscape Management/Night Skies ▪ Soundscape and Acoustic Environment ▪ Scenic Resources/ Viewsheds 	<ul style="list-style-type: none"> ▪ Plant and animal communities endemic to this area are protected, maintained, and/or restored here as part of the natural ecosystem, providing habitat for native birds and insects. Some historically introduced plant species (e.g., grasses) remain in this portion of the park as potential areas for nēnē reintroduction. Other rare, threatened, and endangered species are protected and sustained. ▪ Visitor interpretation and education enlist visitors and local communities as partners in park stewardship, helping them understand and embrace behaviors that maintain the ability of native plant and animal communities to be reintroduced and exist in this area, and help keep non-native, invasive species from gaining a foothold in the park. ▪ <i>Populations of non-native plant species are monitored and controlled. These populations are excluded and eradicated wherever such species threaten park resources or public health and when control is prudent and feasible.</i> ▪ Non-native ungulates and predators are excluded and managed when prudent and feasible. Mosquitoes are controlled or eradicated. Incipient populations of invasive species are controlled (e.g., little fire ants, <i>Vespula</i>, etc.) ▪ <i>Air quality meets national ambient air quality standards for specified pollutants and is maintained or improved with little or no deterioration, except for volcanic related emissions.</i> ▪ <i>Visibility is excellent, such that scenic view within and outside the park are clear, except for volcanic-related visibility reductions.</i> ▪ <i>Surface water and groundwater are protected, and water quality meets or exceeds all applicable water quality standards, and hydrologic processes continue unimpeded.</i> ▪ Appropriate infrastructure and restrictions based on conditions for fire management are present in this zone. <i>All wildland fires are effectively managed, considering resource values to be protected and firefighter and public safety, using a full range of strategic and tactical operations as described in an approved fire management plan.</i> Water catchment facilities and reservoirs left over from the ranching history are present and may be used for visitor use and/or fire suppression. Fuel breaks are maintained, and wildfire fuels are reduced.

Attribute	Transitional/Semi-primitive Zone
	<ul style="list-style-type: none"> ▪ The night environment is Dark Skies compliant and consists of largely natural light, with some light intrusion from adjacent neighborhoods. ▪ Opportunities to hear natural sounds are prevalent in this zone, with some human-caused sound present from visitors, vehicles on nearby roads, and management activities. ▪ Native forests are reintroduced, allowing species to flourish under predicted climate conditions in the future to the extent possible. ▪ NPS provides opportunities for nēnē to recover in the area, providing suitable habitat and areas that are free from predators to the extent possible. ▪ Geologic and soil resources, which are a mix of substrate ages, the potential for major lava flow through this area, and the changing nature of the geology and soils is interpreted to, and experienced by visitors. ▪ Opportunity for nēnē to recover in the area exist by establishing predator-proof enclosure recovery area. ▪ Utilize the best available science to reduce wildlife-visitor conflicts (includes nēnē, honu 'ea, anchialine pools, 'u'au if Hapaimamo is open to people etc.).
<p>Cultural Resources:</p> <ul style="list-style-type: none"> ▪ Archeological Resources ▪ Historic Structures ▪ Ethnographic Resources ▪ Cultural Landscapes ▪ Museum Collections 	<ul style="list-style-type: none"> ▪ Significant historic, cultural, and archeological resources are present and are preserved in this zone. Visitors may have opportunities to interact with these resources knowingly or unknowingly. Visitor interpretation and education enlist visitors as partners in stewardship, helping them understand and embrace behaviors that protect these important resources. Many layers of history and culture are present in this zone, including historical ranching that took place during the last century, the Ka'ū agricultural field system that functioned between the 1400s and 1800s, ethnographic resources, and other significant archeological sites. ▪ Portions of the contributing Kahuku Ranch cultural landscape are maintained and preserved, with historic buildings and structures stabilized, restored, and reused for visitor and management facilities and interpretation to the extent possible. ▪ Whenever possible, indigenous knowledge is utilized to manage this zone. ▪ <i>Appropriate cultural anthropological and ethnographic research is conducted in cooperation with groups associated with the park</i>, completion of an ethnographic cultural landscape inventory, mapping of wao (horizontal land divisions), and continued documentation of cultural resource sites. ▪ Visitors will experience place names that are appropriate for the cultural landscape within this zone, and educational and stewardship activities in accessible locations.

Attribute	Transitional/Semi-primitive Zone
	<ul style="list-style-type: none"> ▪ To the extent possible, the Kahuku-Ainapo trail may be re-established for visitor use. ▪ <i>The National Park Service accommodates access to and ceremonial use of Hawaiian sacred sites by Hawaiian religious practitioners and avoids adversely affecting the physical integrity of these sacred sites to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions.</i> ▪ The National Park Service accommodates continued traditional practice by Native Hawaiians to maintain or re-establish connection with the land to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions.
<p>Wilderness:</p> <ul style="list-style-type: none"> ▪ Wilderness Resources, Character and Values 	<ul style="list-style-type: none"> ▪ Visitor education reinforces the need for visitors to prepare for their experiences in park Wilderness and teaches techniques and behaviors that allow visitors to interact with park resources safely and harmoniously.
<p>Visitor Use and Experience:</p> <ul style="list-style-type: none"> ▪ Visitor Opportunities ▪ Public Health and Safety ▪ Transportation to and within Hawai'i Volcanoes National Park 	<ul style="list-style-type: none"> ▪ Visitors feel immersed in the site, where the likelihood of encountering others is moderate to low. A moderate level of challenge will be found here due to limited vehicle access. A moderate level of self-reliance and outdoor skill is needed by visitors who choose to hike or camp in this zone. ▪ Interpretation immerses visitors in the many layers of history and culture, and the interplay of nature and culture in this location. Drawing on the rich diversity of resources, visitors become familiar with the geology, and natural settings that are present under their feet and around them. ▪ Drive-up and hike-in camping opportunities in this zone provide visitors with a rustic camping experience with vault toilets, picnic tables, , and small rain shelters that may provide non-potable water. The camping experience provides visitors with Night Sky viewing opportunities from the comfort of their campsites. Night skies can be seen clearly, without intrusion from light source within the park. Visitors will also find opportunities for easy to moderate day-hiking on well-marked trails, with trailhead interpretation focusing on the multiple layers of history present in the site, with connectivity to more challenging remote hiking opportunities. Visitors will also experience opportunities for birdwatching and biking or e-biking on existing roads. ▪ Visitors are aware of the heightened fire risk in this zone and are enlisted to help reduce that risk. ▪ Administrative UTV use for public health and safety access may be permitted in specifically designated locations in this zone.

Attribute	Transitional/Semi-primitive Zone
<p>Management Operations:</p> <ul style="list-style-type: none"> ▪ Utilities and Communication Facilities 	<ul style="list-style-type: none"> ▪ The NPS strives to identify recognizable threats to safety and health of visitors and staff. There is limited cell phone coverage in this area of the park to contact emergency services. To the extent possible, the park applies appropriate measures to mitigate this limitation. ▪ Facilities in this zone may include a well-marked trail system, gravel roads appropriate for ATV/UTV use for administrative and safety purposes, picnic areas, drive-up and hike-in campsites, with at least non-potable water from small rain shelters.
<p>Relations with Private and Public Organizations, Owners of Adjacent Land, and Governmental Agencies</p>	<ul style="list-style-type: none"> ▪ The park works through partnerships with local organizations (e.g., Three Mountain Alliance) and community engagement to provide and enhance co-stewardship opportunities in lower Kahuku, and embraces continued and expanded ethnographic and natural resources research to support management in the area.
<p>Relations with Nearby Communities</p>	<ul style="list-style-type: none"> ▪ <i>NPS staff maintains close working relationships, trust, and goodwill with nearby communities, providing the ability for local communities to maintain a meaningful relationship with the landscape while accomplishing the management objectives and maintaining desired conditions in this management zone.</i>

2.3. Wild/Primitive Zone

Table 3 presents the desired conditions statements for the Wild/Primitive zone. The statements cover desired conditions for natural resources, cultural resources, visitor use and experience, management operations, and relationships with organizations and local communities for this zone.

Table 3. Desired Conditions – Wild/Primitive Zone

Attribute	Wild/Primitive Zone
<p>Natural Resources:</p> <ul style="list-style-type: none"> ▪ Ecosystem Management ▪ Fire Management ▪ Native Species ▪ Non-native Species ▪ RTE Species ▪ Air Quality ▪ Geologic and Soil Resources ▪ Water Quality ▪ Lightscape Management/ Night Skies ▪ Soundscape and Acoustic Environment ▪ Scenic Resources/ Viewsheds 	<ul style="list-style-type: none"> ▪ In this relatively undisturbed natural setting, natural ecosystem processes predominate. Visitor access and use improvements are primitive or largely absent. Native species, communities, and ecological processes are perpetuated and restored in as natural a condition as possible, as feasible under future climate conditions. ▪ Resource impacts or manipulation of resources for visitor use or administration is rare and avoid sensitive areas to the greatest degree possible. ▪ Non-native species are detected, prevented, and controlled up to and including eradication. Management actions are undertaken wherever such species threaten park resources or public health and when control is prudent and feasible. ▪ Opportunities to hear natural sounds (rain in trees, wind in trees, waves) abound in this zone which has one of only a few areas to hear forest birds (some species of forest birds are only in Upper Kahuku). Occasional intrusions by helicopter tours may occur, in areas adjacent to the highway in Lower Kahuku and upper Pōhue. ▪ Appropriate infrastructure and restrictions based on conditions for fire management are present in this zone. <i>All wildland fires are effectively managed, considering resource values to be protected and firefighter and public safety, using a full range of strategic and tactical operations as described in an approved fire management plan.</i> Fuel breaks are maintained, and wildfire fuels are reduced. ▪ The night environment is Dark Skies compliant and consists of largely natural light, with some light intrusion from outside the park. ▪ Geologic and soil resources which are a mix of substrate ages, the potential for major lava flow through this area, and the changing nature of the geology and soils are experienced by visitors. ▪ Plant and animal communities endemic to this area are protected, maintained, and/or restored here as part of the natural ecosystem, providing habitat for native birds and insects. Other rare, threatened, and endangered species are protected and sustained. ▪ Some active restoration and exclusion fences are present in this zone, as are some historic and non-historic backcountry shelters. ▪ All new visitor amenities or facilities avoid sensitive sites to the extent possible.

Attribute	Wild/Primitive Zone
<p>Cultural Resources:</p> <ul style="list-style-type: none"> ▪ Archeological Resources ▪ Historic Structures ▪ Ethnographic Resources ▪ Cultural Landscapes ▪ Museum Collections 	<ul style="list-style-type: none"> ▪ Significant cultural resources and an abundance and concentrated density of archeological sites are present in Kahuku and Kahuku-Pōhue. Cultural sites are protected, stabilized, and preserved to the greatest extent possible. Archeological sites are inventoried, monitored and protected. ▪ <i>To the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions, The National Park Service accommodates access to and ceremonial use of Hawaiian sacred sites by Hawaiian religious practitioners and avoids adversely affecting the physical integrity of these sacred sites to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions.</i> ▪ The National Park Service accommodates continued traditional practice by Native Hawaiians to maintain or re-establish connection with the land to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions. ▪ Education and interpretation of these resources occurs outside the Wild/Primitive zone to protect wilderness character. ▪ All new visitor amenities (trails) or facilities avoid sensitive sites to the extent possible.
<p>Wilderness:</p> <ul style="list-style-type: none"> ▪ Wilderness Resources, Character, and Values 	<ul style="list-style-type: none"> ▪ <i>The park ensures that the land's primeval character and influence is retained and protected; that visitors continue to find opportunities for solitude and primitive, unconfined recreation; and that the landscapes generally appear to have been affected primarily by the forces of nature with the imprint of human work substantially unnoticeable.</i> This includes most of Upper Kahuku, portions of Lower Kahuku, and much of Pōhue. ▪ <i>Cultural resources that have been included within wilderness will 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.</i> ▪ <i>Natural processes, native components, and the interrelationships among them are protected, maintained, and/or restored to the extent possible, while providing opportunities for their enjoyment as wilderness.</i> ▪ <i>Present and future visitors enjoy the unique qualities offered in wilderness. These include the experiences of solitude, remoteness, risk, challenge, self-sufficiency, discovery, and observation of an untrammelled ecosystem.</i> ▪ <i>Scientific studies are encouraged that contribute to understanding wilderness resources, threats, and restoration of wilderness character.</i> ▪ <i>Wilderness management is based on the minimum requirement concept, allowing only those actions necessary and appropriate for administration of the area as</i>

Attribute	Wild/Primitive Zone
	<p><i>wilderness and that do not cause a significant impact to wilderness resources and character.</i></p> <ul style="list-style-type: none"> ▪ <i>The values of the wilderness in the park are understood by the public and staff through education in wilderness ethics and use, and by using management skills and techniques to promote and preserve these values.</i>
<p>Visitor Use and Experience:</p> <ul style="list-style-type: none"> ▪ Visitor Opportunities ▪ Public Health and Safety ▪ Transportation to and within Hawai'i Volcanoes National Park 	<ul style="list-style-type: none"> ▪ Visitors feel immersed in the natural environment, where the likelihood of encountering others is low, particularly as visitors travel deeper into the interior of this zone. Access to this zone is on foot via trailheads in the Transitional Zone. Visitors will experience a sense of arrival or entering a place when hiking between different environments (such as from dense forest to misty, open scrub-shrub). Opportunities to experience solitude, risk, adventure, and wildness abound. ▪ A high level of challenge will be found here. A high level of self-reliance and outdoor skill is needed as visitors move away from more developed areas in the transitional zone into this zone. There is very limited radio and cell phone reception in this zone, meaning slower search and rescue response times. ▪ A fair bit of time is needed to visit this zone, with a half to full day to visit areas which are closer to development; and overnight visits are needed to visit the interior of this zone. Advanced preparation is needed, including provisions for food, water, sun protection, navigational tools, adequate protective clothing, and other items needed to spend time in this wild area safely. This zone can be hazardous if visitors are not prepared for conditions. ▪ Dispersed visitor activities predominate in this zone, including hiking, backpacking, bird watching, primitive camping, exploring, nature photography, and shoreline fishing in Pōhue. Solitude in this zone will allow visitors to focus both on the park's grand scenic features, and the nature near their feet. Opportunities for up-close encounters with the park's flora present themselves in this zone. Traditional practices (e.g., salt drying and gathering) are also appropriate where allowed. ▪ Where feasible, rain shelters, tent platforms, water catchments and cabins may be added. ▪ Where feasible, native Hawaiian trails, including the 'Āinapo trail are re-established.
<p>Management Operations:</p> <ul style="list-style-type: none"> ▪ Utilities and Communication Facilities 	<ul style="list-style-type: none"> ▪ Fences for natural features protection, composting toilets, tent platforms, and potentially rainshaded shelters at primitive campsites may be provided in this zone.

Attribute	Wild/Primitive Zone
Relations with Private and Public Organizations, Owners of Adjacent Land, and Governmental Agencies	<ul style="list-style-type: none"> <li data-bbox="456 254 1484 390">▪ Good relations are maintained with adjacent landowners, such as the State of Hawai'i, Kamehameha Schools, The Nature Conservancy, surrounding communities, and private and public groups that affect, and are affected by, Hawai'i Volcanoes National Park. <li data-bbox="456 428 1484 600">▪ Management is coordinated to provide consistency in regulations, standards, and guidelines to the extent feasible, and work will continue to be done with the State of Hawai'i, the County of Hawai'i, U.S. Fish and Wildlife Service, US Department of Agriculture, nearby private landowners, other local and regional groups, communities, agencies, and Native Hawaiians to preserve wilderness values.
Relations with Nearby Communities	<ul style="list-style-type: none"> <li data-bbox="456 646 1430 783">▪ <i>NPS staff maintains close working relationships, trust, and goodwill with nearby communities</i>, providing the ability for local communities to maintain a meaningful relationship with the landscape while accomplishing the management objectives and maintaining desired conditions in this management zone.

Section 3. Appendices

3.1. Appendix A: Desired Conditions Workshop Agenda

Subject:	Hawai'i Volcanoes National Park, Kahuku Site Management Plan and EA Desired Conditions Workshop Agenda		
Date:	April 5, 2024	By: Otak, Inc.	
Participants and Distribution			
Name	Organization	Title / Role	Email
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Danah Palik	Otak	Landscape Architect	Danah.Palik@otak.com
Liz Wertz	Otak	Project Coordinator	liz.wertz@otak.com

Workshop Agenda

Item #	1.0: Overview (20 minutes)	Responsible Party
1.1	Participant Introductions	Amy & Danielle
1.2	Workshop Purpose <ul style="list-style-type: none"> ▪ Purpose of the Workshop: Develop refined GMP zoning and desired conditions, and new zoning and desired conditions (as needed) for the HAVO Kahuku Unit that will serve as aspirations and provide guidance for management decisions and planning needs. 	Otak
1.4	Scope of the Project Area <ul style="list-style-type: none"> ▪ Present / discuss / Q&A 	Otak
Item #	2.0: VUM Framework Element 1: Build the Foundation (25 minutes)	Responsible Party
2.1	Visitor Use Management (VUM) Framework Review <ul style="list-style-type: none"> ▪ Present / discuss / Q&A 	Otak
2.2	Summarize project objectives and issues <ul style="list-style-type: none"> ▪ Present/discuss/Q&A 	Otak
2.3	Summarize relevant background information <ul style="list-style-type: none"> ▪ Present/discuss/Q&A 	Otak
	BREAK (10 minutes)	
Item #	3.0: VUM Framework Element 2: Define Visitor Use Management Direction (3 hours)	Responsible Party
3.1	How zoning and desired conditions fit into the VUM framework (20 minutes)	Otak
3.2	Review and refine management zones (35 minutes) <ul style="list-style-type: none"> ▪ Facilitated conversation about existing zoning ▪ Summary of Discussion 	Otak (facilitator)
	BREAK (10 minutes) – Set up Breakout Groups	Otak
3.3	Review and refine desired conditions (1 hour, 55 minutes) <ul style="list-style-type: none"> ▪ Facilitated conversation about existing and desired conditions <ul style="list-style-type: none"> ▫ Photograph exercise ▪ Breakout to refine desired conditions ▪ Reconvene and share 	Otak (facilitator)
Item #	4.0: Next Steps (10 minutes)	Responsible Party
4.1	Review management zones, desired conditions, appropriate visitor activities, facilities, and services (i.e., <i>what we heard</i>)	Otak
4.2	Closeout, thank you, and next steps	Otak

Attachments to the Participant Agenda:

Summary table of Desired Conditions and Zoning Statements from GMP

Zoning Maps

HAVO 2016 GMP Parkwide Desired Conditions

These desired conditions come from the 2016 General Management Plan and are general, parkwide desired conditions. Our goal is to use/adapt them as needed to develop desired conditions specific to the zones in the project area.

Desired Conditions	
Natural Resources	
Ecosystems Management	<ul style="list-style-type: none"> ▪ Components and processes of park ecosystems are protected, and highly altered ecosystems restored, including the natural abundance, diversity, and genetic and ecological integrity of the plant and animal species native to those ecosystems. Regular monitoring and condition assessments are made on key indicators of ecosystem health. ▪ Ecosystems and habitats damaged by non-native species or human activities are restored. Future development avoids sensitive habitats and dynamic areas prone to natural disturbances. ▪ Develop and maintain an understanding of populations, communities, ecosystems, threats, stressors, and ecosystem health through a systematic, science-based program of inventory, monitoring, and research. ▪ Effective management strategies to perpetuate and restore park ecosystems are developed and implemented based on the best available science.
Fire Management	<ul style="list-style-type: none"> ▪ All wildland fires are effectively managed, considering resource values to be protected and firefighter and public safety, using the full range of strategic and tactical operations as described in an approved fire management plan. ▪ Fire management programs will be designed to meet resource management objectives prescribed for the various areas of the park and to ensure that the safety of firefighters and the public are protected. ▪ The best available technology and scientific information are used to manage fire within the park, to conduct routine monitoring to determine if objectives are met and to evaluate and improve the fire management program. Hazard fuel reduction efforts protect structures, wildland-urban interface areas, and natural and cultural resources where appropriate and necessary. ▪ Maintain and strengthen partnerships with local, state, and federal cooperators on and adjacent to the park. Continue to develop agreements

	and operating plans to facilitate mutual cooperation in detection, prevention, training, and suppression activities.
Native Species	<ul style="list-style-type: none"> ▪ The National Park Service strives to protect the full range of genetic types (genotypes) of native plant and animal populations by perpetuating natural evolutionary processes and minimizing human interference with evolving genetic diversity. ▪ Native animal and plant populations in the park are stable and managed to promote long-term viability, including maintaining age-structures, abundance, density and distributions within normal ranges, and a full range of natural genetic variability. Locally extirpated species are reintroduced to former habitat. The most intensive management of native plant and animal habitat is focused on park special ecological areas. ▪ Effects of native diseases and pests are within normal range of variation and are not worsened by human-caused factors. ▪ Effective management strategies to perpetuate and restore native species are developed and implemented based on the best available science.
Non-native Species	<ul style="list-style-type: none"> ▪ Populations of non-native plant and animal species are monitored and controlled. These populations are eradicated wherever such species threaten park resources or public health and when control is prudent and feasible. ▪ If an invasive plant is part of a historic resource, the park removes or replaces with a noninvasive, or preferably, native plant with similar form and size. ▪ Particularly sensitive habitats in Hawai'i Volcanoes National Park, including those containing endemic or rare species, are maintained free of invasive non-native species, when feasible. ▪ Effective management of invasive non-native species is based on the best available science.
Rare, Threatened, and Endangered Species	<ul style="list-style-type: none"> ▪ Federally listed and state listed threatened and endangered and rare species and their habitats are protected and sustained. ▪ Native threatened and endangered and rare species populations that have been severely reduced or extirpated are restored where feasible and sustainable. ▪ Populations of threatened, endangered, or otherwise imperiled species in the park are increasing, leading to improvement in the species' status and, ultimately, to recovery. State and federally listed and rare wildlife populations are stable or increasing, as measured by recovery goals outlined in USFWS species recovery plans.

	<ul style="list-style-type: none"> ▪ Habitats that support or are suitable for sensitive, rare, endemic, or listed species are protected. ▪ Visitors learn about species in the park that are rare or listed under the Endangered Species Act, as well as actions that may assist their recovery. ▪ Effective management strategies to perpetuate and restore rare and listed species are developed and implemented based on the best available science.
Air Quality	<ul style="list-style-type: none"> ▪ Air quality in Hawai'i Volcanoes National Park meets national ambient air quality standards for specified pollutants and is maintained or improved with little or no deterioration, except for volcanic related emissions. ▪ Visibility is excellent, such that scenic views, including integral vistas and views of landscapes within and outside the park, are clear and meet visibility standards, except for volcanic-related visibility reductions. ▪ Views from park overlooks, integral vistas, and scenic stops are not obstructed or marred by human-caused air pollution for most of each year. ▪ Hawai'i Volcanoes National Park management and visitor service activities promote preservation of excellent air quality, including healthful indoor air quality in NPS concession facilities. ▪ Air quality monitoring within or near the park is able to verify whether trends are improving or deteriorating and whether air quality standards are met within the park, discounting any "exceptional events." ▪ Air pollution ecological effects research and monitoring confirms air quality related values are not being impacted by human-caused air pollution.
Geologic and Soil Resources	<ul style="list-style-type: none"> ▪ Hawai'i Volcanoes National Park's geologic resources are preserved and protected as integral components of the park's natural systems. ▪ The National Park Service actively seeks to understand and preserve the soil resources of the park, and to prevent, to the extent possible, the unnatural erosion, physical removal, or contamination of the soil, or the soil's contamination of other resources. ▪ Natural soil resources and processes function in as natural a condition as possible, except where special considerations are allowable under policy. ▪ Monitoring and research programs assess conditions and trends in the park's geo-indicators, particularly those that are both important to the park's ecosystem and management, and those that are subject to human influence (e.g., sea level and shoreline position, erosion, and volcanic processes). ▪ Surficial geology is mapped, and geo-hazards are identified.

<p>Water Quality</p>	<ul style="list-style-type: none"> ▪ Surface water and groundwater are protected, and water quality meets or exceeds all applicable water quality standards. ▪ NPS and NPS-permitted programs and facilities are maintained and operated to avoid pollution of surface water and groundwater. ▪ Water resources meet state criteria for Class 1.a (highest level). ▪ Hydrologic processes continue unimpeded.
<p>Lightscape Management/ Night Sky</p>	<ul style="list-style-type: none"> ▪ Natural darkness and other components of the natural lightscape in the park are protected. ▪ The National Park Service will seek the cooperation of park visitors, neighbors, concessioners, and local government agencies to prevent or minimize the intrusion of artificial light into the night scene of the ecosystems of the park. ▪ The park’s inventory of natural resources identifies ecological processes or components that uniquely depend upon or are affected by nighttime light. ▪ Artificial light sources in the park’s developed areas are designed to prevent light pollution and should serve as an example to educate the public about night sky and wildlife friendly lighting. ▪ Throughout a majority of the park, visitors have opportunities to experience a naturally dark night sky free of light pollution.
<p>Soundscape and the Acoustic Environment</p>	<ul style="list-style-type: none"> ▪ The National Park Service preserves the natural ambient soundscape, restores degraded soundscape to the natural ambient condition wherever possible, and protects the acoustic environment from degradation due to noise (such as inappropriate/ undesirable human-caused sound). ▪ Noise from management or recreational uses is minimized to provide a high-quality visitor experience and protect biological resources and processes that rely on sound (for example intraspecies communication, courtship, predation and predator avoidance, and effective use of habitat). ▪ The acoustical environment remains unimpaired. ▪ Natural sounds predominate in the park. Noise would not affect appropriate transmission of natural sounds. ▪ Ecological processes and interactions that depend upon or are affected by sound are protected. ▪ Visitors have opportunities to experience, understand, and appreciate the park’s soundscapes and acoustic environment.

	<ul style="list-style-type: none"> ▪ The park maintains an inventory of natural sounds and, as feasible, monitors key locations throughout the park to ensure protection of soundscapes and the acoustic environment. ▪ The park uses best available technology and methods to minimize or mitigate artificial noises produced by equipment and management activities.
<p>Scenic Resources/ Viewsheds</p>	<ul style="list-style-type: none"> ▪ The scenic views at Hawai'i Volcanoes National Park continue to stir imaginations, inspire, and provide opportunities for visitors to understand, appreciate, and forge personal connections to the Pacific Islands. ▪ Intrinsically important scenic vistas and scenic features are not significantly diminished by human-made developments. ▪ In collaboration with landowners inside and outside the park, viewsheds within and adjacent to the park are protected.
<p>Climate Change</p>	<ul style="list-style-type: none"> ▪ The park works together with other federal, state, and local governments, and private landowner partners to develop strategies at multiple scales, including landscape-level strategies, for understanding and responding to climate change impacts. ▪ Park staff considers and analyzes potential climate change impacts when undertaking long-range planning exercises, setting priorities for scientific research and investigations, and/or when making major decisions affecting natural and cultural resources. ▪ The park engages in partnerships to implement projects and activities that contribute to the conservation of species, natural communities, and lands and waters placed at risk by changing climate conditions. ▪ Continue to provide and foster state-of-the art science to better understand the impacts of climate change and to develop science-based adaptive management strategies for natural and cultural resource managers. ▪ Continue to minimize the park's contributions to climate change by implementing strategies to improve sustainability and energy efficiency and decrease the park's carbon footprint and consumption of resources.

Cultural Resources

Archeological Resources	<ul style="list-style-type: none"> ▪ Archeological sites are identified and inventoried, and their significance is determined and documented. ▪ Archeological sites are protected in an undisturbed condition unless it is determined through formal processes that disturbance or natural deterioration is unavoidable. ▪ When disturbance or deterioration is unavoidable, the site is professionally documented and excavated, and the resulting artifacts, materials, and records are curated and conserved in consultation with the Hawai'i state historic preservation office and Native Hawaiians. ▪ Some archeological sites that can be adequately protected may be interpreted to the visitor. ▪ Archeological site baseline data are available. Site conditions are monitored to record changes in resource conditions as a result of environmental conditions or visitor use impacts. ▪ To the extent feasible, archeological resources degrading from environmental conditions and visitor impacts are mitigated through data recovery or other preservation strategies, including site-hardening. ▪ To the extent feasible, archeological resources threatened by project development are mitigated first through avoidance, or secondly, through other preservation strategies such as data recovery. ▪ Archeological collections are handled, stored, cleaned, conserved, and exhibited in a way that is appropriate to the nature of the materials, protects the objects, and preserves data. ▪ Archeological collections are made available for scientific, educational, and religious uses. ▪ Access to information on the specific location, character, etc., of objects or collections that may create risk of theft or destruction is limited.
Historic Structures	<ul style="list-style-type: none"> ▪ Historic structures are inventoried, and their significance and integrity are evaluated under National Register of Historic Places criteria. The qualities that contribute to the listing or eligibility for listing of historic structures on the national register are protected in accordance with the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation unless it is determined through a formal process that disturbance or natural deterioration is unavoidable. ▪ Laws pertaining to historic preservation remain applicable within wilderness but must be generally administered to preserve the area's wilderness character.

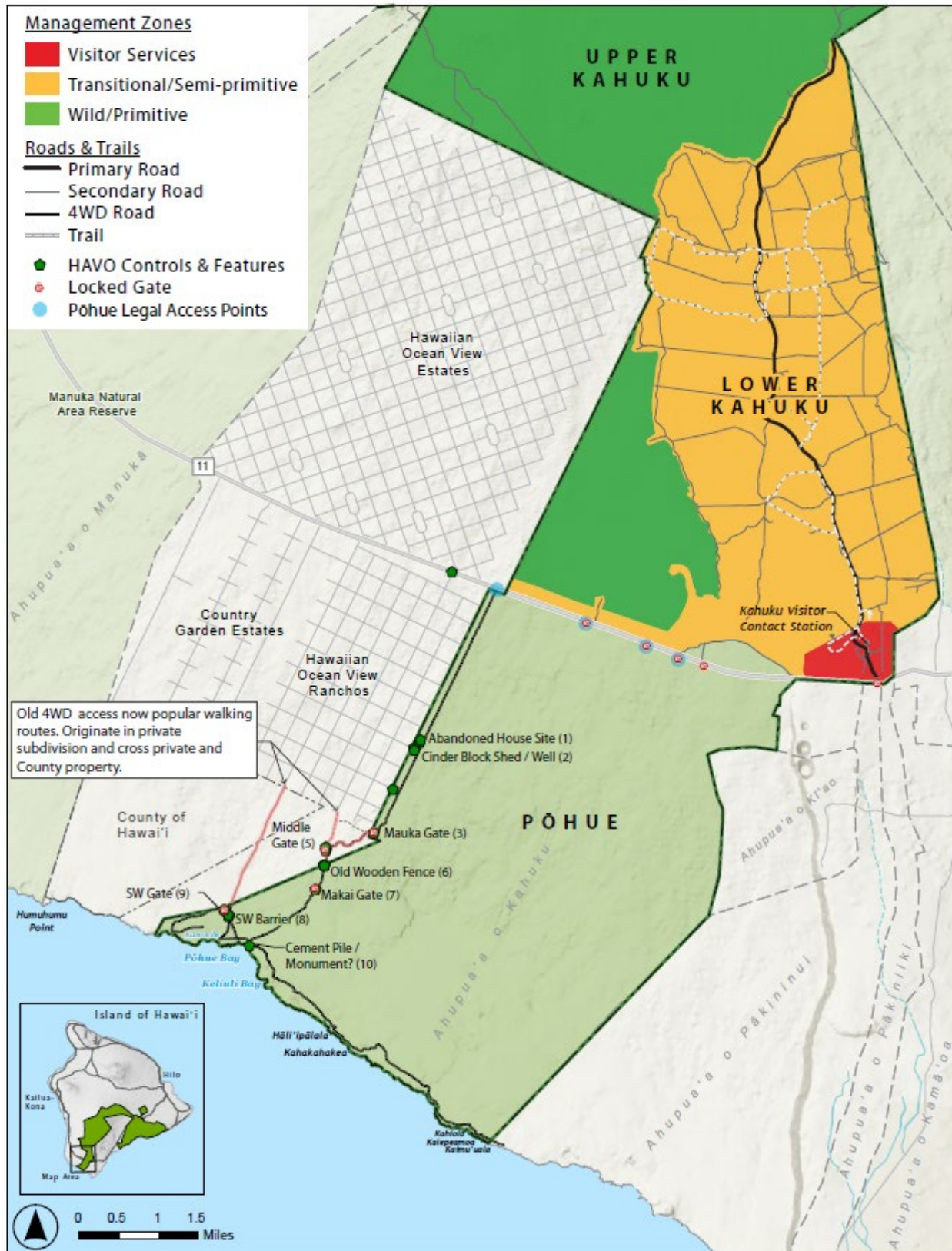
	<ul style="list-style-type: none"> ▪ The historic character of historic buildings and structures is managed in accordance with Section 5.3.5.4 of NPS Management Policies 2006. ▪ Historic structure inventories and reports are prepared, and existing reports amended as needed. Actions identified in historic structure reports are implemented and a record of treatment is added to the reports. • Identified and evaluated historic structures are monitored, inspected, and managed to enable the long-term preservation of a resource’s historic features, qualities, and materials.
<p>Ethnographic Resources</p>	<ul style="list-style-type: none"> ▪ Appropriate cultural anthropological research is conducted in cooperation with groups associated with the park. ▪ To the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions, the National Park Service accommodates access to and ceremonial use of Hawaiian sacred sites by Hawaiian religious practitioners, and avoids adversely affecting the physical integrity of these sacred sites. ▪ All ethnographic resources determined eligible for listing or listed in the national register are protected. If disturbance of such resources is unavoidable, formal consultation with the state historic preservation officer, the Advisory Council on Historic Preservation, and as appropriate, with Native Hawaiians is conducted. ▪ The identities of community consultants and information about sacred and other culturally sensitive places and practices are kept confidential when research agreements or other circumstances warrant. ▪ Potentially sensitive natural and cultural resources and traditional cultural properties (ethnographic resources eligible for the National Register of Historic Places) are identified, recorded, and evaluated through consultation with Native Hawaiians. The integrity of traditional cultural properties is preserved and protected. ▪ Positive and productive relationships exist with each of the Native Hawaiian groups that have traditional uses within the park.
<p>Cultural Landscapes</p>	<ul style="list-style-type: none"> ▪ Cultural landscape inventories are conducted to identify landscapes potentially eligible for listing in the national register and to assist in future management decisions for landscapes and associated resources, both cultural and natural. ▪ The management of cultural landscapes focuses on preserving the landscape’s physical attributes, biotic systems, and uses when that use contributes to its historical significance. ▪ The preservation, rehabilitation, restoration, or reconstruction of cultural landscapes is undertaken in accordance with the Secretary of the Interior’s Standards for the Treatment of Historic Properties.

	<ul style="list-style-type: none"> ▪ Laws pertaining to historic preservation remain applicable within wilderness but must be generally administered to preserve the area’s wilderness character. ▪ The cultural landscapes of the park retain a high degree of integrity. ▪ Cultural landscape inventories and reports are prepared, and existing reports are amended as needed. ▪ Identified and evaluated cultural landscapes are monitored, inspected, and managed to enable the long-term preservation of a resource’s historic features, qualities, and materials. ▪ Actions identified in cultural landscape reports are implemented, and a record of treatment is added to the reports.
<p>Museum Collections</p>	<ul style="list-style-type: none"> ▪ All museum collections and associated records (objects, specimens, and manuscript collections) are identified and inventoried, cataloged, documented, preserved, and protected. The collections are periodically inspected to monitor their conditions and written report of the results of the inspections and inventories are provided. ▪ Provision is made for access to and use of the park’s museum collections for exhibits, research, and interpretation. ▪ The qualities that contribute to the significance of collections are protected in accordance with established standards. ▪ Research and development projects include plans for the curation of collected objects and specimens. ▪ The park’s museum collections are housed in appropriate facilities that provide protection for current collections and allow for future collection expansion. These facilities are periodically inspected to monitor physical security and environmental conditions. ▪ Park museum collections provide documentation of park natural and cultural resources.

Wilderness	
Wilderness Resources, Character, and Values	<ul style="list-style-type: none"> ▪ The National Park Service will manage wilderness areas including those proposed for wilderness designation for the use and enjoyment of the American people in such a manner as will leave them unimpaired for future use and enjoyment as wilderness. ▪ The park ensures that the land's primeval character and influence is retained and protected, that visitors continue to find opportunities for solitude and primitive, unconfined recreation, and that the landscapes generally appear to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable. ▪ Cultural resources that have been included within wilderness will 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. ▪ Natural processes, native components, and the interrelationships among them are protected, maintained, and/or restored to the extent possible, while providing opportunities for their enjoyment as wilderness. ▪ Present and future visitors enjoy the unique qualities offered in wilderness. These include the experiences of solitude, remoteness, risk, challenge, self-sufficiency, discovery, and observation of an untrammelled ecosystem. ▪ Scientific studies are encouraged that contribute to understanding wilderness resources, threats, and restoration of wilderness character. ▪ Wilderness management is based on the minimum requirement concept, allowing only those actions necessary and appropriate for administration of the area as wilderness and that do not cause a significant impact to wilderness resources and character. ▪ The values of the wilderness in the park are understood by the public and staff through education in wilderness ethics and use, and by using management skills and techniques to promote and preserve these values. ▪ Park operations and wilderness functions are coordinated in the unit to manage and protect natural and cultural resources in wilderness and preserve wilderness character. Management is coordinated to provide consistency in regulations, standards, and guidelines to the extent feasible, and work will continue to be done with other local and regional groups, communities, agencies, and Native Hawaiians to preserve wilderness values.

Visitor Use and Experience	
Visitor Opportunities	<ul style="list-style-type: none"> ▪ Park resources are conserved unimpaired for the enjoyment of future generations. Visitors have opportunities for forms of enjoyment that are uniquely suited and appropriate to the superlative natural and cultural resources found in the park. No activities occur that would cause derogation of the values and purposes for which the park has been established. ▪ Park visitors will have opportunities to understand and appreciate the significance of the park and its resources and to develop a personal stewardship ethic. ▪ To the extent feasible, programs, services, and facilities in the park are accessible to and usable by all people, including those with disabilities. ▪ For all zones or districts in the park, the types and levels of visitor use are consistent with the desired resource and visitor experience conditions prescribed for those areas. ▪ The park visitor is able to obtain visitor orientation and trip planning information through a variety of media. Educational programs are available. ▪ Frontcountry day use visitation and overnight facilities are provided in some developed areas. Roads, trails, campgrounds, and related facilities are provided, but locations and numbers may be modified for resource protection, restoration, visitor experience, or increased visitation. ▪ The level and type of commercial guided activities would be managed to protect park resources and the visitor experience.
Public Health and Safety	<ul style="list-style-type: none"> ▪ While recognizing that there are limitations on its capability to totally eliminate all hazards, the National Park Service and its partners, contractors, and cooperators work cooperatively to provide a safe and healthful environment for visitors and employees. ▪ The NPS staff strives to identify recognizable threats to safety and health, and protect property by applying nationally accepted standards. Consistent with mandates and non-impairment, the NPS staff reduces or removes known hazards or applies appropriate mitigating measures, such as closures, guarding, gating, education, and other actions.
Transportation to and within Hawai'i Volcanoes National Park	<ul style="list-style-type: none"> ▪ Multimodal transportation facilities in the park provide access for the protection, use, and enjoyment of park resources. They preserve the integrity of the surroundings, respect ecological processes, protect natural, cultural, and scenic resources, and provide the highest visual quality and a rewarding visitor experience.

Management and Operations	
Utilities and Communication Facilities	<ul style="list-style-type: none"> ▪ Park resources or public enjoyment of the park are not denigrated by nonconforming uses. ▪ Utility structures are permitted in the park to the extent they do not jeopardize the park’s mission and resources. ▪ No new nonconforming use or rights-of-way are permitted through the park without specific statutory authority and approval by the director of the National Park Service or their representative and are permitted only if there is no practicable alternative to such use of NPS lands.
Relations with Private and Public Organizations, Owners of Adjacent Land, and Governmental Agencies	
Relations with Private and Public Organizations, Owners of Adjacent Land, and Governmental Agencies	<ul style="list-style-type: none"> ▪ Hawai’i Volcanoes National Park is managed as part of a greater ecological, social, economic, and cultural system. ▪ Good relations are maintained with adjacent landowners, such as the state of Hawai’i, Kamehameha Schools, The Nature Conservancy, surrounding communities, and private and public groups that affect, and are affected by, Hawai’i Volcanoes National Park. ▪ Hawai’i Volcanoes National Park is managed proactively to resolve external issues and concerns and ensure that the resources and values of the park are not compromised. ▪ Because the park is an integral part of a larger regional environment, the National Park Service works cooperatively with others to anticipate, avoid, and resolve potential conflicts, protect national park resources, and address mutual interests in the quality of life for community residents. Regional cooperation involves federal, state, and local agencies, Native Hawaiians, neighboring landowners, and all other concerned parties.
Relations with Nearby Communities	
Relations with Nearby Communities	<ul style="list-style-type: none"> ▪ NPS staff maintains close working relationships with nearby communities. ▪ NPS staff and local officials maintain a high level of trust and goodwill. Local officials feel they have an important stake in the park, and NPS staff feel they have an important stake in the local communities. ▪ NPS managers are familiar with local issues and concerns.



3.2. Appendix B: Desired Conditions Workshop Slides





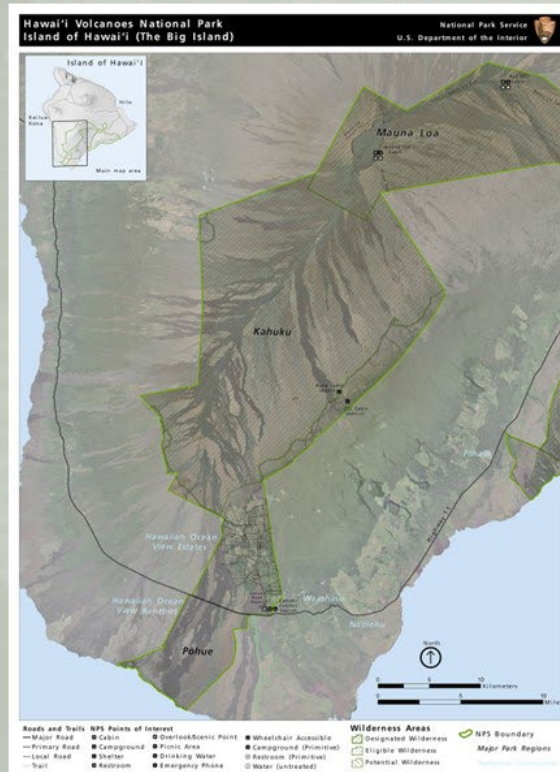
Workshop Purpose



Notes: Purpose of the Workshop: Develop refined GMP zoning and desired conditions and new zoning and desired conditions (as needed) for the Lower Kahuku and Kahuku-Pōhue that will serve as aspirations and provide guidance for management decisions and planning needs.

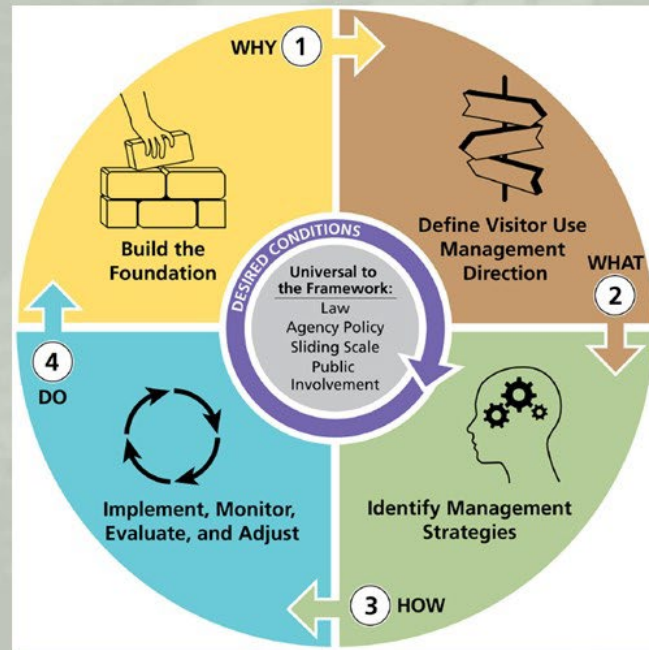


Scope of the Project Area



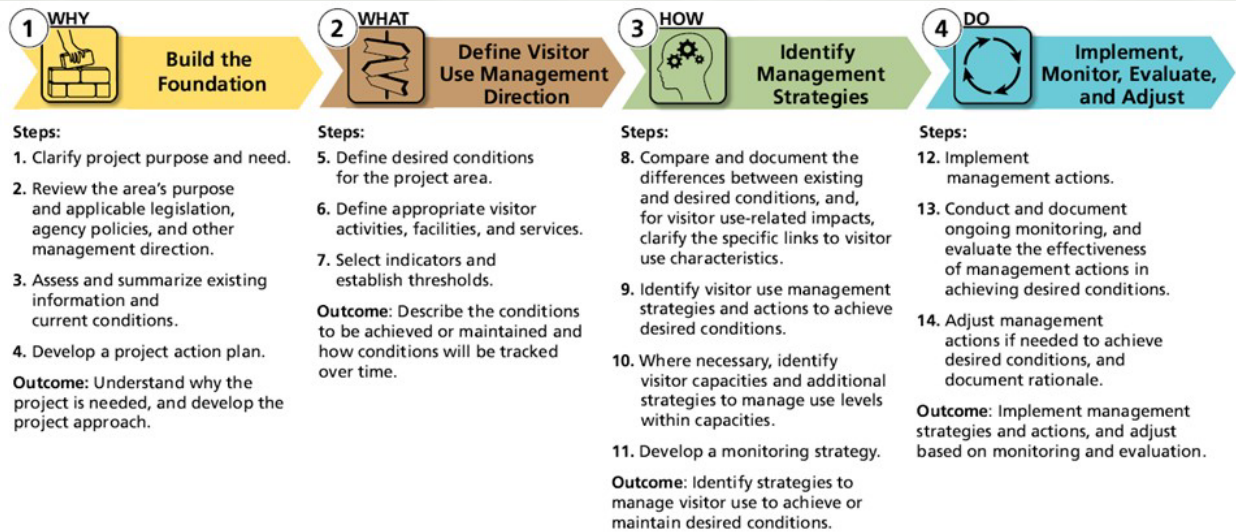


Visitor Use Management Framework Review





Visitor Use Management Framework Review





Project Objectives

Complete a comprehensive Site Management Plan and EA that will:

- Tiers from the GMP
 - Complementary direction for the area.
- Provides roadmap to guide decisions
 - Resource preservation and restoration
 - Visitor use management
 - Types and levels of development for the Kahuku area.
- Provides baseline assessment of resources, facilities and visitor use
 - Confirm issue identification
 - Guide development of site-specific desired conditions for resources, visitor experiences, and facilities and infrastructure.



Notes: These project objectives are based on the Scope of Work for the project, and will help us develop the project purpose and need moving forward.

Complete a comprehensive Site Management Plan and EA that:

- Tiers from the GMP to provide complementary direction for the area.
- Addresses identified issues and serves as a roadmap to guide decisions on resource preservation and restoration, visitor use management, and types and levels of development for the Kahuku area.
- Includes a baseline assessment of resources, facilities and visitor use to confirm issue identification, as well as the development of site-specific desired conditions for resources, visitor experiences, and facilities and infrastructure.



Project Objectives (cont.)

Elements of the plan will include:

- Guidance for visitor access
 - Improvements to entry, parking, and facilities
 - Identify possible locations for dispersed campgrounds, parking, trailheads, and day use areas
- Operational strategies for managing use at Kahuku
- Site plans
 - Rehabilitating existing structures
 - Removal of unusable structures
 - Accessibility improvements
 - Interpretive and educational activities, picnic areas, trails, and small campgrounds
- Visitor use related indicators and thresholds
 - Long-term monitoring
 - Visitor capacities for the Kahuku area.
- Future management strategies and compliance
 - Guide response to changing conditions associated with visitor use.



Notes: Elements of the plan will include:

- Guidance for visitor access and explore potential improvements to entry, parking, and facilities at the administrative area, and identify possible locations for dispersed campgrounds, parking, trailheads, and day use areas.
- Use of operational strategies such as fees (i.e., entry, backcountry, special use, and other mechanisms for managing use to Kahuku will also be reviewed.
- Site plans for rehabilitating existing structures to support desired conditions and/or removal of unusable structures and necessary accessibility improvements; which may include interpretive and educational activities, picnic areas, trails, and small campgrounds.
- Visitor use related indicators and thresholds for long-term monitoring, as well the identification of visitor capacities for the Kahuku area.
- Future management strategies, along with associated compliance, to allow the park to be responsive to changing conditions associated with visitor use.



Project Objectives (cont.)

Complete a comprehensive Site Management Plan and EA that will:

- Informs management strategies for the site
 - With input from stakeholders and Native Hawaiian communities.
- Provides implementation guidance
 - Desired visitor experience
 - Preserve sensitive natural, cultural, and historical resources
- Lays out and defines the uses and functions for the site
 - Needed facilities and services
 - Management strategies for resource protection
 - Access locations and associated visitor uses.



Notes: Complete a comprehensive Site Management Plan and EA that:

- Informs management strategies for the site, along with input from stakeholders and Native Hawaiian communities.
- Provides implementation guidance for the desired visitor experience while preserving sensitive natural, cultural, and historical resources.
- Lays out and defines the uses and functions for the site including what facilities and services are needed and appropriate, management strategies for resource protection, and appropriate access locations and associated visitor uses.



Issues

- Visitation
 - Visitation to the original Kahuku Unit tripled from 2016 to 2022.
 - Limited infrastructure for visitors.
 - Not currently ABA accessible.
 - Kahuku-Pōhue parcel use.
 - Finding the appropriate balance between local use (including subsistence use) and national park visitation
 - Existing Kahuku entrance has safety issues to be addressed.





Issues

- Non-native species
 - Removal of introduced non-native species (e.g., non-native grasses).
 - A concern with increased visitor access.
 - Replacement with native plant species.





Issues

- Rapid 'Ōhi'a Death (ROD)
 - Continued efforts to protect and restore native, endangered, and rare plant and animal species.
 - Increased visitor use would require continued/increased efforts to maintain compliance with boot sanitation to prevent the spread of ROD.





Issues

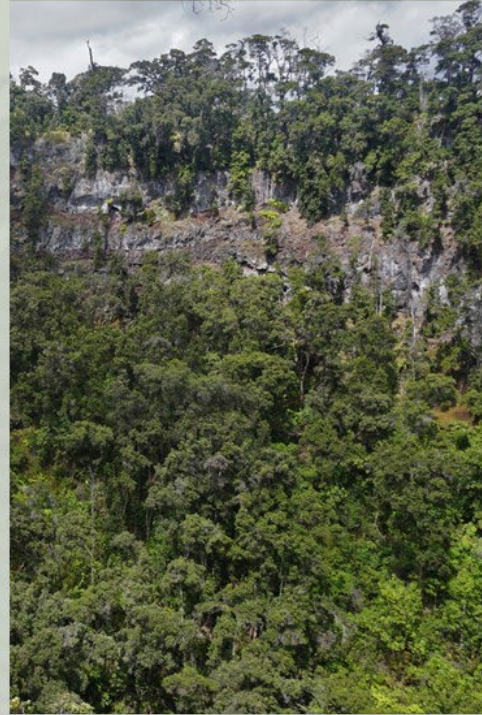
- Preservation of Cultural Resources
 - Continued protection of ethnographic resources in areas newly opened to the public.
 - Survey and protection of archeological resources.
 - Historic structures (e.g., Kahuku Ranch) are in need of corrective action to preserve remaining historical resources at the site.





Background Information

- Foundations Document (2017)
 - Park purpose and significance
 - Fundamental resources and values
 - Interpretive themes
 - Park planning needs
- General Management Plan (2016)
 - Zoning
 - Parkwide desired conditions
 - Wilderness studies
- Visitor Use and Access
 - PMIS for VUM and Site Plan for Kahuku Unit
 - Kahuku Unit IOP and SOP





Background Information (cont.)

- Cultural Resources
 - Kahuku Ranch Cultural Landscape Inventory
 - Environmental History of Kahuku Ranch
 - DOE Nomination Letter for Kahuku Ranch Base Camp Historic District
 - Partial archeological inventories of Kahuku-Pōhue parcel
- Natural Resources
 - Facilitating Forest Recovery in Former Cattle Pastures in Kahuku Unit
 - Wilderness Eligibility Assessments
 - GIS data for T&E species critical habitat





BREAK (10 Minutes)



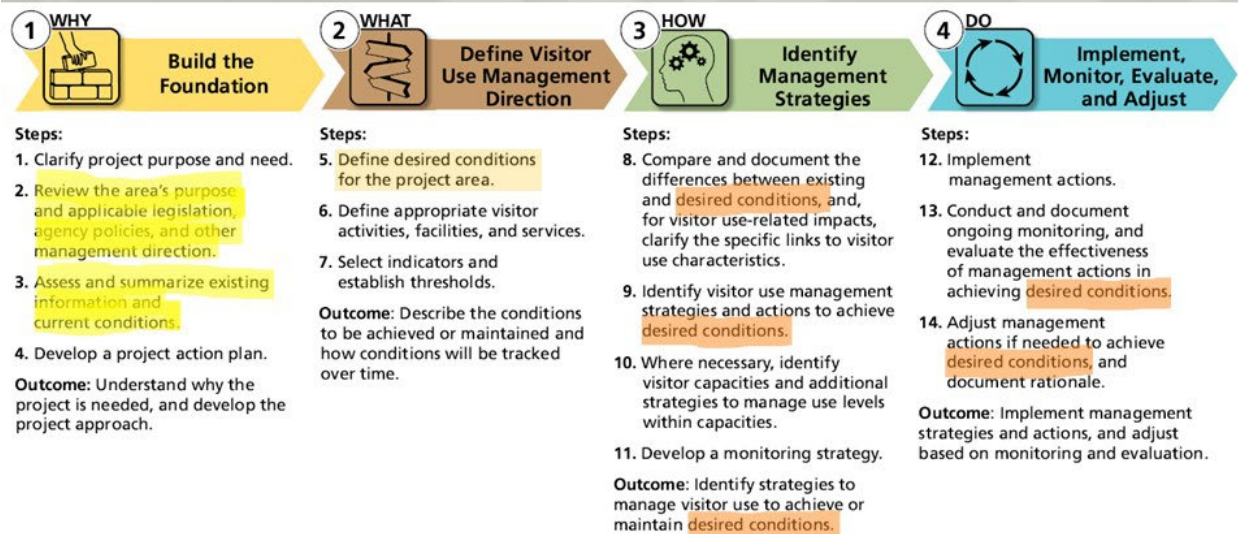


How Zoning and Desired Conditions Fit into the VUM Framework





Visitor Use Management Framework Primer



Notes: Relationship of desired conditions to the Framework:

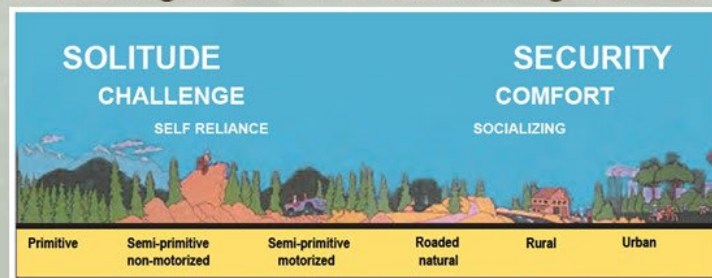
Element 1 “Build the Foundation” provides information for project teams to understand how to organize projects and the resources needed to complete them in preparation for defining desired conditions.

Information gathered in Element 1, steps 2 and 3 is essential in defining project-level desired conditions. Step 2 often provides information or guidance for defining desired conditions. Enabling legislation provides guidance on broad values and resources to be protected. These broad values form the basis for defining desired conditions. Step 3 focuses on collecting relevant information about existing conditions, existing use, and climate change. Knowing current conditions and trends can help inform the definition of future conditions.



Zoning

- Why different management zones?
 - Not all areas have the same ecological or cultural sensitivity
 - Not all areas have the same attributes that attract visitors
 - People are not all seeking the same opportunities
- Zoning recognizes diversity across the landscape
- Roots in Recreation Opportunity Spectrum
 - Continuum of recreation opportunities
 - Physical, biological, social, and managerial attributes



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Notes: Developing a spectrum of zones is done within the bounds of the fundamental purpose of the area, such as the requirement to protect wilderness character in wilderness areas, or to protect and enhance outstanding remarkable values on a wild and scenic river. Zoning stems from the reality that not all areas have the same ecological sensitivity (thus, some places require more protection than other places); not all areas have the same attractiveness; and people are not all seeking the same opportunities (thus, providing a diversity of settings offers more choices). The key is to develop a zoning scheme that recognizes the desired diversity across the landscape, while avoiding zoning that is more complex than can be realistically managed on the ground.

Zoning can also be based on a temporal scale, particularly if different seasons (e.g., summer versus winter) offer a very different mix of settings and different opportunities across the landscape.

Zoning helps define desired conditions spatially and temporally based on the attributes of the area.



Desired conditions

What are we trying to achieve?

Desired conditions provide a picture of the character, condition and quality of park settings and visitor experiences



Notes: Desired conditions are defined as statements of aspiration that describe resource conditions, visitor experiences and opportunities, and facilities and services that an agency strives to achieve and maintain in a particular area. Such statements are often built on the foundational language that legally established the area. Desired conditions describe what conditions, outcomes, and opportunities are to be achieved and maintained in the future, not necessarily what exists today. Desired condition descriptions paint a picture of what the particular area will look like, feel like, sound like, and function like in the future.

Developing desired conditions for different management zones makes implementation somewhat more complex, however the advantage is that managers can offer a spectrum of opportunities to meet the needs of a broader array of diverse public interests.


These three images represent different manifestations of desired conditions. They have one similarity and that is the use type.

Three photos of overnight experiences that might vary based on desired conditions/goals and objectives:

- Yellowstone Old Faithful Inn – overnight experience in a lodge
- Yosemite NP – overnight experience is group camping at an established campground
- Gates of the Arctic National Park and Preserve – overnight experience in the backcountry

This step provides more specific direction for visitor activities, facilities, and services that are consistent with and complement desired conditions

Focuses on the “what,” not the “how” (that is a later step)

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

Desired conditions

DESIRED CONDITIONS STATEMENT	CURRENT CONDITIONS STATEMENT	MANAGEMENT OBJECTIVE STATEMENT
Visitors can enjoy the experience of natural sounds, dark night skies, scenic vistas, and untrammeled nature while exploring the backcountry and immerse themselves in high-elevation experiences at places such as Mt. Le Conte, Mt. Cammerer, Charles Bunion, and Mt. Sterling.	Trail signs and parking area lights have proliferated to improve trailhead access. Decades of increased development outside the park have degraded historic viewsheds, night skies, and soundscapes.	Develop a dark-sky management plan to address demand for increased lighting, particularly associated with rising visitation along road corridors. Consider a sign-management plan to avoid proliferation of unnecessary signs.

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Notes: Desired Conditions – What we want

- Current Conditions – What we have now
- Management Objective Statements – How we get from what we have now to what we want if there is a difference



Review and Refine Management Zones



Management Zones (2016 HAVO GMP)

- Visitor Services Zone
- Transitional/Semi-primitive Zone
- Wild/Primitive Zone
- Park Support Zone*

Notes: Introduction – Four Management Zones from the 2016 HAVO GMP:

- Visitor Services
- Transitional/Semi-primitive
- Wild/Primitive
- Park Support – None currently present in Kahuku



Management Zones: Visitor Services

- Resource Condition or Character
 - Native species, communities and ecological processes perpetuated and restored to the extent possible
 - Cultural sites are protected and interpreted in a manner that reflects the high visitor use of this zone
- Visitor Experience
 - Primary visitor use zone
 - High level of visitor use, access, and interpretation
 - A wide range of visitor activities and services, with easy access to recreation, education, and interpretation programming
- Appropriate Facilities
 - High-density infrastructure
 - Access through multi-modal transportation options



Notes:

- Visitor Services – areas managed for high levels of visitor use, includes a range of media and facilities to support visitors' needs
- Includes Highway 11 corridor, all high visitor use facilities/locations including overlooks, visitor centers/contact stations, campgrounds
- Includes the ranch buildings and the Pu'u o Lokuana Trailhead in Kahuku Unit



Management Zones: Transitional/Semi-primitive

- Resource Condition or Character
 - Native species, communities and ecological processes perpetuated and restored to the extent possible
 - Cultural sites are protected and may be interpreted to facilitate public understanding and preservation
- Visitor Experience
 - Opportunities for less congested, solitary discovery and relaxation in a relatively natural environment
 - Primarily self-guided more dispersed activities for small and medium groups
- Appropriate Facilities
 - Support visitor interaction with resources such as trail, campgrounds with minimal services, picnic areas, wayside exhibits, overlooks, benches, etc.
 - Emphasis on small vehicles and nonmotorized access



Notes:

- Transitional/Semi-primitive – areas managed as a transition between developed and remote areas; includes areas dominated by natural conditions, where visitors' experiences are focused on providing solitude, relaxation, and exploration in a natural environment with limited interpretation.
- Includes most of lower Kahuku Unit (i.e., road corridors, east of 1887 flows)



Management Zones: Wild/Primitive

- Resource Condition or Character
 - Native species, communities and ecological processes perpetuated and restored to the extent possible
 - Cultural sites are part of the wild character of this zone and are protected and interpreted consistent with wilderness values
- Visitor Experience
 - Opportunities for personal challenge, self-reliance, self-discovery, and solitude
 - Unstructured self-guided and human-powered activities
- Appropriate Facilities
 - Facilities are very minimal and are consistent with wilderness character
 - Facilities could include trails, composting toilets, water catchments, and temporary structures to support research and resource management activities



Notes:

- Wild/Primitive – areas managed for natural and cultural resource protection, wild character, and Wilderness values; includes all areas designated Wilderness or eligible Wilderness.
- Includes all of Upper Kahuku and the southwest corner of Lower Kahuku (1887 flows area)



Zoning Discussion: Lower Kahuku

- Do any areas need to be rezoned or do they need clearer management direction/decisions?
- How are these boundaries working for you?
- How are you making decisions about your park based on these zones?
 - What kind of decisions are these zones helping you to make? Where do they fall short in this regard?
- Do any of these boundaries surprise you?



Zoning Discussion: Kahuku-Pōhue

- What resources are in this area?
- Any pre-existing structures?
- Wilderness eligibility?
- What do you want to provide in this area?
- What does this mean for zoning?
- If this area was not zoned based on what was just suggested, what issues or management problems will not be solved?



BREAK (10 Minutes)



Review and Refine Desired Conditions



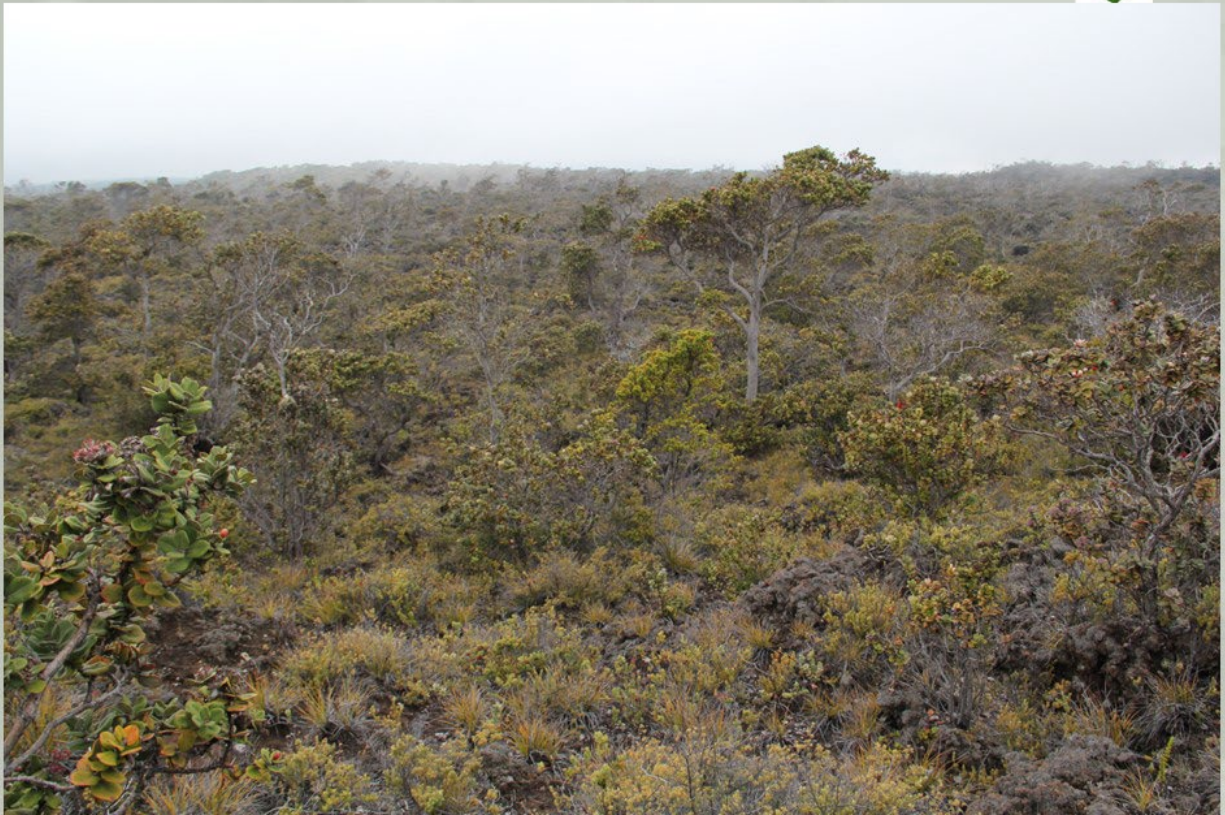
When you look at this image:

- How does this place represent the Lower Kahuku and/or Kahuku-Pōhue to you?
- What do you see, hear, feel here?
- What do visitors see, hear, feel here?
- What would you like visitors to see, hear, feel here?
- What activities are appropriate here?
- What about facilities and services here?
- What about interpretation here?
- In what management zone does this place reside?
- What is a desired condition being shown here?
- What is not a desired condition being shown here?

Notes: Photo exercise to start thinking about desired conditions in Kahuku.





















Breakout Session



Notes: Break into three groups.



Desired Conditions Breakout Session Guide:

- What would you like visitors to see, hear, feel in this zone?
 - Key experiences
 - Encounters with others
 - Natural and cultural resource conditions
 - Natural sounds and night skies
- How should this zone be accessed?
 - Level of challenge
 - Time commitment
- What activities are appropriate in this zone?
- What about facilities and services in this zone?
- What about interpretation in this zone?



Discussion Review



Notes:

- What did we hear in the Breakout Sessions?
- Each breakout group reports back to the whole group.



Next Steps and Closeout



Notes:

- Draft DC report
- Review
- Final DC Report
- On-site Pre-NEPA Strategy development workshop, including Indicators and Thresholds workshop

Appendix E
Visitor Capacity

HAVO KAHUKU SITE MANAGEMENT PLAN

APPENDIX E. VISITOR CAPACITY

Introduction

This section provides additional information about visitor capacity identification as it relates to the Hawai'i Volcanoes National Park Kahuku Comprehensive Site Management Plan. Visitor capacity is a component of visitor use management and is the maximum amounts and types of visitor use that an area can accommodate while achieving and maintaining desired resource conditions and visitor experiences that are consistent with the purposes for which the area was established.

The primary goals of visitor use management are to maintain opportunities for meaningful and enjoyable visitor experiences and protect resources. Visitor capacity is a tool that can aid managers in achieving and maintaining desired conditions. To fulfill the requirements of the 1978 National Parks and Recreation Act (54 USC 100502), visitor capacity identifications are legally required for all destinations and areas that this planning effort addresses (Interagency Visitor Use Management Council, 2016). Future monitoring of use levels and indicators would inform the National Park Service if use levels were at or near visitor capacities. If so, future potential management strategies, as outlined in the "Indicators and Thresholds" section, would be taken. For each location, an overview of the analysis is included below.

Visitor capacities were identified using best practices and examples from other plans across the National Park Service using the IVUMC guidelines outlined in the Visitor Capacity Guidebook: (1) determine the analysis area, (2) review existing direction and knowledge, (3) identify the limiting attribute, and (4) identify visitor capacity and strategies to manage the capacity.

Guideline 1. Determine the Analysis Area(s)

This guideline has a far-reaching effect on identifying visitor capacity because it involves identifying (1) where geographically the visitor capacity will be implemented, (2) displacement or other unintended effects of managing visitor use levels, and (3) the effect of managing allocation(s) of visitor use within the analysis area(s). To determine the appropriate analysis area(s), the interdisciplinary planning team (IDT) sought to understand the relationship between existing and potential visitor use patterns and desired conditions, and identified the following as analysis areas for visitor capacity identification (see Figure E1 below):

- Kahuku-Pōhue (minus Kahuku Beach)
- Kahuku Beach
- Lower Kahuku Visitor Services
- Lower Kahuku Transition Zone
- Upper Kahuku

This analysis fulfills the requirements of the 1978 National Parks and Recreation Act (54 US Code 100502) to identify visitor capacity for all areas that this planning effort addresses. These analysis areas comprise the visitor use areas in the plan scope. Strategies to achieve desired visitor capacities have also been identified as part of this process.

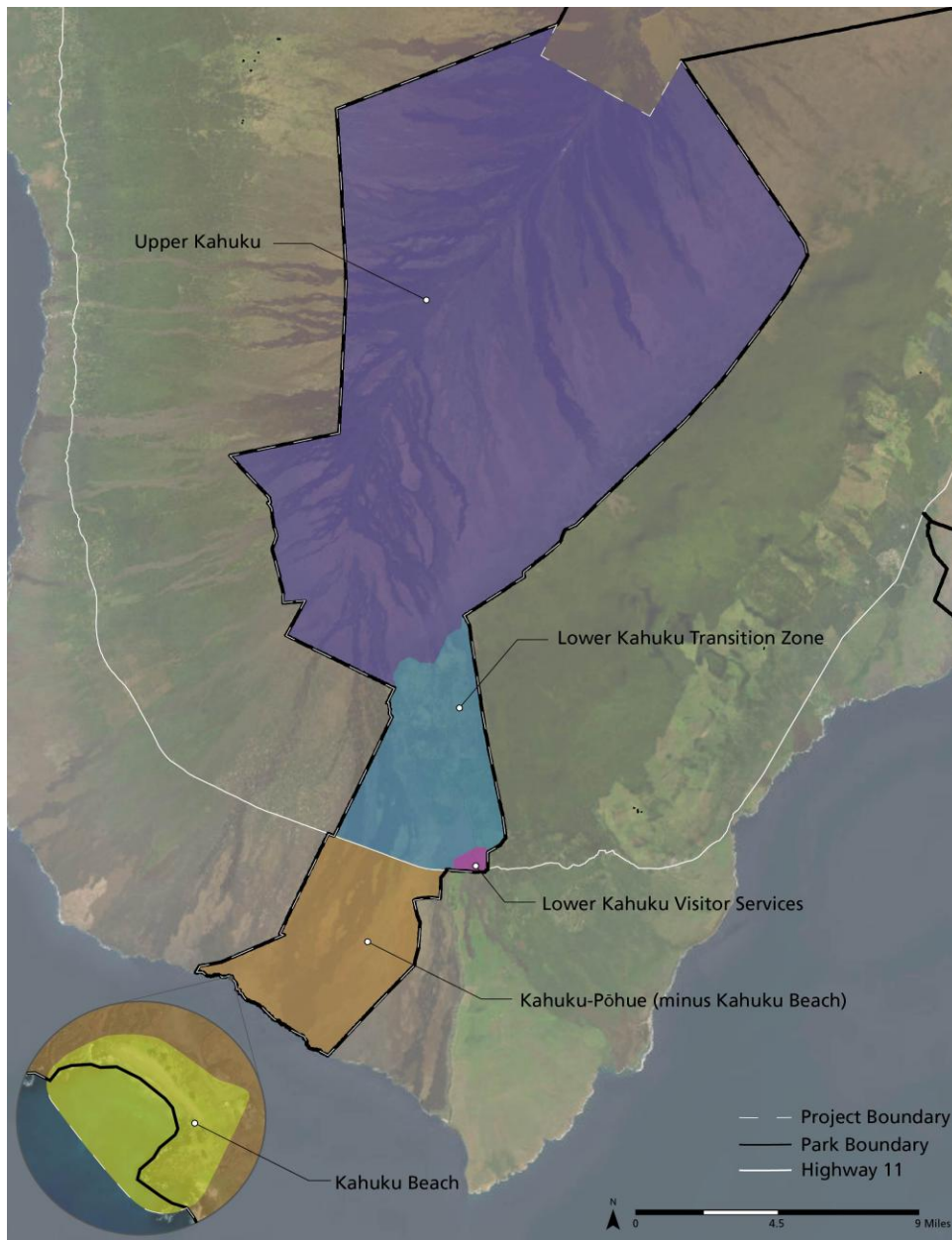


Figure E1. Map of Visitor Capacity Analysis Areas

Guideline 2. Review Existing Direction and Knowledge

During this step, the planning team reviewed existing direction and knowledge, including:

- applicable law and policy,
- prior applicable planning and guidance,
- existing conditions in the analysis area,
- applicable existing management strategies and actions, and
- use patterns for commercial and other allocation categories.

These plans provided important overarching guidance for managing the amounts, timing, distribution, and types of use throughout HAVO, including providing descriptions of desired conditions, visitor experiences,

resource conditions, visitor capacities, and appropriate support facilities. An overview of visitor use issues and current use levels for each key area are provided for the analysis areas.

For each analysis area description, indicators that will monitor the limiting attributes are listed. The selected indicators monitor the limiting attributes to track conditions over time that must inform management of when a change in action is needed and to ensure that desired conditions are maintained and/or achieved. The associated thresholds can also be found in the full description of the indicators and thresholds in Appendix F.

The 2016 General Management Plan (GMP), the 2017 Foundation Document, the 2022 Kahuku Unit: Northwest Access Map, and the 2017 Hawai'i Volcanoes National Park Kahuku Unit Standard Operating Procedures: Access and Working in Kahuku all provided important overarching guidance for managing the amounts, timing, distribution, and types of use throughout the Kahuku Unit including providing some description of desired visitor experiences, resource conditions, and appropriate support facilities. The 2017 Foundation Document provides basic guidance for planning and management decisions at the park. The 2016 GMP established a visitor capacity framework based on physical limitations of facilities and on visitor experience and resource indicators and standards. Because Kahuku-Pōhue was added to the park after completion of the GMP, that framework has not yet been applied to this area to identify area-specific visitor use parameters, including the appropriate amounts and types of use and the management strategies necessary to achieve and maintain desired conditions. This plan updates the previous guidance provided by the GMP by developing more specific visitor use management direction, consistent with IVUMC guidance, NPS Reference Manual #2, Director's Order #2, and NPS Management Policies including indicators, thresholds, visitor capacity, and related management strategies as well as possible future management strategies for HAVO. Possible future management strategies would not be implemented immediately rather only as thresholds and/or visitor capacities are approached.

As a part of this step, the planning team adopted 2016 GMP desired conditions and developed new desired conditions for Upper and Lower Kahuku and Kahuku-Pōhue (see Appendix D). Indicators and thresholds were also developed (see Appendix F), with particular attention to conditions and values that must be protected and are most related to visitor use levels. The amount, timing, distribution, and types of visitor use in the Kahuku Unit influence both resource conditions and visitor experiences.

Kahuku Unit Visitation

The Kahuku Unit is made up of three different character areas: Upper Kahuku, Lower Kahuku (including Visitor Services) and Kahuku-Pōhue. Upper and Lower Kahuku are located on the shoulders of Mauna Loa and was once one of the biggest cattle ranches in Hawai'i. The unit is 116,000 acres, and the land is shaped by volcanic activity. On July 3, 2003, Kahuku Ranch became public land, part of Hawai'i Volcanoes National Park. Kahuku-Pōhue is a 16,451-acre parcel that was acquired by the National Park Service in July of 2022. This area is located on the southern flank of Mauna Loa and is home to numerous well-preserved and significant Hawaiian cultural sites, including the largest recorded abrader quarry in Hawai'i, lava tubes, mauka-makai (mountain to sea) trails, fishing shrines, remains of once-thriving coastal villages, and petroglyphs. A well-preserved portion of the Ala Kahakai National Historic Trail or Ala Loa, an ancient coastal trail system, hugs the coastline. This trail is open to public use as established by the Hawai'i 1892 Highways Act. The Kahuku-Pōhue coastline is also critical habitat for federally listed endangered Hawaiian species, including honu'ea (Hawaiian hawksbill turtle) and 'īlioholoikauaua (Hawaiian monk seal). Rare endemic 'ōpae'ula (red shrimp) live in the area's anchialine ponds, and the bay is often frequented by native and migratory birds, including 'iwa (frigate bird), koa'e kea (white-tailed tropic bird), kōlea (golden plover), 'ūlili (wandering tattler) and 'auku'u (black crowned night heron).

Public access to Kahuku-Pōhue is temporarily restricted until this management plan is complete, and safe access that protects the precious resources can be provided.

Guideline 3. Identify the Limiting Attribute

This guideline involves identifying the attribute(s) that most constrains the analysis area's ability to accommodate visitor use. The interdisciplinary team considered all potential attributes that would constrain the analysis area's ability to accommodate visitor use and identified the specific limiting attribute(s) most meaningful in guiding the analysis for the analysis areas. Further, the interdisciplinary team identified the most relevant indicators related to the limiting attribute(s) to ensure desired conditions are achieved or maintained.

Guideline 4. Identify Visitor Capacity and Implementation Strategies

To identify the amounts and types of use key areas can accommodate while achieving and maintaining desired conditions, outputs from previous steps were reviewed to understand current conditions compared to desired conditions for the area. This analysis informed the identification of visitor capacities for the analysis area. Management strategies and actions have been identified to maintain and achieve desired conditions and to manage to visitor capacity. Park staff identified that people at one time (PAOT) and people in one day (PIOD) are the most meaningful visitor capacity metric to manage to the capacity.

Kahuku-Pōhue (excluding Kahuku Beach)

Review of Existing Direction and Knowledge

Kahuku-Pōhue includes all of the Kahuku-Pōhue area, excluding Kahuku Beach, and the area from Highway 11 to the shoreline (see Figure E1).

Kahuku-Pōhue is in the transitional/semi-primitive zone and wild/primitive zone. The road corridors of Kahuku-Pōhue are in the transitional/semi-primitive zone which is defined by the protections of cultural and natural resources, maintenance of historic trails, limited additional development, and less congested visitor experience. The rest of the area is in the wild/primitive zone where visitors should feel immersed in the natural environment, and the likelihood of encountering others is low. This zone is defined by challenge and self-reliance, and visitors can expect opportunities to experience solitude, risk, adventure, and wildness abound.

Visitors have historically used this area for a variety of activities including canoeing, surfing, hiking, fishing, camping, swimming, as well as cultural and traditional uses. Under NPS management of the site, these activities will continue.

This area was acquired by NPS in July 2022 and current visitor use in this area, except for use of the historic trails, is unauthorized as the park develops this plan. Therefore, the amount of visitor use is not fully documented, though illegal entries are occurring.

This plan outlines several management actions that will change visitor use in this area. These actions include opening the area to visitation by permit only, improving and constructing campgrounds, improving the main trailhead, and adding a 4WD access road.

Limiting Attributes and Relevant Indicators

The attribute that most constrains this area's ability to accommodate use is natural resources. Desired conditions for natural resources in this area state that plant and animal communities endemic to this area are

reintroduced, promoted, and flourish, and there should be an undisturbed natural setting where natural ecosystem processes predominate, and that resource impacts or manipulation of resources for visitor use or administration is rare and avoids sensitive areas to the greatest degree possible. Sea turtles, monk seals, and sea birds are all species of concern in this area. Anchialine pools are also a vulnerable resource found in this area that are susceptible to damage from visitor use. Additionally, increased visitor use may lead to more trampling of sensitive coastal vegetation, and increased artificial lighting—such as that associated with night fishing—could further harm sensitive wildlife. Limiting human-wildlife interactions, and the protection of endemic plant and wildlife species is critical to achieving desired conditions. Therefore, the protection of natural resources is the most limiting attribute for this area.

The most relevant indicators related to the limiting attributes to ensure desired conditions are achieved and maintained are number of incompatible interactions between humans and wildlife, number of new and established invasive species measured at each individual site, number of people per viewscape at key points of interest.

Visitor Capacity and Implementation Strategies

Relevant management strategies from this plan that will change visitor use and opportunities include opening the area to visitation by permit only, adding visitor amenities such as picnic tables and composting toilets consistent with wild and primitive campgrounds, improving the main trailhead, and adding a 4WD access road. Based on park staff knowledge of the area and the proposed actions in this plan, the park staff identified the maximum amount of visitor use that will achieve and maintain desired conditions in this analysis area to be 100 PAOT.

Additional management strategies to implement visitor capacity include:

- See Indicators and Thresholds for additional management strategies.
- Pilot: Day use permits to manage to the desired conditions within visitor capacities.

Potential future management strategies:

- Increase or decrease number of permits issued to ensure desired capacity is met.
- Move areas of visitor use if impacts are greater than anticipated
- Temporary closures for sensitive wildlife breeding seasons
- Pilot: Overnight use permits.

Kahuku Beach

Review of Existing Direction and Knowledge

This analysis area includes the area in Kahuku-Pōhue between the road and the shoreline, up until the eastern edge of Shell Beach, the adjacent cove to the east (see Figure E1).

Kahuku Beach is in the wild/primitive zone. The wild/primitive zone is defined by visitors feeling immersed in the natural environment, and the likelihood of encountering others is low. This zone is defined by challenge and self-reliance, and visitors can expect opportunities to experience solitude, risk, adventure, and wildness.

This area was previously privately owned, and under that ownership visitors could pay a use fee to use the area for recreational activities such as fishing, swimming, and camping. The area was managed to protect turtle hatching, and closures were implemented during peak hatching times. Under NPS management of the

site, a permit system will be introduced to allow for recreational and traditional uses as well as wildlife stewardship.

This area was acquired by NPS in July 2022 and current visitor use in this area, except for use of the historic trails, is unauthorized as the park develops this plan. Therefore, the amount of visitor use is not fully documented, though illegal entries are occurring.

This plan outlines several management actions that will change visitor use in this area. The most significant change for the area is opening it to visitation by permit only. Adding visitor amenities such as picnic tables will help define the visitor experience in Pōhue Bay.

Limiting Attributes and Relevant Indicators

The attribute that most constrains use in this area is natural resources, specifically the protection of wildlife. This analysis area is particularly important to protect the habitat for species such as sea turtles, monk seals and seabirds. Desired conditions for this area state that plant and animal communities endemic to this area are reintroduced, promoted, and flourish, and that the area should be managed to maintain an undisturbed natural setting where natural ecosystem processes predominate. Desired conditions also outline that visitor access and use improvements are primitive or largely absent, and that native species, communities, and ecological processes are perpetuated and restored in as natural a condition as possible, as feasible under future climate conditions.

Sea turtles, monk seals, and seabirds are vital species in this ecosystem and face existential threats. Under desired conditions, it is important that the park protect key habitat for these species. Human activity can disrupt foraging and nesting which is imperative to reproduction as well as survival, and high levels of visitor use may pose threats to the success of certain species' populations. Therefore, the protection of natural resources is the limiting attribute.

The most relevant indicators related to the limiting attributes to ensure desired conditions are achieved and maintained are number of incompatible interactions between humans and wildlife, number of new and established invasive species measured at each individual site, and number of people per viewscape at key points of interest, and number of complaints related to human-caused noise/sounds affecting a park experience.

Visitor Capacity and Implementation Strategies

This area of the park is remote, and difficult to get to. Relevant management strategies from this plan that will change visitor use and opportunities include opening the area to visitation by permit only and adding limited facilities including picnic tables. Based on park staff knowledge of the area and the proposed actions in this plan, park staff identified the maximum amount of visitor use that will achieve and maintain desired conditions in this analysis area to be 20 PAOT.

Additional management strategies to implement visitor capacity include:

- See Indicators and Thresholds for additional management strategies.

Potential future management strategies:

- Establish ongoing NPS presence to provide education and promote resource sensitive use
- Use concessions/CUA for overnight use
- Temporary closures for sensitive wildlife breeding seasons

- Pilot: Overnight use permits.
 - Adjust number of permits for this area
 - Adjust the total number of permits available per day
 - Adjust the number of permits allowed per person
 - Evaluate and adjust permit allocations for repeat visitors

Lower Kahuku Visitor Services

Review of Existing Direction and Knowledge

The Lower Kahuku Visitor Services analysis area encompasses all of the existing ranch buildings in Lower Kahuku and the Pu'uolokuana Trail, extending north to the far side of Pu'uolokuana and west to the eastern edge of the Old Māmalahoa Highway (see Figure E1).

Lower Kahuku Visitor Services area is in the visitor services zone. The visitor services zone is managed primarily for a high level of visitor use, access, and interpretation with a wide range of media and facilities to support diverse visitor needs. The visitor services zone, which includes less than 1% of the area of the Kahuku Unit, is the zone with which visitors first have contact with the park in the Kahuku Unit.

Visitor use in this area is defined by recreational activities like hiking, birdwatching, dog-walking, and picnicking. The Pu'uolokuana Trail starts in this zone. The presence of a restroom, Visitor Contact Station, an open-air picnic shelter, and a single ADA parking stall adjacent to the contact station, provides opportunities for visitor engagement, events, and other interpretive programming, including archeological or educational programs. The Visitor Contact Station provides park information and visitor assistance, and includes a park store operated by Hawai'i Pacific Parks Association. This zone, closest to the entry point off Highway 11 and accessible by two-wheel drive vehicles, typically receives higher visitation levels than other zones. Special events can bring in up to 1500 people and are managed through special use permits. This area is also popular for school groups that are managed through educational permits. These events occur outside of the identified visitor capacity.

This plan outlines several management actions that will change visitor use in this area, including the development of a native plant garden and construction of picnic shelters and two trails. One of the trails would be developed as a spur trail through the prehistoric agricultural field at the end of the airstrip. The other trail would improve an old road as an accessible option starting from the main parking lot at the visitor contact station. Additionally, the existing gravel parking area would be improved to be paved with formalized parking stalls and a new restroom and open-air education pavilion would be developed next to the parking lot. Depending on funding, staffing, and project implementation, the lanai of the Visitor Contact Station would be expanded and a new entrance station could be developed on Kahuku Road.

Limiting Attributes and Relevant Indicators

The attributes that most constrain this area's ability to accommodate use are its limited access to running water and its location within a geologically unstable rift zone, which restricts new construction. Desired conditions in this zone provide visitors the opportunity to connect with the meanings and themes of the park through a wide variety of interpretive methods. While frequent encounters with other visitors are to be expected in this zone, there should still be easy access to education and interpretation programming that allows for participation from visitors of all abilities and group sizes.

The most relevant indicators related to the limiting attribute in the Lower Kahuku Visitor Services Zone are the number of people per viewscape at the visitor contact station. This indicator will provide a better

understanding of visitor use density and the impact on visitors' experiences, helping ensure that desired conditions are achieved and maintained.

Visitor Capacity and Implementation Strategies

Current visitor use levels are trending up when comparing 2024 to the previous years. Relevant management strategies from this plan that will change visitor use and opportunities include developing a campground that will include accessible and group-site options, and formalizing two trails, including one that is ABA-compliant. Based on park staff knowledge of the area and the proposed actions in this plan, the interdisciplinary team (IDT) identified the maximum levels of visitor use that will achieve and maintain desired conditions in this analysis area to be 100 PAOT. D.

Additional management strategies to implement visitor capacity include:

- See Indicators and Thresholds for additional management strategies.

Potential future management strategies:

- Overnight permits

Lower Kahuku Transition Zone

Review of Existing Direction and Knowledge

This analysis area includes the rest of Lower Kahuku mauka of Highway 11 extending up to approximately 100 meters beyond the northernmost paddock roads and Kahuku Road at Kipuka'ākala (see Figure E1).

Lower Kahuku is in the transitional/semi-primitive zone and the wild/primitive zone. The transitional/semi-primitive zone is defined by the protections of cultural resources, maintenance of historic roads and trails, limited additional development, and less congested visitor experience. A small portion of this area is in the wild/primitive zone, where visitors should feel immersed in the natural environment, and the likelihood of encountering others is low. This zone is defined by challenge and self-reliance, and visitors can expect opportunities to experience solitude, risk, adventure, and wildness abound.

Visitor use in this area is defined by a variety of activities including hiking, camping, mountain biking, traditional use/gathering, picnicking, trail running, and guided walks. Currently there are six hiking trails that provide access throughout this area. There is a history of illegal hunting and illegal harvesting of 'iliahi trees in this area.

This plan outlines several management actions that will change visitor use in this area including expanded opportunities for hiking, camping and improvements to Kahuku Road. These actions include adding a campground next to the old airstrip, along with a group campsite and pavilion. There would be new hike-in campsites developed at an old quarry off Palm Trail. The Upper Palm Trailhead would be expanded to accommodate spaces for the proposed campsites. A portion of old paddock roads that lead from Kahuku Road to the 'Akihi pit crater would be designated and maintained as a trail leading to a viewpoint looking out to the coast. Tables would be added at the viewpoint as a resting place for hikers. A composting toilet would be installed at the Upper Glover Trailhead. A new trailhead would be developed on Kahuku Road in the 1916 lava flow to serve hikers going into Upper Kahuku. A trail would be developed connecting Kīpukamāmane and the dry forest to the Kahuku-'Āinapō Trail. The historic Kahuku-'Āinapō Trail would be reestablished.

Limiting Attributes and Relevant Indicators

The attributes that most constrain this area's ability to accommodate use are natural resources, specifically sensitive species, habitat protection and biological diversity. Desired conditions for the area include monitoring and controlling populations of non-native plant and animal species and excluding and eradicating wherever such species threaten park resources or public health and when control is prudent and feasible. Illegal activity and increased use heighten the threat of invasive species spread. Specifically, people cutting fences, cave entry, and unleashed dogs have all occurred in the area, and bring with them the threat of increased invasive species concerns. Additionally, the area has sensitive species and critical habitat, both of which need protection. The road is a cultural resource in its own right — widening it would alter the historic character of the landscape it helps define. The most relevant indicators related to the limiting attributes to ensure desired conditions are achieved and maintained are number of new and established invasive species measured at each individual site, number of PPV at key points of interest, number of Law Enforcement Officer contacts with visitors based on unpermitted/illegal uses.

Visitor Capacity and Implementation Strategies

Use levels show a steep increase in 2024, as compared to the previous years, a trend that is anticipated to continue. Relevant management strategies from this plan that may change visitor use and opportunities include adding campsites, adding picnic areas, and adding or designating trails. Based on park staff knowledge of the area and the proposed actions in this plan, the IDT identified the maximum levels of visitor use that will maintain and achieve desired conditions in this analysis area to be 200 PIOD. As more knowledge of use patterns is gathered over time, this capacity may need to be updated.

Additional management strategies to implement visitor capacity include:

- See Indicators and Thresholds for additional management strategies.

Potential future management strategies:

- Overnight permits

Upper Kahuku

Review of Existing Direction and Knowledge

The Upper Kahuku analysis area includes the acreage above a line that is 100 meters above the uppermost road in the paddock system. Upper Kahuku extends up to the Southwest Rift Zone of Mauna Loa.

The entirety of Upper Kahuku is in the wild/primitive zone, where visitors should feel immersed in the natural environment, and the likelihood of encountering others is low. This zone is defined by challenge and self-reliance, and visitors can expect opportunities to experience solitude, risk, adventure, and wildness abound. Currently, no visitor use is allowed at all in the area, though illegal hunting, ATV, and motorcycle use is occurring. Fence cutting also allows ungulates to access the area and damage vegetation. Future management actions in this plan will allow for all recreational activities that are consistent with a wilderness experience such as hiking, birdwatching, and overnight backcountry travel. No public vehicular, biking, or equestrian use will be permitted beyond the 1916 lava flows. No dogs will be permitted.

This plan proposes management actions that would alter visitor use patterns, including reestablishment and improvement of the connection between the Kahuku- 'Āinapō Trail and the 'Āinapō Trail. A hike-in campsite located roughly midway between the Lower Kahuku boundary and the northeastern boundary would include tent platforms, a pavilion with rainwater catchment, and a composting toilet. Additional small-scale campsites would be developed near the northeastern boundary at the Kahuku-'Āinapō Trail connection, at the end of the Kahuku East Unit road, and along the route to the Mauna Loa summit; these sites may include simple camp shelters with rainwater catchment and a composting toilet.

Limiting Attributes and Relevant Indicators

The attributes that most constrain this area's ability to accommodate visitor use are impacts to natural and cultural resources. Specifically, on the eastern side of the zone, impacts to archeological resources related to ancient way finding and biological diversity are limiting attributes. On the western side of the zone, impacts to geological resources, cultural resources, and threatened and endangered species (e.g., 'ua'u (Hawaiian petrel), nēnē) are concerns. Natural resources in this area are more sensitive than Lower Kahuku. Desired conditions for natural resources in the wild/primitive zone state that resource impacts or the manipulation of resources for visitor use or administration should be rare and avoid sensitive areas to the greatest degree possible, and that rare, threatened, and endangered species should be protected and sustained. For cultural resources, desired conditions state that all cultural resources and sites should be stabilized and preserved to the greatest extent possible. Continuing to protect these sensitive resources will be vital as this area opens up to visitation.

The most relevant indicators related to the limiting attributes in the Upper Kahuku Zone include the number of new and established invasive species measured at each individual site, number of people per viewscape at key points of interest, the number of Law Enforcement Officer contacts with visitors based on unpermitted/illegal uses, and documented change to cultural resource conditions and cultural landscapes from visitor caused actions and disturbances.

Visitor Capacity and Implementation Strategies

Current use levels in Upper Kahuku are unknown, as the area is unauthorized for visitor use, but illegal entry does occur. Relevant management strategies from this plan that will change visitor use and opportunities include the development of small-scale campsites, as well as reestablishing historic trails and designating some existing roads as trails. Based on park staff knowledge of the area and the proposed actions in this plan, the interdisciplinary team (IDT) identified the maximum levels of visitor use that will achieve and maintain desired conditions in this analysis area to be 20 PIOD [day use only] on the west, including the slopes of Mauna Loa, and 16 people for overnight use on the eastern side.

Additional management strategies to implement visitor capacity include:

- See Indicators and Thresholds for additional management strategies.
- Develop a self-registration system for west side.
- West side is closed during Petrel season.

Potential future management strategies:

- Guided day-use only on west side.
- Overnight permits.

Appendix F
Monitoring

HAVO KAHUKU SITE MANAGEMENT PLAN

APPENDIX F. MONITORING

Introduction

This appendix provides additional information about the monitoring strategy as it relates to Hawai'i Volcanoes National Park Kahuku Unit Comprehensive Site Management Plan.

Monitoring is the process of routinely and systematically gathering information or making observations to assess the status of specific resource conditions and visitor experiences. Monitoring is an integral component of visitor use management, as it allows managers to objectively and effectively evaluate whether desired conditions are achieved and maintained. Without monitoring, managers cannot determine whether their management strategies and actions are effective. Monitoring helps inform visitor use decisions. Ensuring that visitor use decisions are based on sufficient information results in a higher degree of accountability, defensibility, and transparency.

Data collected systematically through monitoring help demonstrate the effectiveness of current management strategies, as well as the potential need for changes in management strategies over time. Monitoring shows how conditions change over time, including the rate and magnitude of change. In this way, monitoring provides a much richer and more complete picture to determine whether new management actions are needed to achieve and maintain desired conditions. If a visitor capacity is identified, monitoring is essential to ensure that desired conditions are achieved and maintained. ([IVUMC 2019](#))

Indicators and Thresholds

Monitoring is accomplished by selecting indicators that are used to track trends in resource and experiential conditions. Established thresholds clearly define when conditions are becoming unacceptable for the selected indicators, thus alerting managers that a change in management action(s) is required. Together, indicators and thresholds help managers monitor and evaluate the effectiveness of management actions in achieving and maintaining desired conditions.

Indicators are specific resource or experiential attributes that can be measured to track changes in conditions so that progress toward achieving and maintaining desired conditions can be assessed. Indicators translate the broad description of desired conditions into measurable attributes that can be tracked over time to evaluate changes in conditions. Therefore, indicators correlate directly with desired conditions. In addition, indicators must be capable of being assessed objectively over time, so that managers can determine whether conditions have changed and, if so, how.

The interdisciplinary planning team considered the central issues driving the need for the plan and developed related indicators that would help identify when the level of impact becomes cause for concern and management action may be needed. The indicators described below were considered the most critical, given the importance and vulnerability of the resource or visitor experience affected. The planning team also reviewed the experiences of other park units with similar issues to help identify meaningful indicators.

Thresholds. A threshold is the minimally acceptable condition associated with an indicator. Visitor activities inevitably cause changes in natural or cultural resource conditions or visitor experiences. Proactive management involves determining the acceptable level of change for selected indicators. Thresholds serve this role by establishing the point at which the effects of visitor use on desired conditions are anticipated to

become enough of a concern that a management action is needed to achieve and maintain desired conditions. In this role, thresholds serve as a stop sign or a “line in the sand.” The concept of thresholds is well established within the field of natural resource monitoring (Guntenspergen 2014). The term “threshold” in the visitor use or recreation disciplines is synonymous with “standards” or “quality standards.”

The interdisciplinary team used public input, field observations, professional judgment, best available science, and literature reviews to establish thresholds for each selected indicator based on desired conditions.

Indicators Updated from the GMP

The indicators listed below were first identified in the 2016 Hawai’i Volcanoes National Park General Management Plan (User Capacity Indicators and Standards, Table B.1.). The indicators have been updated to better evaluate changes in the park’s desired conditions related to the actions presented in this plan. Many of these indicators are also present in the Hawai’i Volcanoes National Park Kilauea Summit Corridor Management Plan. Updates to indicators are noted in bold text.

Indicator
Number of incompatible interactions between humans and wildlife
Threshold
No instances of incompatible interactions between humans and wildlife
Rationale
<p>This indicator focuses on the interactions between humans and important and sensitive wildlife. Some wildlife of focus in this monitoring include but are not limited to green sea turtles which are an endangered species while monk seals, hawksbill turtles, nēnē and petrels are all threatened and highly sensitive to impacts. The protection of endemic species and biological diversity is related to the park purpose and significance. Desired conditions for HAVO in the Kahuku Unit include <i>promoting long-term viability of native species, protecting endangered species, and improving the species’ status</i>. Desired conditions also seek to <i>utilize best available science to reduce wildlife-visitor conflicts</i> which monitoring for this indicator helps to operationalize. Monitoring instances of incompatible interactions between humans and wildlife will allow park staff to manage to desired conditions and the park’s enabling legislation.</p> <p>Law and policy requirements must be met and, given the sensitivity of the resource, the threshold for impact is zero instances. The park team focuses on proactive measures to prevent these interactions.</p>
Monitoring
Monitoring would continuously occur via observations and responsive staff monitoring as a part of regular park operations. Annual monitoring is conducted for the endangered species throughout their breeding seasons.
Management Strategies and Mitigation Measures
<ul style="list-style-type: none"> • Educate visitors on the sensitivity of resources and the need to protect wildlife. Education would include the use of signage. • Conduct after action reviews to evaluate each incident. • Appropriate notification and/or consultation with USFWS. • Continue and increase monitoring. • Increase enforcement and documentation. • Employ engineering solutions such as using protective barriers and other site management techniques to protect sensitive wildlife habitat areas.

Potential Future Management Strategies

- Reduce the number or duration of visitors and staff to an area during nesting season.
- Relocate wildlife (only if necessary for wildlife protection).
- Temporary or permanent closure of trails, roads, campsites, and beach access.

Indicator

Documented change to cultural resource conditions and cultural landscapes (historic districts, historic structures, cultural landscapes, ethnographic resources, and archeological sites) from visitor-caused actions and disturbances as documented in the **Cultural Resource Information System (CRIS)**.

Threshold

Maintain sites in a “good” condition, according to CRIS.

Rationale

Damage to **cultural resource conditions** and **cultural landscapes from visitor-caused actions** and disturbances can occur through both intentional and unintentional means. Both can impact the integrity of these resources. The Kahuku Ranch Cultural Landscape, the Kahuku Military Landscape, the Ethnographic Landscape and the Kahuku-Pōhue Archeological Landscape are overlapping or adjacent cultural landscapes in the Kahuku Unit. The Kahuku Unit at large across the three management zones contains archeological resources, historic structures, cultural landscapes, and ethnographic resources. Protection of cultural resources and landscapes is articulated by the desired conditions to *interpret and provide information to enlist visitors as partners in stewardship, helping them understand the significance of these resources, and embrace behaviors that protect important cultural resources [visitor services zone]*. In the Transitional/Semi-Primitive Zone desired conditions emphasize the *significant historic, cultural, and archeological resources present...visitors have opportunities to interact and steward and these resources are maintained and preserved*. The Wild/Primitive Zone also notes the importance of these resources through desired conditions that speak to *cultural sites that are stabilized and preserved to the greatest extent possible. Archaeological sites are inventoried, monitored, and protected in an undisturbed condition to the greatest extent feasible*.

Most cultural resources and landscapes are nonrenewable resources so there is a zero tolerance for degradation based on human activity. There is a need to prioritize site monitoring and protection in areas of high visitor use and along trails. At sites in less than good condition due to impacts from visitation, management actions should seek to stabilize or improve the condition at least one level, if possible.

Impacts directly associated with visitor use should not be a significant contributor to changing the overall site condition to a lesser condition (i.e., good to fair, fair to poor, etc.) with an emphasis on maintaining sites in good condition.

Monitoring

Monitoring will occur through continued cyclical condition assessments on the predetermined basis designated in **CRIS**.

Management Strategies and Mitigation Measures

- Continue monitoring by conducting cyclical condition assessments on an interval basis and increase frequency of condition assessments in high use areas if necessary.
- Prioritize documentation of resources in high visitor use areas.
- Educate visitors on the sensitivity of resources and the need to protect archeological sites, including the use of signage.
- Target education to groups that are accessing areas with archeological sites.
- Increase ranger presence or patrol. Increase enforcement and documentation.
- Create physical barriers.

Potential Future Management Strategies

- Reroute trails, if appropriate.
- Formalize access or take a design action to correct the problem/reroute visitor use.
- Stabilize sites when needed.
- Temporary or permanent closure of trails, roads, campsites, and beach access.

New Indicators

The following indicators were developed to monitor changes in the park's desired conditions related to the actions presented in this plan.

Indicator
Number of vehicles at one time (VAOT) at parking areas.
Threshold
Parking area: VAOT does not exceed the intended design capacity of parking areas at the destination by more than 10% of the time per season.
Rationale
<p>This indicator is a measure of visitors' ability to find parking at popular destinations. This indicator would also help park staff understand the number of visitors displaced to other areas of the park. Crowded parking lots can detract from providing meaningful and enjoyable visitor experiences and cause damage to natural and cultural resources.</p> <p>Beyond the Visitor Contact Zone, the Kahuku Unit tends to be naturally self-limiting because the unpaved road requires 4WD and high clearance. However, management strategies in the alternatives would increase the hours of operation and possibly add new camping opportunities. Monitoring the number of VAOT provides a better understanding of visitor-use density at key destinations in relation to desired conditions. VAOT can easily be monitored across zones with varying desired conditions for visitor experiences. Understanding VAOT may also help assess the relationship of visitor use levels to impacts on resources. Regular monitoring at key destinations helps assess the effectiveness of management strategies that influence specific destinations and allows for adjustment in strategies as needed.</p> <p>In the Visitor Services Zone, monitoring for this indicator would help to ensure the following desired condition is met where <i>there is easy, convenient, accessible, and comfortable access and orientation to the Kahuku area, frequent encounters with other visitors are to be expected in this zone with opportunities to interact with and learn about cultural resources.</i></p> <p>In the Transition/Semi-Primitive Zone monitoring for this indicator would help to ensure the following desired conditions is met where <i>the likelihood of encountering others is moderate to low...immersive of history and culture...self-reliance and outdoor skill is needed by visitors who choose to hike or camp in this zone.</i></p> <p>In the Wild/Primitive Zone monitoring for this indicator would help to ensure the following desired condition is met where <i>there is a high degree of challenge, immersive experiences and there are dispersed visitor activities.</i></p> <p>Monitoring this indicator and threshold will also allow for a greater understanding of visitor use patterns such as busy times of the year and the specific locations where crowding is occurring.</p> <p>Thresholds were based on the intended design capacity of the parking areas. The management strategies and potential future management strategies will help the park manage to desired conditions relevant to each location. These thresholds are set to allow highest access to features of the park while still allowing for protection of resources and visitor experience.</p>

Monitoring

Periodically conduct an observational study of VAOT in parking lots and adjacent overflow areas to establish and update VAOT counts or equivalent technology. Compare observed and/or estimated VAOT to the intended design capacity of parking lots.

Management Strategies and Mitigation Measures

- Educate visitors on the sensitivity of resources and the need to protect wildlife, including the use of signage.
- Enforcement of parking and access restrictions, as well as site management (signage, curbing, paving, re-veg, blockades) to resolve over-parking and visitor-created parking. Enforcement could occur using a VUA or volunteer at crowded times of the day to assist with parking and temporary closures associated with full parking lots.

Potential Future Management Strategies

- Disperse visitor use elsewhere by offering other choices (information at the gate, social media, radio, website, electrical signs).
- Educate visitors about busy and non-busy times to allow for self-selection to non-busy times.
- Manage particular types of uses.
- Provide real-time information regarding parking and access opportunities.
- Implement open times for different locations to ensure there are times of day for quiet hours and natural sounds to prevail.
- Post signs indicating parking is at intended design capacity.
- Temporarily or permanently close parking areas to regulate the number of people.