

US Department of the Interior
National Park Service

RECORD OF DECISION

General Management Plan / Wilderness Study Abbreviated Final Environmental Impact Statement

Hawai'i Volcanoes National Park
Hawai'i County, Hawai'i

SUMMARY

The Department of the Interior, National Park Service (NPS) prepared this Record of Decision for the *Hawai'i Volcanoes National Park General Management Plan / Wilderness Study / Final Environmental Impact Statement (GMP/WS/FEIS)* for Hawai'i Volcanoes National Park. This Record of Decision (ROD) includes a description of the selected action, synopses of other alternatives considered, the basis for the decision, a description of the environmentally preferable alternative, a summary description of measures designed to minimize environmental harm and an overview of public involvement in the decision-making process. Measures to mitigate environmental harm are provided as Appendix A. In addition, the park manager has completed a determination of non-impairment, as required by the 2006 NPS Management Policies.

DECISION (SELECTED ACTION)

The NPS will implement Alternative 2 as described in the Draft GMP/WS/EIS, and as amended by the errata in the GMP/WS/FEIS, which identified this alternative as both the preferred and environmentally preferable alternative.

The new GMP will strengthen and broaden opportunities to connect people with the volcanic world treasure, Hawai'i Volcanoes National Park, and provide a wide range of high quality visitor experiences based on different geographic areas. Kīlauea summit will continue to be the most actively visited area of the park with the greatest concentration of services and amenities for park visitors. Along Chain of Craters Road and Mauna Loa Road, the park will strive to provide visitors with improved opportunities to experience and connect with park resources and values, including new opportunities at places like Mauna Ulu and Kealahomowaena, while dispersing use to create a less congested and more tranquil experience. At Kahuku, although visitor access and recreation opportunities will be expanded from what is currently offered, infrastructure and development will be minimal, gradually phased in over time, and remain rustic in design to allow for a primitive visitor experience.

Natural and cultural resources will continue to be managed and protected with a high degree of integrity, consistent with direction provided by existing laws and policies. The selected action emphasizes the park's role as a refuge and haven for native biota, people, and cultures in a world constantly adapting to volcanic activity and island building processes. It also honors the Native Hawaiian people and culture by recognizing Native Hawaiian values such as mālama 'āina (nourishing or taking care of the land) and kuleana (responsibility) and perspectives from Native Hawaiian land management such as ahupua'a management (managing land from mauka (mountains) to makai (sea)) as important concepts in park stewardship of resources. Native Hawaiian traditional ecological knowledge will be used to enhance current scientific understanding to protect park resources and provide additional interpretive and educational opportunities for visitors.

The selected action also provides the park with the flexible guidance necessary to respond to the changing natural conditions inherent in operating a park unit situated on two active volcanoes. Rather than provide specific recommendations in the GMP for how the park may respond to a given event, the selected action includes general guidance for managers facing volcanic activity in the future, notably with respect to facilities and infrastructure in the park.

In addition to implementing management zoning (as described on pages 117-121 in the Draft GMP/WS/EIS) and user capacity indicators and standards (as described in Appendix G of the Draft GMP/WS/EIS), the selected action includes the following primary components that will be implemented as staffing and funding allow. Details of all actions associated with the selected action are provided under “Actions Common to All Alternatives” and “Alternative 2” in the Draft GMP/WS/EIS, as amended by the errata in the Abbreviated Final GMP/WS/EIS.

Site-Specific Management Guidance

Kīlauea Visitor Center and Surrounding Area

- The park will produce a site plan and site specific interpretive strategy to integrate visitor experiences among the complex of buildings on the summit of Kīlauea. This integrated campus, or kauhale, will include the Kīlauea Visitor Center, ‘Ōhi‘a Wing, Volcano Art Center, pā hula (place reserved for hula dancing), and other buildings in the vicinity including those currently utilized by Kīlauea Military Camp and the Hawaiian Volcano Observatory. The priority will be to stay within the existing footprint of development; however modest expansion could be necessary to achieve the overall vision and to accommodate walkways, improve circulation, and reduce conflicts between vehicles and visitors.
- The park will continue to use Kīlauea Visitor Center as one of two primary visitor facilities as well as park headquarters and administrative offices. Additional parking will be provided to address increased visitor use; a 2.5-mile separate shared trail for pedestrian and bicycle use will be constructed from Kīlauea Visitor Center to Jaggar Museum; and through the completion of the development concept plan, the park will consider either expanding the lanai or removing and replacing the current restroom at the visitor center with a facility of similar capacity closer to the 1877 Volcano House in order to increase the interpretation space at the visitor center.
- The park will adaptively reuse the historic ‘Ōhi‘a Wing as a cultural museum and administrative offices to also complement the visitor functions of the Kīlauea Visitor Center and Jaggar Museum.
- The park will continue to provide interpretation at the Jaggar Museum, with improved exhibits, and the US Geological Survey Hawaiian Volcano Observatory will continue to operate adjacent to Jaggar Museum.

Crater Rim Drive

- Assuming eruptive activity ceases or changes in Halema‘uma‘u Crater and the park determines through active monitoring that air quality and other hazards are at a level that is consistent with general visitor use, the park will reopen the southern section of Crater Rim Drive and keep the road open to the public for two-way traffic, allowing a mix of private vehicles and smaller shuttles (non-mandatory). The historic character and historic alignment of the road will be preserved. To improve safe bicycle access around Crater Rim Drive, the park will also improve signage along the road corridor, provide adjacent bicycle trails when feasible, and consider vehicular traffic closures during specific times of day or days of the week to encourage bicycle use.
- As part of a pilot program, large commercial buses or vehicles over 98 inches in width and/or over 38 feet in length will be limited to one-way traffic between Jaggar Museum and Chain of Craters Road junction along the southern portion of road. Administrative use of the road for two-way vehicle traffic will continue to be allowed.

- Once the Halema'uma'u Overlook is reopened to visitation, the parking lot will be maintained to accommodate the existing capacity but the park could evaluate site modifications to address sensitive cultural issues and values and improve resource protection.
- The park will also continue to evaluate the pilot hydrogen shuttle technology, including the performance of the shuttles that will service proposed stops along Crater Rim Drive.

Thurston Lava Tube and Surrounding Area

- The park will maintain the current mix of parking for private and commercial vehicles at Thurston and use a suite of tools to address congestion and improve the visitor experience. These tools could include improved visitor information and outreach for trip planning (emphasizing less busy times of day to visit), increased ranger presence to direct traffic, the use of intelligent transportation systems (such as electronic message boards giving real-time information), vehicle size limitations for parking, time of day restrictions on certain vehicles, and/or reservations for commercial vehicles only. Additional restriping and reconfiguration of parking at Thurston Lava Tube along the road may also be required. In addition, the park will consider developing a more specific site plan to integrate trails and parking areas from Kilauea Iki to Devastation.
- Large commercial buses will be able to load and unload at Thurston but these buses may be required to park at nearby underutilized lots such as Devastation Trail and Pu'u Pua'i. Some reconfiguration within the existing developed footprint of these parking lots may be needed to accommodate large buses, and improved signing and accessibility ramping will be needed. The park will continue to evaluate implications of implementing one-way traffic between Jaggar Museum and Chain of Craters Road junction on Crater Rim Drive for large commercial buses and requiring buses to only load and unload at Thurston as conditions change.
- The park will also improve and increase interpretive opportunities and themes at Thurston while still protecting rainforest resources.

Chain of Craters Road

- The park will continue to maintain the character of Chain of Craters Road to NPS standards, ensuring a park-like feel for the driving experience, while providing for visitor safety. The park will identify and clear over-vegetated pullouts to restore views/vistas and to encourage stops along the road.
- The park will also explore the option of locating an educational pavilion, in addition to a mobile visitor contact station, along Chain of Craters Road to orient visitors, communicate visitor safety information, and provide an alternative visitor experience when the summit is closed to disperse visitation. Potential locations include Mauna Ulu or where the 1974 flows first cross Chain of Craters Road.
- The park will continue to work with partners to provide a sustainable and moveable visitor contact station at the current end of Chain of Craters Road for interpretation and safety on a trial basis, replacing some of the functions provided by the Waha'ula Visitor Center and administration area that was destroyed by lava in 1989. If the pilot project is successful, the park will retain the structure as a contact station to provide visitor services and emergency operations over the long term. If the pilot project is unsuccessful, the park will develop a long-term replacement visitor contact station in the form of an open pavilion or similar structure at the end of Chain of Craters Road. The structure will not be mobile, but interior elements could be made to be quickly removable in the event of an active lava flow that threatens the structure, and the framing could be salvaged.
- A 5.5 mile segment of the Chain of Craters Road that ran through the park towards Kalapana was buried by lava flows generated by Pu'u 'Ō'ō. Due to a change in the direction of the lava flow in 2014, the Federal Emergency Management Agency funded the construction of an unpaved emergency access route following the historic road alignment. This route is for emergency access only and the park is now responsible for protecting and maintaining the road as an emergency

access route. When this route is not needed as an emergency access route, it could be used as an equestrian, biking, and hiking trail (similar in character and functionality to the Escape Road from the summit to Mauna Ulu) to provide a quality non-motorized visitor use opportunity while ensuring the route is protected and maintained for its original intended function limited to emergency access. These uses will ensure that natural values are not compromised without adding the management complexity of managing a coastal entrance for public vehicles to enter the park.

‘Āinahou Ranch House and Gardens

- ‘Āinahou Ranch will continue to provide a core management area for nēnē recovery. Park staff will continue to maintain the house and cultural landscape in good condition. The water system will be maintained for fire protection, and the access road to ‘Āinahou will be maintained as an unpaved road.
- The NPS will focus on restoration for nēnē. Additional measures to provide opportunities for public stewardship of the ranch house and gardens and habitat restoration may be allowed through the use of trained volunteers and small service groups under the direction of NPS staff in the field.
- Within the formal gardens, the park will work with cultural resource staff to replace invasive nonnatives with native species, minimize any new plantings or cultivation, and prevent any inadvertent introduction of nonnatives.
- Interpretation of ‘Āinahou Ranch and its significance as a cultural resource and important site for nēnē will occur off-site for the general public.

Kahuku Unit

- Over time and with adequate funding for staff and infrastructure, the park will strive for operational capacity in Kahuku seven days a week. Recreational infrastructure, such as trails, small-scale campgrounds, and interpretive and educational programs and activities will be developed to optimize visitor access and provide a range of opportunities to experience Kahuku’s unique natural and cultural resources and participate in the recovery of species and sites. The focus will be on recreational activities such as hiking, camping, and nature-viewing, with some biking and scenic driving opportunities. The park will offer opportunities for the community, visitors, and school groups to volunteer on restoration projects in Kahuku and participate in hands-on resources management activities.
- The park will maintain the existing entrance at Kahuku but address safety issues by clearing vegetation, improving signage, and possibly cutting back existing berms to improve the line of sight for drivers. The park will also seek to collaborate with the state to evaluate and add turn lanes on Highway 11 and will work with the state and other partners to expand interpretive and scenic opportunities along Highway 11.
- The park will produce a site plan for the lower Kahuku area to provide detailed guidance on adaptive reuse of existing buildings for specific uses, and will determine the numbers and locations of campgrounds, picnic areas, and trails consistent with the overall vision of this alternative.
- The park will upgrade and maintain the main road from the existing developed area to Upper Glover for two-wheel-drive access, primarily as one-lane with pullouts, similar in character to the Hilina Pali or Mauna Loa Roads. The main road from Upper Glover east to a designated location near the 1916 lava flows (approximately three miles) will be maintained for four-wheel-drive access. There will be no public vehicular access west from Upper Glover. No new roads will be developed in lower Kahuku.
- The park will develop a trail network in lower Kahuku that will accommodate different visitor abilities across a series of loop trails and trail connections in an effort to promote hiking, biking, and a pilot program for equestrian use. The park will prioritize re-establishing traditional and historic travel routes before any new trail construction; however, new trails could also be constructed in order to create trail connections.

- Overnight camping in Kahuku will be allowed and multiple small-scale designated campgrounds with a low level of infrastructure and minimal services, such as water and compost or vault toilets, will be developed. Sites will be developed for both drive-in and walk-in campers, with some handicap-accessible campsites provided.
- The park will implement a small pilot program for equestrian use in lower Kahuku pastures to explore allowing equestrian use in Kahuku while managing for resource concerns such as the spread of invasive nonnative species. Under the pilot program, vegetation monitoring will be required and limited equestrian use will be allowed by special permit and potentially through a commercial use authorization (CUA) for guided trips.
- The park will manage upper Kahuku for its wilderness characteristics based on its determination of eligibility for inclusion in the national wilderness preservation system. Recreational access in upper Kahuku will be permitted and visitor opportunities such as hiking and camping will be managed consistent with a wilderness experience.
- Trails will provide the primary recreational experience for visitors in upper Kahuku. The park will also consider developing a small campground in the proximity of the existing cabins, outside nēnē habitat and wilderness, for walk-in users, which could also serve as a launching point for backcountry users. Rainwater catchment/shelter could also be provided.
- No commercial services or commercially guided recreation will be permitted in upper Kahuku.

Boundary Modifications

- Hawai'i Volcanoes National Park will seek legislation to include 'Ōla'a within the official park boundary.
- Hawai'i Volcanoes National Park will also recommend that the following parcels are added to the park boundary: the Great Crack parcels (1,951 acres) and the Ala Wai'i parcel (3,478 acres), a private parcel (222 acres) located along the southern edge of Kahuku (west of present entrance off Highway 11), and a parcel at Pōhue Bay (16,457 acres) that extends from lower Kahuku on Highway 11 down to the coast.

Program Specific Guidance

Natural Resources

- The natural resources program will continue efforts to perpetuate and restore native ecosystems and recover populations of rare species (including threatened and endangered) and biological diversity of native species by using scientifically informed methods.
- The park will strive to increase current staffing levels to improve monitoring and control of nonnative plants and animals, reintroduction of historical species, protection and recovery of locally rare, threatened and endangered species, fire restoration, fuels reduction, and supporting research that informs natural resources management activities.
- Concepts of traditional Native Hawaiian land management will be integrated into natural resource management activities. The park will also seek to enhance restoration techniques and practices with Native Hawaiian traditional ecological knowledge.
- The natural resources program will seek to engage the visitor in the protection and restoration of native species and ecosystems by expanding opportunities to participate in restoration activities, particularly at Kahuku. Students and general public will be provided opportunities to study and participate in restoration efforts in these areas as part of expanding service-learning and stewardship programs, and citizen science will be expanded for park visitors in focal areas.
- The park will continue to participate in existing partnerships for landscape-level restoration and conservation. The park will seek additional collaborations with appropriate agencies and surrounding communities to enhance protection of coastal and marine resources in addition to land resources.

Cultural Resources

- The cultural resource program will seek to expand the on-going documentation and inventory of park resources and will seek formal determinations of eligibility and national register nominations. A suite of preservation plans that will provide guidelines for interpreting and preserving cultural landscapes and historic structures will be developed and implemented.
- The park will seek to enhance cultural resource preservation techniques and practices with Native Hawaiian traditional ecological knowledge. Concepts of traditional Native Hawaiian land management will be integrated into cultural resource management activities and emphasize the interconnectedness of the cultural and natural environments.
- The park will work toward permanent facilities to house and showcase locally and nationally significant collections. Natural and cultural museum collections will be researched and exhibited at a greater number of available and appropriate opportunities.
- The park will seek to stabilize and maintain some significant ranching and World War II-era landscapes and their contributing elements, and work in a collaborative manner with the natural resources division to carry out the vision of an integrated restoration plan for Kahuku.
- The park will continue to inventory Kahuku's resources and complete the National Register of Historic Places Determination of Eligibility, when appropriate. Some historically significant landscapes or contributing elements of landscapes in Kahuku will be identified and maintained for interpretation and education, highlighting different periods of occupation.

Research

- The park will continue park research efforts and collaboration with partners and will continue to support independent research under the NPS permitting system consistent with NPS management policies.
- The park will also strengthen the emphasis on disseminating research related to ecology, endemics, climate change, archeology, history, and traditional cultural properties to park visitors in a lay-person format.

Wilderness

- Hawai'i Volcanoes National Park will continue to manage existing designated wilderness (123,100 acres) consistent with National Park Service management policies (including Director's Order #41 Wilderness Stewardship) and the Wilderness Act of 1964, and would develop a wilderness stewardship plan to guide wilderness use in the park after completion of this GMP/WS/EIS.
- Hawai'i Volcanoes National Park Wilderness Study recommends wilderness designation for 121,015 acres (GIS) of the Kahuku Unit that met eligibility criteria and requirements necessary to qualify for the National Wilderness Preservation System. Consistent with NPS policy, the park will continue to manage these proposed eligible lands for their wilderness qualities prior to formal designation.

Soundscapes and the Acoustic Environment

- The National Park Service, as a cooperator with the Federal Aviation Administration, will complete an Air Tour Management Plan/Environmental Impact Statement that will develop measures to limit or prevent any significant impacts that may be caused by commercial air tour operations upon the natural and cultural resources, or visitor experiences at the park. This plan will be consistent with the guiding principle of reducing noise/human sound in sensitive areas.
- The park will strive to improve soundscapes and the acoustic environment by reducing artificial noise within wilderness; in and near critical habitat for threatened and endangered species; in traditional cultural areas such as volcano summits, active lava, or active volcanic features; and in high visitor use areas.

- To improve soundscapes and the acoustic environment, the park will expand active management practices to include: (1) implementing best management practices to limit the duration of artificial noise, (2) maximize human-caused noise free periods, (3) create more opportunities for visitors to experience natural soundscapes, and (4) implement partial closures of air space in sensitive areas. In addition, park operations and projects will be implemented using best management practices to minimize noise impacts.
- The park will provide commercial air tour operators with information and training on wilderness boundaries and the location of these sensitive areas, and provide guidance on best management practices to improve understanding of the importance of these resources and encourage greater protection.
- The park will recommend the implementation of a soundscape monitoring program and will consider developing a soundscape management plan, if additional guidance is needed.

Visitor Experience

- Hawai'i Volcanoes National Park will continue to provide visitors with safe access to volcanic features, active lava, cultural resources, and ecosystems from mauka to makai. The park will offer unique opportunities that provide visitors with an appreciation for the ways in which kama'āina (local people of the land) view, understand, and connect with park landscapes and resources today.
- The park will develop an accessibility plan to identify and evaluate opportunities throughout the park to improve accessibility.

Range of Recreational Activities

- Under the preferred alternative, the park will continue to allow for a range of recreational activities such as viewing lava and evidence of volcanic activity, camping, hiking, backpacking, biking, equestrian use, birding and wildlife viewing, picnicking, general sightseeing, and stargazing. Additional opportunities for existing activities could be provided in different geographic areas of the park. The park will focus on ranger-guided tours for access to new and particularly sensitive areas in the park. Expanded recreational activities will be authorized in Kahuku beyond current use.
- A trail management plan will be created to comprehensively assess trail conditions and needs and to identify specific trail alignments and uses, such as hiking, biking, and equestrian use. Development of any new trail alignments will be primarily along historic alignments and traditional routes, or on existing roads, such as at Kahuku, and the park will evaluate ways to use the existing road network for improved non-vehicular recreation opportunities. For example, in some areas of the park, such as Hilina Pali or Mauna Loa, roads could be closed to private day use vehicles during certain times of day or days of the week to provide a more enjoyable and less congested experience for recreationists such as hikers, backpackers, bikers, and equestrian users. The park will also strive to create loop trail experiences through new links between existing trails.
- Any additional frontcountry camping will be more primitive and dispersed than current facilities and will most likely be in Kahuku due to the lack of current facilities in this unit. Any future frontcountry camp development will also be considered in relationship to outdoor education pavilions that have been sited and will be targeted to educational groups but could also expand capacity for general public camping.
- The park will maintain existing backcountry camping and will explore, with additional planning, formally designating backcountry campsites, primarily along the coast outside the tsunami evacuation zone and at Mauna Loa. Additional backcountry camping opportunities will also be available in Kahuku. Any new campsites will require further planning. Some backcountry sites could contain water catchments/ shelters Any decisions about designating campsites in wilderness will be consistent with the minimum requirements decision guide.

Interpretation and Education

- The park will expand the uses of Jaggar Museum and Kīlauea Visitor Center as dramatic opportunities to introduce visitors to the volcanic, biologic, and cultural resources at Hawai'i Volcanoes National Park. Kahuku will also serve as an important location for visitor orientation.
- The park will develop a long range interpretive plan that will expand interpretive opportunities to introduce visitors to all of the park's interpretive themes through the use of interpretive standards and methods.
- Interpretation methods, while diverse in nature, will focus on ranger-led experiences and live programs to immerse visitors in the volcanic, biologic, and cultural resources at Hawai'i Volcanoes National Park. These live programs will also provide additional opportunities to learn from Native Hawaiians and/or other cultural practitioners. Self-guided interpretation opportunities such as waysides and interpretive trails will also be provided, particularly in lower Kahuku.
- New, additional interpretive programs will focus on providing hands-on educational experiences for school, volunteer, and other organized groups in the frontcountry. Stewardship and hands-on activities will be a key element in these programs engaging visitors in research, learning, science, restoration, and educational programs and facilities. In addition, park staff will engage visitors in research and citizen science.
- Interpretive programming will also utilize new media and tools to provide inquiry-based learning through frontcountry self-guided interpretive and educational opportunities in order to meet the diverse needs of an increasingly international audience.

Commercial Services

- A Commercial Services Strategy has been produced as part of the general management plan that includes criteria for evaluating new commercial services, consistent with existing law and policies (including PL 105-391). This strategy provides broad guidance for future decisions involving commercial services but does not apply retroactively to previously made decisions.
- The park will engage commercial service providers in managing visitor use and providing valuable information to the public, including general park visitor information, safety updates, and interpretation of the park's fundamental resources and values. Management strategies could include: infrastructure changes to accommodate commercial uses (such as additional parking, staging areas, and limiting tour buses to one-way traffic on Crater Rim Drive when fully opened), limits on numbers or size/capacity or times/dates of commercial activities, interpretive training for all commercial service employees, and ongoing communication with commercial service providers about changes in park conditions, etc.

Administrative Facilities and Infrastructure

- The park will continue to maintain and upgrade, when necessary, administrative infrastructure in the park such as offices, storage, and utilities and will improve provisions for accessibility. Administrative functions may be relocated from Kīlauea Visitor Center to other buildings within the park so that interpretive and visitor use functions could be consolidated at the visitor center.
- At Kahuku, the park will continue to maintain and upgrade when necessary, existing infrastructure in lower Kahuku and continue to use existing buildings for office space and storage. The park will also adaptively reuse the existing developed area in lower Kahuku for a mix of visitor services and administrative and operational use as needed. Any new development in Kahuku will occur in the existing developed footprint.

Transportation and Access

- All park roads will be maintained to provide for a safe driving experience, consistent with the park setting to ensure a park-like and scenic driving experience. Historic road alignments and built features that define the period of significance of the roads will be maintained to the extent possible.

- The park will continue to maintain parking areas and turnouts with upgrades as needed. Existing parking areas could be expanded or new smaller parking areas could be developed to facilitate visitor access in keeping with the existing road history and character defining features. Some parking areas could also be reduced or removed out of concern for park resources.
- The park will strive to maintain and improve visitor access for both vehicles and bicycles. This improved access could involve exploring the use of utility corridors or other existing unpaved areas in the park, especially for bicycles.
- The first focus for managing congestion and reducing private vehicle use will be guided by information management, such as educating visitors about when to visit locations that may be crowded, and park policies to control congestion. Intelligent transportation systems (ITS) will be another tool or element of this strategy. New restrictions or management of vehicles on some roads will be implemented, such as implementing size limits (no vehicles greater than 98 inches in width or over 38 feet in length) and testing one-way traffic for large commercial buses within a pilot program on part of Crater Rim Drive if it re-opens. Continuation of a shuttle (non-mandatory) will be evaluated after completion of the pilot project.
- Some road connections previously lost to lava could be restored and the park will strive to reopen roads impacted by lava, seismic activity, eruptive events, or other acts of nature when feasible.

Partnerships

- The park will continue to maintain existing partnerships with agencies and organizations that are key to the park's mission.
- The park will foster and expand partnerships with local and regional communities, organizations, nonprofits, and businesses; Native Hawaiian communities; adjacent landowners; local, state, and federal agencies; and other interested groups or organizations in efforts to support the purpose and significance of Hawai'i Volcanoes National Park.
- As a way to involve local participation, the park will promote community and school involvement in traditional practices and environmental service projects.

Climate Change and Sustainability

- The park will continue to implement the climate action plan for Hawai'i Volcanoes National Park and participate in the Climate Friendly Parks program. The park will strive for increased energy efficiency, conservation, and sustainability in development of facilities and will give priority to green facility design for any new construction, retrofitting, and upgrading of facilities to the greatest extent possible. Increased reliance will be placed by the park on temporary and movable facilities to improve flexibility for both visitors and operations during periods of eruptive activity.
- Contractors and concessioners will be encouraged to reduce their own greenhouse gas emissions, particularly during their operations in the park, by using sustainable practices, purchasing local products, and using vehicles with alternative fuels.
- The park will serve as a model for climate change adaptation by supporting climate change-related research, adapting management activities based on climate projections, and building resilience among populations of rare native species, communities, and ecosystems. Examples include long-term weather monitoring of park ecosystems, establishing wildlife corridors through restoration of forest fragments, and expanding populations of rare species throughout their former range.

Wilderness Study

The selected action also includes the proposal to designate as wilderness all of the lands found eligible in the Kahuku Unit (121,015 acres (GIS)) as a natural extension of the existing wilderness within the park. This designation of wilderness at Kahuku will further the conservation vision for high-elevation protection of natural and cultural resources and will create connectivity for park wilderness that will span from the summit of Mauna Loa Volcano all the way down its massive Southwest Rift. Consistent with

NPS policy, the park will continue to manage these proposed eligible lands for their wilderness qualities prior to formal designation. Additional information including implications for managing lands proposed for wilderness can be found in Chapter 4 of the Draft GMP/WS/EIS.

OTHER ALTERNATIVES CONSIDERED

The *Hawai'i Volcanoes National Park Abbreviated Final General Management Plan / Wilderness Study / Environmental Impact Statement* and its incorporated language from the Draft GMP/WS/EIS describes a no-action alternative and one other action alternative, each of which are summarized below.

Alternative 1 (no-action) assumes that existing programming, facilities, staffing, and funding would generally continue at current levels to protect the values of Hawai'i Volcanoes National Park. There would be no major changes in current management or visitor use, and implementation of currently approved plans would continue as funding allows.

Alternative 3 emphasizes building new connections with the park, primarily through expanded education and hands-on stewardship opportunities. As in the selected action, this alternative emphasizes the park's role as a refuge and haven for native biota, people, and cultures in a world constantly adapting to volcanic activity and island-building processes and emphasizes Native Hawaiian values such as mālama 'āina (nourishing or taking care of the land) and kuleana (responsibility) as important concepts in park stewardship of resources. Although Alternatives 2 and 3 have similar guidance for managing natural and cultural resources in the park, they differ significantly on proposed developments within the park for managing visitor use and enhancing the visitor experience. For example, Alternative 3 would maintain the closure along Crater Rim Drive and use shuttles as the primary methods for transportation and managing congestion whereas the selected action (Alternative 2) will reopen Crater Rim Drive to two way traffic assuming eruptive activity ceases or changes in Halema'uma'u Crater and the park determines through active monitoring that air quality and other hazards are at a level that is consistent with general visitor use. Recreational opportunities in Kahuku would also be more primitive and limited than in the selected action, and Alternative 3 would prohibit commercial use in Kahuku whereas the selected action allows for this use. Alternative 3 also focuses more on guided-only access in key areas.

ENVIRONMENTALLY PREFERABLE ALTERNATIVE

In accordance with NPS Director's Order 12: Conservation Planning, Environmental Impact Analysis, and Decision-making, the National Park Service is required to identify the environmentally preferable alternative in environmental documents. Guidance from the Council on Environmental Quality states that the environmentally preferable alternative is "the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources (46 FR18026 – 46 FR18038)."

The National Park Service has determined that Alternative 2, the selected action is also the environmentally preferable alternative. This alternative best satisfies the national environmental goals by providing the highest level of protection of natural and cultural resources while concurrently providing for a wide range of neutral and beneficial uses of the environment. While both of the action alternatives would provide a high level of protection of natural, cultural, and wilderness resources, the selected action provides a wider range of visitor, educational, and research opportunities than Alternative 3, while at the same time proactively ensuring the protection of natural, cultural, and wilderness resources within the park. Although the park would continue to protect natural and cultural resources under Alternative 1, the NPS would be limited in its ability to address current issues related to resource damage in the park – such

as visitor congestion near Thurston Lava Tube – and would not have proactive tools on hand to ensure the future protection of resources – particularly within Kahuku as the area becomes more accessible to the public.

BASIS FOR DECISION

In reaching its decision to select the preferred alternative for implementation, the NPS considered the purposes for which Hawai'i Volcanoes National Park was established and other laws and policies that apply to lands in Hawai'i Volcanoes National Park, including the Organic Act, the Wilderness Act, National Environmental Policy Act and NPS Management Policies (2006). The NPS also carefully considered public comments received during the planning process. This alternative best complies with NPS management policies, and best meets the management objectives to preserve the natural, cultural, and wilderness resources at Hawai'i Volcanoes National Park while also providing increased opportunities for public use and enjoyment of the park.

The National Park Service has determined that the selected action:

- Continues to provide for the long-term protection and preservation of the park's natural, cultural, and wilderness resources.
- Enhances the park's management of visitor use in different areas of the park through the implementation of management zoning.
- Provides strategies for addressing vehicular congestion along Crater Rim Drive, particularly near Thurston Lava Tube.
- Expands educational and recreational opportunities throughout the park by providing new visitor facilities and limited commercial services in key locations, while minimizing impacts on park resources as much as possible.
- Addresses resource concerns within and increases opportunities for the public to access Kahuku, acquired by the park in 2003.
- Provides new opportunities for education and research in the park.
- Provides functional and flexible guidance for providing visitor services within a park that is located on two of the world's most active shield volcanoes.
- Makes park operations more sustainable.
- Provides guidance on managing commercial services within the park.
- Provides additional opportunities to protect natural and cultural resources on adjacent lands through recommended boundary adjustments.
- Protects wilderness character of the park through proposed wilderness designation.

The following key factors support implementation of the selected action:

- The selected action has a high likelihood of achieving the expressed purpose and goals as articulated in the Draft GMP/WS/EIS.
- The selected action is fully compliant with the mission of the NPS, its policies, and other pertinent laws and regulations.
- The selected action specifies all feasible and prudent measures to minimize environmental harm.
- The selected action was crafted through many years of public involvement and agency coordination.
- The environmental analyses demonstrate that the selected action will have beneficial effects on wilderness character and short- and long-term negligible to moderate beneficial and adverse impacts to natural and cultural resources. This alternative could also have major beneficial effects on visitor use and experience in the park given plans for expanded opportunities at Kahuku.

MEASURES TO MINIMIZE ENVIRONMENTAL HARM

Attachment A summarizes the best management practices, monitoring and mitigation measures that will be used to avoid or minimize environmental harm associated with the management actions that will be implemented under this decision. All practical means to avoid and/or minimize environmental harm from the selected action have been adopted.

PUBLIC ENGAGEMENT AND AGENCY COORDINATION

The NPS provided a number of opportunities for the public to participate in the planning process, including scoping, alternatives scoping, public review on the Draft EIS, and a 30 day no-action period following the release of the Final GMP/WS/EIS.

Public Scoping

A Notice of Intent formally initiating preparation of the environmental impact statement (EIS) and general management plan was published in the *Federal Register* on April 13, 2009 (74 FR 16888-89). The NPS also announced the public scoping period and invited public comment through newsletters, correspondence, press releases, public workshops, informal meetings, the NPS Planning, Environment, and Public Comment (PEPC) website, and a *Federal Register* notice. The public scoping process began in spring of 2009 with distribution of an initial newsletter announcing the start of the planning process and soliciting feedback on issues to be addressed in the plan. A comprehensive scoping outreach effort was planned to elicit early public comment regarding issues and concerns, the nature and extent of potential environmental impacts, and possible alternatives that should be addressed in the preparation of the GMP. NPS staff produced and mailed a newsletter to approximately 710 individuals and entities on the mailing list. Overall, more than 8,500 newsletters were mailed or distributed during initial scoping.

Agencies, organizations, governmental representatives, and Native Hawaiian organizations were sent letters of invitation to attend the public workshops or individual meetings. Press releases were distributed to local and regional news media. The project was launched on the NPS Planning, Environment, and Public Comment (PEPC) website: <http://parkplanning.nps.gov/havo>, providing access to information about the Hawai'i Volcanoes National Park GMP and a method for taking public comments. News articles featuring the public open house meetings were written in the West Hawai'i Today, Hawai'i Tribune Herald, and the Ka'u Calendar, as well as public service announcements on local radio stations. The public was invited to submit comments by regular mail, online, at open house meetings, and at individual meetings.

The NPS held seven public open house meetings on the islands of Hawai'i, O'ahu and Maui in April and May 2009 to provide the public with an opportunity to learn about the general management planning project and to offer comments. The park also conducted several stakeholder meetings to obtain input from representatives of city, county, and federal agencies, business and community organizations, Native Hawaiian organizations, and research permit holders. Park staff also gave poster presentation at local meetings of the Ka'u Chamber of Commerce, Volcano Community Association, and Friends of Hawai'i Volcanoes National Park. During the 2009 initial scoping period, the park planning team spoke with approximately 400 people at public and stakeholder meetings and approximately 1,500 people at park and community tabling events.

During the scoping period, the NPS received correspondence from over 130 individuals and organizations that provided a total of over 1,250 specific comments. All comments received were reviewed and considered by the NPS interdisciplinary planning team for the preparation of the GMP/WS/EIS.

A Notice of Intent to Expand Scope of the EIS was published in the *Federal Register* on December 2, 2011 (76 FR 5557-58). The EIS was expanded to include a wilderness study which is an evaluation of foreseeable effects associated with possible designation of wilderness within the park. This Notice of Intent also formally extended the GMP preliminary alternatives comment period to January 2, 2012 in order to gain additional input on wilderness, including the recently evaluated wilderness-eligible lands within the Kahuku Unit.

Alternatives Scoping

The NPS conducted an additional round of public involvement at the draft alternatives phase of the planning process to ensure that the public fully comprehended the range of draft alternatives and was able to comment effectively on these draft alternatives. One of the primary purposes of this planning step was to understand the public's concerns and preferences with regard to the range of draft alternatives and to assist the planning team in refining the draft alternatives and selecting a preferred alternative. The other primary purpose of this step was to provide formal scoping for the wilderness study that was now being included in the EIS. During scoping for the wilderness study the NPS described the wilderness eligibility analysis that had been completed for the Kahuku Unit and provided opportunity for public comments to be considered for the wilderness study.

The official GMP alternatives/wilderness study scoping public process began in August 2011 when the NPS produced and mailed the Draft Alternatives Newsletter to approximately 955 contacts on Hawai'i Volcanoes National Park's mailing list and announced this planning step on the NPS website (www.nps.gov/havo and <http://parkplanning.nps.gov/havo>). The newsletter fully outlined the concepts and actions in the draft alternatives and proposed management zones. The newsletter also included information on the wilderness eligibility that was completed and the wilderness study that would be included in the GMP and analyzed under a single EIS. A planning schedule including dates, times, and locations for the public 'talk story' (open house) meetings and invited public participation and comments on the range of draft alternatives. The newsletter also contained a business reply questionnaire that asked the public to comment on the four draft alternatives. Press releases were prepared and distributed to local media in advance of the public meetings and articles were printed in three local papers: West Hawai'i Today, Hawai'i Tribune Herald, and the Ka'u Calendar.

The NPS held three public open house meetings in August 2011 at the following locations: in the park, and in the towns of Pāhoa and Na'alehu. The park also held two stakeholder meetings in the park. A total of 66 people participated in the public open house and stakeholder meetings and provided oral comments.

During the public comment period, the NPS received a total of 72 written responses in the form of letters, e-mails, comment forms, and comments submitted on the NPS Planning, Environment, and Public Comment (PEPC) website. A total of 709 individual comments were received on the draft alternatives and covered a broad range of topics, issues, and recommendations for Hawai'i Volcanoes National Park. All comments received were again reviewed and considered by the NPS interdisciplinary planning team for the preparation of the Draft GMP/WS/EIS. A summary of public comments on the preliminary alternatives and wilderness study scoping was created and made available to the public in February 2012 on the park's website, in PEPC, and through a postcard mailed to 830 names on the park's mailing list.

Draft Environmental Impact Statement Public Review

The Environmental Protection Agency (EPA) announced the release of the *Hawai'i Volcanoes National Park Draft General Management Plan / Wilderness Study / Environmental Impact Statement* on May 1, 2015 for a 60 day public review extending through July 30, 2015. The NPS announced the public release of the Draft GMP/WS/EIS and invited public comment through a notice of availability in the *Federal*

Register, (published May 6, 2015), as well as press releases, website postings, mailings, social media, and a public talk story session (public meeting) and formal wilderness hearing.

The press release announcing availability of the DEIS was distributed to local and regional news media on April 30, 2015, and the draft plan and information about how to provide public comments were made available on both the park and the NPS and Planning, Environment, and Public Comment websites (www.nps.gov/havo and <http://parkplanning.nps.gov/havogmp>) on May 1, 2015. The project site on the PEPC website (<http://parkplanning.nps.gov/havogmp>) also included a venue to accept public comments. In late April 2015, the NPS distributed approximately 107 paper and digital copies of the complete Draft GMP/WS/EIS to state congressional offices, Native Hawaiians individuals and organizations, governmental agencies, and other interested organizations and individuals. The NPS also produced and mailed the Draft GMP/WS/EIS Executive Summary Newsletter #4 to over 800 contacts on the park's mailing list. The newsletter fully outlined the three alternatives in the plan and encouraged the public to participate in the planning process.

The NPS also held a talk story session and formal wilderness hearing on June 10, 2015 at the Kīlauea Visitor Center to share information, answer questions, and take public comment. Approximately 20 people participated in these meetings and provided oral comments. This talk story session and wilderness hearing was announced via the newsletter, the project website, social media, and a separate press release that was distributed to media on June 5, 2015.

Throughout the public review period, the public had opportunities to provide comments through attending the talk story session and wilderness hearing, submitting comments on the project website in PEPC, writing a letter or e-mail, or providing comments on the postage paid comment form enclosed in the newsletter. Contact information for the public to either request more planning materials and/or comment on the draft plan was printed in the newsletter and available on the web.

During the public review period, the NPS received approximately 32 responses in the form of letters, comment cards, phone calls, and comments submitted on the NPS Planning, Environment, and Public Comment (PEPC) website. Of the comments received, two were from businesses, two were from non-profit conservation organizations, and two were from other federal agencies. No form letters were submitted.

Final Environmental Impact Statement No-Action Period

Initiated by the EPA's notice of filing, as well as the NPS's notice of availability, both published in the *Federal Register* on March 11, 2016, the *Hawai'i Volcanoes National Park General Management Plan / Wilderness Study / Final Environmental Impact Statement* was made available for public inspection during a minimum 30 day no-action period.

Given that comments received on the Draft GMP/WS/EIS required only minor changes involving only factual corrections or explanations of why comments did not warrant further response, the NPS issued an abbreviated, rather than full, final GMP/WS/EIS which includes a summary of the public review process for the Draft GMP/WS/EIS, the NPS responses to public comments, errata detailing editorial changes to the Draft GMP/WS/EIS, and copies of comment letters from agencies, business, and other organizations. The material included in the Final EIS/GMP/WS, combined with the Draft GMP/WS/EIS, constitutes the complete and final documentation upon which this record of decision is based.

On March 10, 2016, the NPS mailed the Final EIS/ GMP/WS (or a CD-ROM version of the document) to approximately 75 members of the county, state, and federal delegation; 25 Native Hawaiian groups; four state and federal agencies; and 13 public libraries on Hawai'i Island. The NPS also distributed a letter to

approximately 825 members of the public (via mail and e-mail) announcing the availability of the document and providing information about how to access the Draft and Final EIS/GMP/WS. Twenty-two additional copies of the document were mailed to Native Hawaiian individuals and organizations on March 14, 2016 due to a printing error in the initial CD-ROM that delayed this distribution.

During this no-action period, 10 pieces of correspondence were received. No substantive new environmental information was provided in these correspondences.

Consultation and Coordination

U.S. Fish and Wildlife Service and National Oceanic and Atmospheric Administration

In compliance with Section 7 of the Endangered Species Act, the NPS initiated informal consultation on the GMP/WS/EIS with the United States Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration (NOAA) on May 1, 2015 at which time the NPS sent both agencies a physical and electronic copy of the Draft GMP/WS/EIS and a request for concurrence with the determinations that the GMP “may affect, but not is not likely to adversely affect” federally listed species. The NPS provided clarifying information on October 29, 2015. Given that the GMP/WS/EIS is a programmatic planning document that lacks site-specific management actions, consultation will occur, as needed for individual projects tiered from the selected action as they are implemented in the future. The USFWS concurred with the NPS’ findings in a letter dated November 2, 2015. No response was received from NOAA.

Hawai‘i State Historic Preservation Division and Native Hawaiian Consultation

The park consulted with Native Hawaiians throughout the planning process through a number of meetings and mailings, including the distribution of the Draft GMP/WS/EIS in May 2015 and the Abbreviated Final GMP/WS/EIS in March 2016 to affected/concerned Native Hawaiian organizations, the park’s Kupuna Consultation Group, the Hawai‘i State Historic Preservation Division, and the Advisory Council on Historic Preservation for review and comment related to compliance with Section 106 of the National Historic Preservation Act.

That said, there is not enough information at this time to identify an undertaking-determined area of potential effect or make a determination of effect consistent with Section 106 of the National Historic Preservation Act of 1966 (as amended, 16 U.S.C. 470-470w-6) for the actions related to historic properties. Undertakings that have the potential to effect resources eligible for or listed on the National Register of Historic Places (such as, ground disturbing construction activities for developing visitor facilities at Kahuku, capital improvements at Kilauea Military Camp, or undertakings related to the implementation of the *Archeological Preservation Plan for Kealakomo Ahupua‘a*) will fulfill all procedural requirements specified in 36 CFR 800 (as amended in August, 2004). As more information is available, NPS staff will continue to consult with the SHPD.

In the interim, no historic properties will be inalterably changed without consultation with the State Historic Preservation Division and the Advisory Council on Historic Preservation, as appropriate. Archeological sites will be protected in an undisturbed condition unless it is determined through formal processes that disturbance or natural deterioration is unavoidable, and when disturbance is unavoidable appropriate treatment will follow with consultation as per the National Historic Preservation Act.

CONCLUSION

Among the alternatives considered, the Selected Action best protects the resources and values of Hawai'i Volcanoes National Park while also improving the range of high quality visitor experiences. It fulfills the purpose and need for the GMP, and the statutory and policy requirements for managing Hawai'i Volcanoes National Park, as well as national environmental policy goals.

Approved:

Patricia L. Neubacher Date: 5/24/16

Patricia L. Neubacher
Acting Regional Director, Pacific West

ATTACHMENT A. MEASURES TO MINIMIZE ENVIRONMENTAL HARM

Mitigation measures are the practicable and appropriate methods that will be used under any alternative to avoid and/or minimize harm to natural and cultural resources, wilderness, visitors and the visitor experience, and socioeconomic resources when no other management alternative exists (such as avoidance). These mitigation measures have been developed using existing laws and regulations, best management practices, conservation measures, and other known techniques from past and present work in and around Hawai'i Volcanoes National Park.

Cultural Resources

General

- Avoid adverse impacts on historic properties listed in, determined eligible for listing in, or not yet assessed for eligibility to the National Register of Historic Places, if possible. If adverse impacts could not be avoided, develop an assessment of effect and a treatment plan, if necessary, through a consultation process with all interested parties. In accordance with *NPS Management Policies 2006*, assess proposed adverse effects to determine whether the proposed actions constitute impairment of significant fundamental cultural resources.
- Continue to develop inventories for and oversee research about archeological, historic, and ethnographic resources to better understand and manage the resources, including historic cultural and ethnographic landscapes.
- Conduct any needed archeological or other resource-specific surveys, national register evaluations, and identify recommended treatments.
- Incorporate the results of these efforts into site-specific planning and compliance documents.
- Continue to manage cultural resources and collections following federal regulations and NPS guidelines.
- Inventory the park's collection and keep in a manner that will meet NPS curatorial standards.
- Protect and maintain cultural resources in wilderness according to the pertinent laws and policies governing cultural resources, using management methods that are consistent with the preservation of wilderness character and values such as the Organic Act, the National Historic Preservation Act, the Archeological Resources Protection Act, the American Indian Religious Freedom Act, the Native American Graves Protection and Repatriation Act, and Executive Order 13007 that addresses government-to-government consultation.

Archeological Resources

- Complete archeological surveys prior to ground disturbance for new construction or removal of eligible historic properties. Avoid known archeological resources to the greatest extent possible. If National Register listed, eligible, or unassessed archeological resources could not be avoided, develop an appropriate treatment plan in consultation with the Hawai'i State Historic Preservation Officer, National Advisory Council, and associated Native Hawaiian groups.
- Conduct archeological site monitoring and routine protection.
- Conduct data recovery excavations at archeological sites threatened with destruction, where protection or site avoidance during design and construction is infeasible.
- If previously unknown archeological resources are discovered during project work, immediately inform NPS cultural resources staff, halt all work in the immediate vicinity of the discovery, and

secure the location until the resources are identified, evaluated, and documented and an appropriate treatment plan is developed, if necessary, in consultation with the Hawai‘i State Historic Preservation Officer and associated Native Hawaiian groups.

- Encourage visitors through the park’s interpretive programs to respect and leave undisturbed any inadvertently encountered archeological resources and respect and leave undisturbed any offerings placed by Native Hawaiians.

Historic Buildings and Structures

- Conduct all project work relating to historic structures/buildings in accordance with Director’s Order 28 and the guidelines and recommendations of the *Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings*.
- Rehabilitate and adaptively reuse structures wherever feasible.
- Design any new development to be compatible with surrounding historic properties
- Screen new development from surrounding historic resources to minimize impacts on viewsheds, cultural landscapes, and ethnographic resources.
- Maintain and stabilize historic structures until appropriate preservation maintenance can be undertaken. Benign neglect will not be considered an appropriate management strategy.
- Do not remove or allow a National Register listed or eligible structure to decay naturally without prior review by park and region cultural resource specialists, including approval by the NPS regional director and consultation with the Hawai‘i State Historic Preservation Officer. Before a National Register listed or eligible structure is removed, prepare appropriate documentation recording the structure in accordance with Section 110(b) of the National Historic Preservation Act, and submit the documentation to the Historic American Buildings Survey (HABS)/Historic American Engineering Record (HAER) or Historic American Landscape Survey (HALS) program, if deemed appropriate.
- Protect and maintain historic structures that are within designated wilderness areas according to the pertinent laws and policies governing cultural resources using management methods that are consistent with the preservation of wilderness character and values. Laws pertaining to historic preservation remain applicable within wilderness but must generally be administered to preserve the area’s wilderness character. Consultation of treatment will include appropriate consideration of the application of the provisions of the Wilderness Act in analyses and decision-making concerning cultural resources.

Cultural Landscapes

- Conduct all project work relating to cultural landscapes in accordance with Director’s Order 28 and the guidelines and recommendations of the *Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*.
- Design new development to be compatible with surrounding historic properties.
- Screen new development from surrounding cultural landscapes to minimize impacts on those landscapes and viewsheds.

Ethnographic Resources

- Continue to consult with Native Hawaiian groups to identify ethnographic resources and develop appropriate strategies to mitigate impacts on these resources.
- Continue to provide access to traditional use or spiritual areas.

- Screen new development from traditional use areas to minimize impacts on ethnographic resources.
- Consult with Native Hawaiians linked by ties of kinship, culture, or history to park lands to address any inadvertent discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony.
- Follow all provisions outlined in the Native American Graves Protection and Repatriation Act of 1990.

Museum Collections

- Conserve all collections through proper storage, handling, and exhibit of objects as specified in the NPS *Museum Handbook* and NPS Director's Order 24, "NPS Museum Collections Management". This will include artifacts used in exhibits in the visitor centers.

Natural Resources

Air Quality

- Implement a dust abatement program including the following potential actions: water or otherwise stabilize soils, cover haul trucks, employ speed limits on unpaved roads, minimize vegetation clearing, and revegetate with native species.
- Minimize NPS vehicle emissions by using the best available technology whenever possible.
- Encourage the public and commercial tour companies to employ methods that reduce emissions.
- Employ sustainable designs that reduce energy demands, thus reducing pollutant production.

Soundscapes and the Acoustic Environment

- Implement standard noise abatement measures during NPS operations, including: scheduling to minimize impacts in noise-sensitive areas, using the best available noise control techniques wherever feasible, using hand tools or hydraulically or electrically powered impact tools when feasible, and locating stationary noise sources as far from sensitive areas as possible.
- Site and design facilities to minimize objectionable noise.
- Minimize idling of motors when power tools, equipment, and vehicles are not in use.
- Muffle above ambient noise whenever possible to reduce noise impacts.

Lightscaapes and Night Skies

- Light only where and when it is needed.
- Shield lights and direct them downward.
- Use minimum amount of light necessary.
- Consider alternatives to the use of artificial lighting such as reflective surface walkways, reflective signage, or guidance to use hand held lighting devices.
- Replace existing outdoor lighting with fixtures that do not contribute to nighttime light pollution.
- Install energy-efficient lights equipped with timers and/or motion detectors so that light will only be provided when it is needed to move safely between locations.
- Use low-impact lighting, such as diffused light bulbs, and techniques such as downlighting in outdoor fixtures, to prevent light spill and preserve the natural lightscape and avoid light pollution. Select lamps with warmer colors (less blue light).
- Limit use of personal lighting (flashlights) when required for safe movement and work and/or modified (such as using red or blue lightbulbs as opposed to white) to protect wildlife.

Soils

- Build new facilities on soils suitable for development. Minimize soil erosion by limiting the time that soil is left exposed and by applying erosion control measures, such as erosion matting, silt fencing, and sedimentation basins in construction areas to reduce erosion, surface scouring, and discharge to water bodies. Once work was completed, revegetate construction areas with native plants in a timely period.
- Place construction equipment in previously disturbed areas.
- Locate trails on soils with low erosion hazards and small changes in slope and develop proper signs to minimize social trails to the extent possible.
- Ensure proper drainage of parking areas.

Water Resources

- To prevent water pollution during construction, use erosion control measures, minimize discharge to water bodies and washes, and regularly inspect construction equipment for leaks of petroleum and other chemicals.
- Build a runoff containment filtration system to minimize water pollution from larger parking areas.
- Include ways to minimize damage from runoff in parking area designs. Parking areas could include detention basins, runoff filtration, and/or could be sited away from drainage.

Vegetation

- Monitor areas used by visitors (e.g., trails and campsites) for signs of native vegetation disturbance. Use public education, revegetation of disturbed areas with native plants, erosion control measures, and barriers to control potential impacts on plants from erosion or social trails.
- Avoid impacts by relocating project sites when possible.
- Develop revegetation plans for disturbed areas and require the use of genetically appropriate native species. Revegetation plans should specify species to be used, seed/plant source, seed/plant mixes, site-specific restoration conditions, soil preparation, erosion control, and ongoing maintenance and monitoring requirements, etc. Salvaged vegetation should be used to the extent possible.
- Survey for rare plants prior to any ground-disturbing activities; disturbance to rare or unique vegetation will be avoided to the greatest extent possible. Consult with the USFWS for projects where listed species and their habitats occur.
- Implement an invasive, nonnative plant management program. Standard measures could include the following elements: use only weed-free materials for road and trail construction, repair, and maintenance; ensure equipment arrives on-site free of mud or seed-bearing material; certify all seeds and straw material as weed-free; identify areas of invasive plants pre-project; monitor and treat invasive plants or invasive plant topsoil before construction (e.g., topsoil segregation, storage, herbicide treatment); when depositing ditch spoils along the roads, limit the movement of material to as close as possible to the excavation-site; scrupulously and regularly monitor and clean areas that serve as introduction points for invasive plants (campgrounds, staging areas, maintenance areas, and corrals); revegetate with genetically appropriate native species; inspect rock and gravel sources to ensure these areas are free of invasive plant species; and monitor locations of ground-disturbing operations followed by appropriate invasive plant control actions for at least three years following the completion of projects.

Wildlife

- Employ techniques to reduce or avoid impacts to fish and wildlife, including visitor education programs, restrictions on visitor and NPS activities, and law enforcement patrols.
- Implement a wildlife protection program. Standard measures will include project scheduling (season and/or time of day), project monitoring, biological monitoring, erosion and sediment control, fencing or other means to protect sensitive resources adjacent to project areas, disposing of all food-related items or rubbish, salvaging topsoil, and revegetating. This could include specific construction monitoring by resource specialists as well as treatment and reporting procedures. Consider relocation of facilities to avoid impacts, temporary closures, and group size limits to mitigate impacts. Also include management of artificial light and sound to avoid adverse impacts to wildlife.

Special Status Species

- Mitigative actions will occur during normal park operations as well as before, during, and after construction to minimize immediate and long-term impacts on rare, threatened, and endangered species and their habitat. These actions will vary by specific project and area of the national park affected, and additional mitigations will be added depending on the specific action and location.
- Conduct surveys for rare, threatened, and endangered species as warranted.
- Locate and design facilities/actions to avoid adverse effects on rare, threatened, and endangered species and their habitat. If avoidance is infeasible, minimize and compensate for adverse effects on rare, threatened, and endangered species as appropriate and in consultation with the appropriate resource agencies. Conduct work outside of critical periods for the specific species.
- Develop and implement restoration and/or monitoring plans as warranted. Plans should include methods for implementation, performance standards, monitoring criteria, and adaptive management techniques.
- Implement measures to reduce adverse effects of nonnative plants and wildlife on rare, threatened, and endangered species and their habitat.
- Carry out surveys and monitoring for special status species.
- Protect and preserve critical habitat features, such as nest trees and key host plants, whenever possible.

Management and Protection of Wilderness Values

- Develop specific desired conditions in the park's future wilderness stewardship plan for wilderness resources, visitor experiences, and management protocols.
- Develop standards and guidelines establishing acceptable limits of change and mitigation measures for wilderness within a future wilderness stewardship plan.
- Conduct monitoring to ensure that conditions are meeting established standards and to determine if mitigation measures have been successful.
- Apply the minimum requirement process to all proposed management actions that might affect wilderness and potential wilderness in order to develop, evaluate, and select the actions that will be the least intrusive on wilderness character and values, while allowing necessary administration of the wilderness.

Scenic Resources

- Where appropriate, use facilities such as boardwalks and fences to route people away from sensitive natural and cultural resources while still permitting access to important viewpoints.

- Design, site, and construct facilities to minimize adverse effects on natural and cultural resources and visual intrusion.
- Provide vegetative screening, where appropriate.
- Implement vegetation management which could include selective clearing to manage or improve important viewpoints and viewsheds while minimizing impacts to native vegetation and wildlife habitat.

Socioeconomic Environment

- During future planning and implementation of the general management plan, the NPS will pursue partnerships with Native Hawaiian organizations, local communities, and county governments to further identify potential impacts and mitigating measures that will best serve the interests and concerns of both the NPS and the local communities.

Sustainable Design and Aesthetics

- Use sustainable practices in the selection of building materials and sources and building location and siting. Sustainable practices and resources will be used whenever practicable by recycling and reusing materials, by minimizing materials, by minimizing energy consumption during the project, and by minimizing energy consumption throughout the lifespan of the project.
- Develop design standards specific to the park in all repair, rehabilitation, and construction projects.

Visitor Safety and Experiences

- Consider accessibility in each project to understand barriers to programs and facilities. Provide the maximum level of accessibility.
- Implement adaptive visitor use management, as outlined in the user capacity section of this plan, when resource and visitor experience conditions are trending towards or violating a user capacity standard. Management strategies may include visitor education, site management, visitor use regulations, rationing or reallocation of visitor use, and enforcement.
- Consider visitor safety in all planning and projects.
- Consider using the principles of Operational Leadership in planning safe visitor access to park features.

Hazardous Materials

- Implement a spill prevention and pollution control program for hazardous materials. Standard measures could include hazardous materials storage and handling procedures; spill containment, cleanup, and reporting procedures; and limitation of refueling and other hazardous activities to upland/non-sensitive sites.

DETERMINATION OF NON-IMPAIRMENT

General Management Plan

Hawai'i Volcanoes National Park

The Prohibition on Impairment of Park Resources and Values

NPS Management Policies 2006, § 1.4.4 explains the prohibition on impairment of park resources and values: "While Congress has given the Service the management discretion to allow impacts within parks, that discretion is limited by the statutory requirement (generally enforceable by the federal courts) that the Park Service must leave park resources and values unimpaired unless a particular law directly and specifically provides otherwise. This, the cornerstone of the 1916 Organic Act, establishes the primary responsibility of the National Park Service. It ensures that park resources and values will continue to exist in a condition that will allow the American people to have present and future opportunities for enjoyment of them."

What is Impairment?

As defined by NPS Management Policies 2006, impairment "is an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise will be present for the enjoyment of those resources or values" (§1.4.5 and §1.4.6). §1.4.5 of Management Policies 2006 furthermore clarifies that, "An impact to any park resource or value may, but does not necessarily, constitute an impairment. An impact would be more likely to constitute impairment to the extent that it affects a resource or value whose conservation is

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park, or
- key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or
- identified as a goal in the park's general management plan or other relevant NPS planning documents as being of significance.

An impact will be less likely to constitute impairment if it is an unavoidable result of an action necessary to preserve or restore the integrity of park resources or values and it cannot be further mitigated."

Per §1.4.6 of Management Policies 2006, park resources and values that are subject to the non-impairment standard include:

- "the park's scenery, natural and historic objects, and wildlife, and the processes and condition that sustain them, including, to the extent present in the park: the ecological, biological, and physical processes that created the park and continue to act upon it; scenic features; natural visibility, both in daytime and at night; natural landscapes; natural soundscapes and smells; water and air resources; soils; geological resources; paleontological resources; archeological resources; cultural landscapes; ethnographic resources; historic and prehistoric sites, structure, and objects; museum collections; and native plants and animals;
- appropriate opportunities to experience enjoyment of the above resources, to the extent that can be done without impairing them;
- the park's role in contributing to the national dignity, the high public value and integrity, and the superlative environmental quality of the national park system, and the benefit and inspiration provided to the American people by the national park system; and

- any additional attributes encompassed by the specific values and purposes for which the park was established.”

Impairment could result from NPS activities in managing the park, visitor activities, or activities undertaken by concessionaires, contractors, and others operating in the park. Impairment could also result from sources or activities outside the park, but this will not be a violation of the 1916 Organic Act unless the NPS was in some way responsible for the action.

How is an Impairment Determination Made?

§ 1.4.7 of NPS Management Policies 2006 states, "In making a determination of whether there will be an impairment, an NPS decision maker must use his or her professional judgment. This means that the decision-maker must consider any environmental assessments or environmental impact statements required by the National Environmental Policy Act of 1969 (NEPA); consultations required under section 106 of the National Historic Preservation Act (NHPA); relevant scientific and scholarly studies; advice or insights offered by subject matter experts and others who have relevant knowledge or experience; and the results of civic engagement and public involvement activities relating to the decision."

Management Policies 2006 further define "professional judgment" as "a decision or opinion that is shaped by study and analysis and full consideration of all the relevant facts, and that takes into account:

- the decision-maker's education, training, and experience;
- advice or insights offered by subject matter experts and others who have relevant knowledge and experience;
- good science and scholarship; and, whenever appropriate,
- the results of civic engagement and public involvement activities relating to the decision” (Glossary).

Impairment Determination for the Selected Action

This determination of non-impairment has been prepared for the selected action as summarized in the Record of Decision and described further in Alternative 2 of Draft GMP/WS/EIS as amended by the errata in the Abbreviated Final GMP/WS/EIS. This determination is provided for the following analyzed impact topics: geologic resources, vegetation, native wildlife and wildlife habitat, special status species, wilderness, soundscapes and the acoustic environment, archeological resources, historic structures and cultural landscapes, and ethnographic resources. No impairment determination is provided for the following impact topics: visitor use and experience, transportation and access, socioeconomics, park operations, and greenhouse gas emissions, climate change, and sustainability as these impact topics are not generally considered to be park resources or values protected by the 1916 Organic Act.

Geologic Resources

The selected action will not result in impairment to geological resources within Hawai‘i Volcanoes National Park because although there will be long-term minor to moderate adverse impacts to geologic resources and soils from the development of new facilities and trails in some areas, these impacts will be localized and off-set by restoration activities and improved management of visitor vehicular and foot traffic that will result in long-term minor to moderate beneficial impacts to these resources. Adverse impacts will be further mitigated by implementing best management practices that limit the developed footprint of new facilities, encourage the use of historic routes for new trails, and minimize soil erosion during construction and maintenance.

Vegetation

The selected action will not result in impairment to vegetation resources within Hawai'i Volcanoes National Park because although there will be negligible to moderate adverse impacts to vegetation from the development of new facilities and maintenance-related activities associated with roads, trails, campgrounds, and visitor use, these impacts will be localized and mostly near or in previously disturbed areas. These adverse impacts will be further mitigated by implementing best management practices associated with site-specific developments and ongoing restoration activities within the park.

Native Wildlife and Wildlife Habitat

The selected action will not result in impairment to wildlife and wildlife habitat in Hawai'i Volcanoes National Park because although there will be negligible to moderate adverse impacts to wildlife habitat from some improvements and expansions to facilities within the park, these impacts will be limited in scope and mitigated by appropriate site-specific planning. Furthermore, wildlife populations and habitats within the park will experience long term minor to major benefits from improved management of visitor traffic, ongoing restoration activities, improved soundscape management, and specific actions related to population recovery.

Special Status Species

Although special status species could be impacted by inadvertent, short-term disturbances from activities implemented through the GMP such as trail and facility improvements, the selected action will not result in impairment to rare, threatened, and endangered species in *Hawai'i Volcanoes National Park* due to ongoing monitoring, mitigations, and the implementation of best management practices. In fact, if during future planning, impacts to special status species cannot be avoided, the National Park Service will consult with the US Fish and Wildlife Service to ensure that potential impacts are identified, avoided where feasible, and mitigation measures developed to protect these species. In addition, the 60 federally-listed species in the park will continue to be protected through seasonal closures where appropriate, continued restoration of habitat, management of detrimental nonnative species, and by virtue of the area's protected status as a unit of the National Park Service.

Wilderness

While ongoing management actions such as the removal of invasive plants and animals, restoration of native species, fire suppression, and use of motorized equipment for administrative purposes may result in short-term adverse impacts to wilderness character, the selected action will provide long-term benefits to the wilderness resources at Hawai'i Volcanoes National Park through the restoration actions to maintain or improve important attributes of wilderness character. Furthermore, the recommendation to designate an additional 121,015 acres within the park as wilderness attests to the long-term commitment to manage and protect these lands for their wilderness values. Whereas adverse impacts will be transitory and are ranging from minor to moderate, the selected action will have long-term beneficial effects on wilderness resources.

Soundscapes and the Acoustic Environment

The selected action will not result in impairment to soundscapes and the acoustic environment in Hawai'i Volcanoes National Park as the NPS will expand active management of human-caused sounds within the park and will implement a soundscape monitoring program to monitor and protect these resources. While human-caused sounds may increase, particularly in the frontcountry areas, under the selected action from expanded visitor services, increased visitation levels, and ongoing management actions, the park will actively implement best management practices and educational tools to reduce and mitigate these impacts, resulting in long-term minor to moderate beneficial impacts on the park's soundscapes and acoustic environment. Natural sounds will therefore continue to prevail under the selected action.

Archeological Resources

Although new trails and expanded visitor facilities outlined in the selected action will have negligible to minor adverse impacts on archeological resources, these impacts will be largely mitigated through proper planning, and the selected action will therefore not result in impairment to archeological resources within Hawai'i Volcanoes National Park. Furthermore, there will be long-term moderate beneficial impacts to archeological resources from the enhanced ability to document these resources which will ensure protective actions can be taken when implementing future actions in the park.

Historic Structures/Cultural Landscapes

The selected action will not result in impairment to historic structures and cultural landscapes in Hawai'i Volcanoes National Park because additional site-specific planning will be conducted to ensure any improvements from the selected action do not impact the integrity of the historic roads, trails, and other cultural resources. Mitigations will also be implemented where necessary to protect these resources. While some adverse impacts are anticipated, the selected action will contribute very little to adverse cumulative effects and will instead contribute modestly to the overall beneficial cumulative effects from implementation.

Ethnographic Resources

The selected action will not result in impairment to ethnographic resources in Hawai'i Volcanoes National Park. Although the selected action will likely have negligible to minor long-term adverse impacts on site-specific ethnographic resources in the park due to the development of new trails, impacts to these resources will largely be beneficial as the selected action will enhance knowledge, management, and protection of ethnographic resources, resulting in minor to moderate beneficial long-term impacts to these resources as a whole.