



Hawai'i Volcanoes National Park Business Plan





Introduction

The purpose of business planning in the National Park Service is to improve the ability of parks to more clearly communicate their financial status with principal stakeholders. A business plan answers such questions as: What is the business of this park unit? How much money does this park need to operate within appropriate standards? This plan demonstrates the functional responsibilities, operational standards, and financial picture of the park.

The business planning process is undertaken to accomplish three main tasks. First, it provides the park with a synopsis of its funding history. Second, it presents a clear, detailed picture of the state of current park operations and funding. Finally, it outlines park priorities and funding strategies.

A common methodology is applied by all parks developing business plans. Park activities are organized into five functional areas, which describe all areas of business for which a park is responsible. The functional areas are then further broken down into 39 programs. This allows the park to move beyond the traditional National Park Service method of reporting expenditures in terms of fund sources, and instead report expenditures in terms of activities. As a result, the park can communicate its financial situation more clearly to external audiences. Furthermore, using the same 39-program structure for all parks provides a needed measure of comparability across park units.

This process is aided by the use of an Electronic Performance Support System, a web-based application that allows parks to complete the data collection, analysis, and document production with step-by-step instruction.

Completing the business plan process not only enables a park to produce a powerful communication tool, but also provides park management with financial and operational baseline knowledge for future decision-making.

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Superintendent's Foreword



Superintendent Cindy Orlando

Hawai'i Volcanoes National Park on the Island of Hawai'i was established in 1916 and was the 15th National Park established in a system that now numbers 390 units. Park resources demonstrate the powerful and awe-inspiring volcanic forces that create new land and the unique adaptations of plants, animals and people to that land. Much more, the park perpetuates the island's native culture and protects numerous and significant archaeological sites—tangible reminders of an indigenous people forever linked to this sacred natural site.

Like other national parks, visitation has increased, visitor and resource protection have become more challenging, and visitor use and enjoyment are more reliant on our partners. In 2006 we served an estimated 3.4 million visitors annually, 365 days a year, 24 hours a day. In 2004, the park acquired Kahuku, a 115,788 acre treasure trove of pristine forest, threatened and endangered species and significant archaeological, cultural and historic sites. We've come a long way since 1916.

So how do we connect this place to our public in a way that they understand our management of this resource for their benefit? How do we meet our fiduciary responsibility to the American taxpayer? How do we integrate management tools to improve park efficiency? How can we enhance our accountability, and where can our partners help us?

This Business Plan is the tool by which we can better articulate to our stakeholders, the public, our partners, and the Congress the human and fiscal resources needed to do our job. We have a responsibility to provide for the enjoyment and use of this special place, but we must also ensure the preservation of this resource. This challenges us to find cost-control and revenue enhancement strategies to improve our efficiency. What better time in which to challenge ourselves than now? Our dedicated staff of diverse and talented men and women is committed to carrying us into the future as leaders in Hawai'i's natural and cultural resource protection. How better to recognize and celebrate this magnificent park than for us all to “e nānā kākou i ka haneli makahiki o”, to look forward to our 100th year, at Hawai'i Volcanoes. We invite you to join us as we implement this plan, and we welcome your suggestions as together we prepare to explore the next century at Hawai'i Volcanoes National Park.


Cindy Orlando
Superintendent

Executive Summary

The Hawai'i Volcanoes National Park (Hawai'i Volcanoes) Business Plan identifies gaps between current funding levels and operational needs in the park. To assess its current state and identify further needs, the park undertook a comprehensive review and planning process. This plan describes how operational expenditures and investments were made, identifies where funding gaps exist, and determines key investment and operational priorities for the future. It also provides strategies for reducing costs and increasing non-appropriated funds. The key findings are summarized below:

Current funding is not sufficient to cover the park's current operations. In fiscal year (FY) 2004, Hawai'i Volcanoes' actual expenditures for operations were \$8.6 million, but the park identified an overall need of \$13.6 million. This \$5.0 million shortfall represents a 37% operating shortfall.

The park faced the largest funding shortfalls in the Resource Protection, Visitor Experience & Enjoyment, and Maintenance functional areas. The greatest shortfalls were identified in the areas of Resource Protection and Visitor Experience & Enjoyment at \$1.6 million (35%) and \$1.1 million (34%), respectively. The Maintenance functional area showed the largest percentage shortfall of the five areas at 49%, or approximately \$952,000.

The top operational priorities, in terms of cost, include:

1. Maintaining minimal operations in the Kahuku District;
2. Establishing a permanent planning team;
3. Boosting the park's core interpretive content to support rangers and visitors;
4. Restoring Threatened and Endangered species;
5. Bolstering the park's preventative maintenance program.

In FY04, the park expended \$6.5 million for one-time investments. Of this amount, \$3.9 million represented the final portion of the 115,788 acre Kahuku lands acquisition. The remaining \$2.6 million funded a variety of investments. The largest project, totaling \$468,000, improved accessibility of the Kilauea Visitor Center. Other investments included the redesign of two roads in the park, establishment of an emergency radio system in the Kahuku District, and conservation of historical paintings. Top investment priorities for the future include construction and rehabilitation of Resource Management facilities, rehabilitation of the Kahuku District's road system, construction of a visitor contact emergency services building and renovation of park exhibits at the Jaggar Museum.

Park staff identified several projects that will reduce costs either immediately or in the long run. Several strategies involve an up front investment that will result in long-term savings. Examples include hiring a budget analyst to strengthen the park's financial management capacity thereby improving the park's efficiency, and increasing preventative maintenance to reduce the number of investments required to rebuild deteriorated assets.

Park staff identified several opportunities that could increase non-appropriated funding. Several strategies involve leveraging the park's many partners to help it achieve park goals. Examples of strategies include implementing a program that allows guests lodging in the area to donate \$1.00 per night to the park, and installing an automated fee collection machine to capture revenues from park visitors entering after hours.



Restoring endangered species such as the Hawaiian goose, or Nēnē, is one of the park's top operational priorities.

Park Overview

Park at a Glance



A view of Kilauea Caldera through the 'Ōhi'a Trees.

Hawai'i Volcanoes National Park showcases the results of at least 70 million years of volcanism, migration, and evolution- processes that shaped complex and unique ecosystems and formed a distinct human culture. Established by an Act of Congress in 1916, Hawai'i Volcanoes extends over 323,431 acres of land. The rich cultural and natural diversity of the park led to the park's designation as an International Biosphere Reserve in 1980 and a UNESCO World Heritage Site in 1987. Created to preserve the natural setting of Kilauea and Mauna Loa volcanoes and to perpetuate Native Hawaiian culture, the park is not only a refuge for the island's native plants and animals, but it is also the sacred home of the Hawaiian deity Pele.

In 2004, Hawai'i Volcanoes acquired the Kahuku District, a 115,788 acre land parcel that increased the size of the park by 56% and represents the largest land acquisition in Hawai'i's history. The Kahuku District holds significant natural, cultural, and geological resources, and is within one of Mauna Loa's most active rift zones. The addition of the Kahuku District enhances conservation management and scientific research on volcanic activity.

Geological Resources

Hawai'i Volcanoes parkland ranges from sea level to an elevation of 13,677 feet (4169 meters) and encompass the summits and rift zones of two of the world's most active volcanoes. Kilauea has been in nearly continuous eruption since 1983 and Mauna Loa last erupted in 1984. The park contains an array of volcanic features, most notably calderas, pit craters, cinder cones, fumaroles, fissures, lava flows, lava tubes, black sand beaches, and thermal areas. Due to these unique resources, as well as the collaborative history of research with the United States Geological Survey (USGS), Mauna Loa and Kilauea are two of the most accessible and understood volcanoes in the world.



Petroglyphs like the ones found on the Pu'u Loa Petroglyphs trail are a reminder of the park's living culture.

Natural Resources

Approximately 78% (169,930 acres) of the older section of the park is designated wilderness. Encompassed within the park are seven ecological zones: seacoast, low-land, mid-elevation woodland, rainforest, upland forest, sub-alpine and alpine regions. A critical component of the park's mission is to protect, study, and restore native Hawaiian ecosystems that have been damaged over generations. In addition, special ecological areas are intensively managed to ensure biodiversity. The park is home to many endemic species, such as happyface spiders, carnivorous caterpillars, the Hawaiian owl, and honeycreepers. The park is also a refuge for many endangered species, including the Hawksbill turtle, Hawaiian goose (Nēnē), dark-rumped petrel, Hawaiian hawk, hoary bat, and Mauna Loa silversword, as well as 27 Threatened and Endangered plant species.

Cultural Resources

The park is a cultural landscape and sacred natural site. It preserves the remnants of native ecosystems, archaeological sites, historic-era resources, and all resources that are necessary for the perpetuation of the traditional values of Native Hawaiian culture. Continual consultation with the Native Hawaiian community, both formal and informal, is needed to ensure that traditional Hawaiian customs and values are respected while the park carries out National Park Service (NPS) cultural resource management, interpretation, and protection responsibilities, while providing for visitor use and enjoyment.

Unique Challenges

The park's dynamic landscape poses unique challenges for park staff and visitors. The park's geography makes it prone to natural events such as volcanic eruptions, hurricanes, tsunamis, earthquakes, and/or fires. Volcanic fumes can affect visitors and employees with respiratory illnesses, and the ever-changing lava flows require constant evaluation and risk-management. Lava flows draw an average of 1,200 visitors to the Eruption Site daily, requiring that the park provide education to prepare hikers to view lava safely. This also increases other safety costs, such as an emergency-hire eruption team to provide visitor services at the Eruption Site.

Partnerships

Hawai'i Volcanoes partners with several organizations to foster stewardship and appreciation of park resources. Key partnerships include: the 'Ōla'a Kīlauea Partnership, Hawai'i Natural History Association, Volcano Art Center, Kīlauea Military Camp, and the Friends of Hawai'i

Volcanoes National Park. The park also operates under a contractual agreement with Ken Direction Corporation DBA Volcano House. These partners enhance park services and advocate for the park's mission. In addition, the park operates under inter-agency agreements with USGS, the USGS Hawaiian Volcano Observatory, and the USGS Biological Resources Division to facilitate research within park boundaries

Regional Cooperation

Hawai'i Volcanoes works closely with other NPS units in the Pacific Island Network to achieve NPS goals. Hawai'i Volcanoes provides professional and technical expertise to other park units in the Network and other partner agencies. In recent years, the park has provided maintenance teams and equipment, administrative support, compliance assistance, concession management, and assistance in interpretation and cultural and natural resources. In addition, several Pacific West regional employees are based out of Hawai'i Volcanoes.

Enabling Legislation

Hawai'i National Park was established on August 1, 1916. The park designation included lands on both the island of Hawai'i and the island of Maui. In 1961, legislation was passed to separate Hawai'i National Park into two distinct parks, Hawai'i Volcanoes NP and Haleakalā NP.

Hawai'i Volcanoes was established in order for the land to be "perpetually dedicated and set apart as a public park or pleasuring ground for the benefit and enjoyment of the people of the United States. . . "

- (16 USC. Sec. 396) (Public Law 95-635, 16 U.S.C. Sec. 1132)

Mission Statement

The mission of Hawai'i Volcanoes National Park is to protect, conserve, and study the volcanic landscapes and associated natural and cultural resources and processes, and to facilitate safe public access to active volcanism, diverse geographic settings, and wilderness for public education and enjoyment.

Park Inventory

General Resources

- 323,431 Acres
- 155 Miles of Hiking Trails
- 66 Miles of Roads
- 2 Visitor Centers
- 1 Education Center
- 1 Contact Station Near Active Lava
- 198 Buildings
- 2 Campgrounds
- 2 Picnic Areas

Human Resources

- 73 Permanent Employees
- 58 Term and Seasonal Employees
- 33.1 Cooperating FTE (CESU)

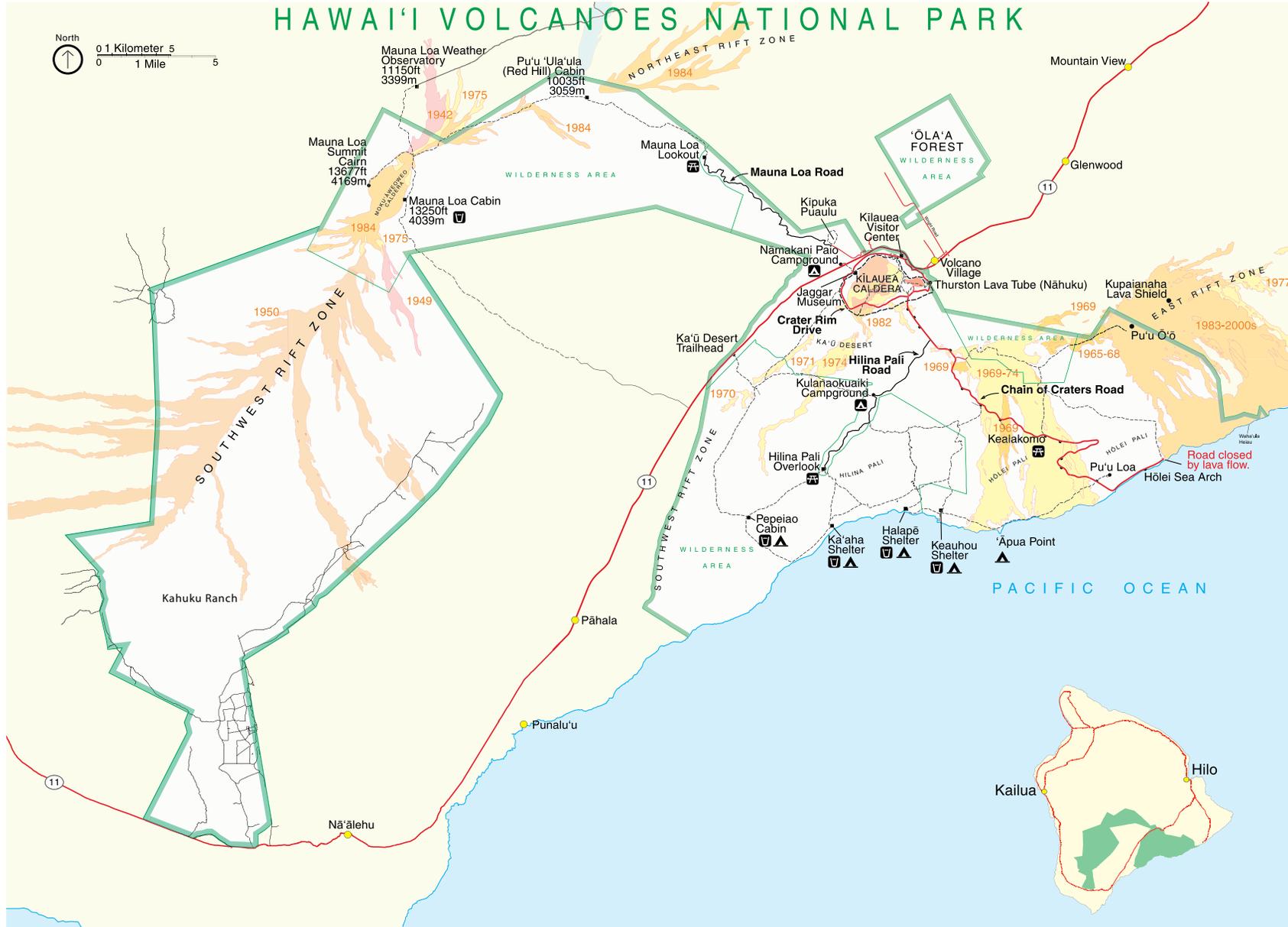
Natural Resources

- 2 Active Volcanoes
- 25 Special Ecological Areas
- 27 Threatened and Endangered Plants, 62 Rare Plants, 28 Plant Species of Concern, 321 Endemic Plants
- 2 Endangered Animals
- 9 Endangered Birds, 14 Endemic Birds
- 42 Invertebrate Species of Concern

Cultural Resources

- 205 Historic Structures
- 8 National Register Properties
- 286 Archeological Sites
- 391,880 Museum Objects
- Over 200 Caves
- Historic Crater Rim Drive
- Living Hawaiian culture

Park Map



Historical Context

Fund Source Analysis

Hawai'i Volcanoes National Park draws its funding from four sources: appropriated base funds, appropriated non-base funds, reimbursable funds, and revenue funds. Appropriated base funds support permanent staff and recurring expenses. These are operational funds that the park receives yearly from Congress. Appropriated non-base funds support one-time projects and are awarded competitively on a yearly basis. Reimbursable funds stem from other agencies' payments for the park's services. Revenue funds come from park fees and donations.

Appropriated Base

Over the past decade, Hawai'i Volcanoes' base fund expenditures increased, leveled off and then declined. Between FY96 and FY01, base expenditures increased 54%, remained constant from FY01 to FY03, and then fell 8% between FY03 and FY04. In absolute terms appropriated base funds increased 53% from FY96 to FY04. In relative terms, however, base funding declined as a percentage of overall park expenditures.

Appropriated Non-Base

The park's main sources of appropriated non-base funds are Congress, the Federal Highway Administration and Public Lands Highway Discretionary Funds. These funds support a variety of projects including: cyclic maintenance, rehabilitation, historic preservation, cultural and natural resource inventorying, and roadway redesign. Between FY02 and FY04, the park received funds totaling \$21.9 million to pay for the Kahuku Lands acquisition.

Reimbursable

Sources of reimbursable funds at Hawai'i Volcanoes are U.S. Geological Survey (USGS) Hawaiian Volcano Observatory, USGS Biological Research Division and the Volcano Art Center. Payments reimburse the park for such services as rent, groundskeeping, building

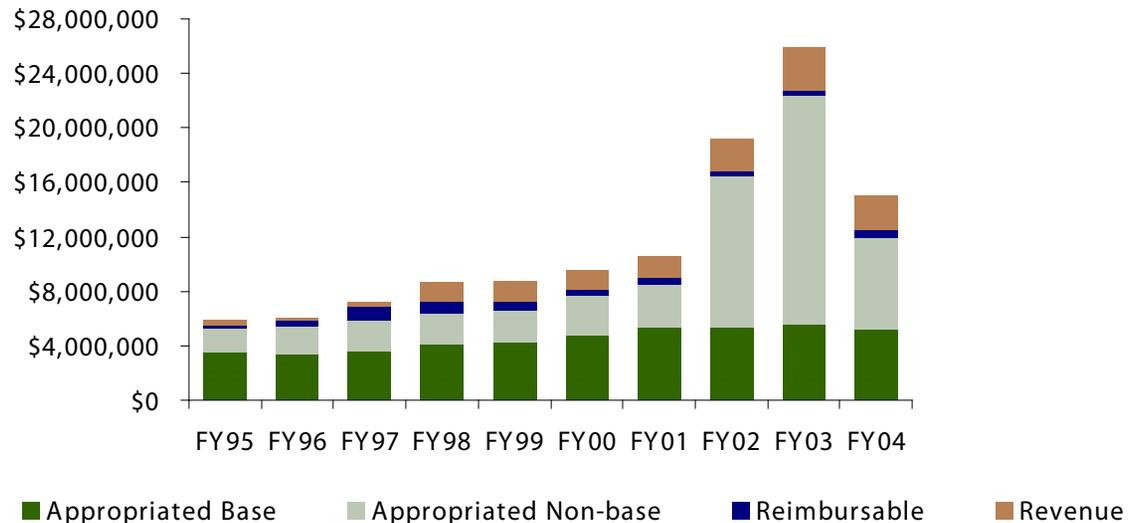
maintenance and auto repair. Reimbursable funds are a relatively small percentage of park expenditures, totaling 4.1% of FY04 expenditures.

Revenue

Revenue funds have averaged 14.8% of annual expenditures since FY98. Park revenues are typically from recreational and commercial entrance fees, sales of park passes, fees from film and incidental business permits, and donations. In FY04, revenue funds supported one-time projects such as accessibility upgrades, interpretation exhibits, and restoring historic paintings. In addition to one-time projects, revenue funds supported the park's Eruption Crew and the cost of Fee Collections operations.

The park has increased its dependence on funding sources outside of appropriated base dollars to support park operations.

Historical Expenditures by Fund Source



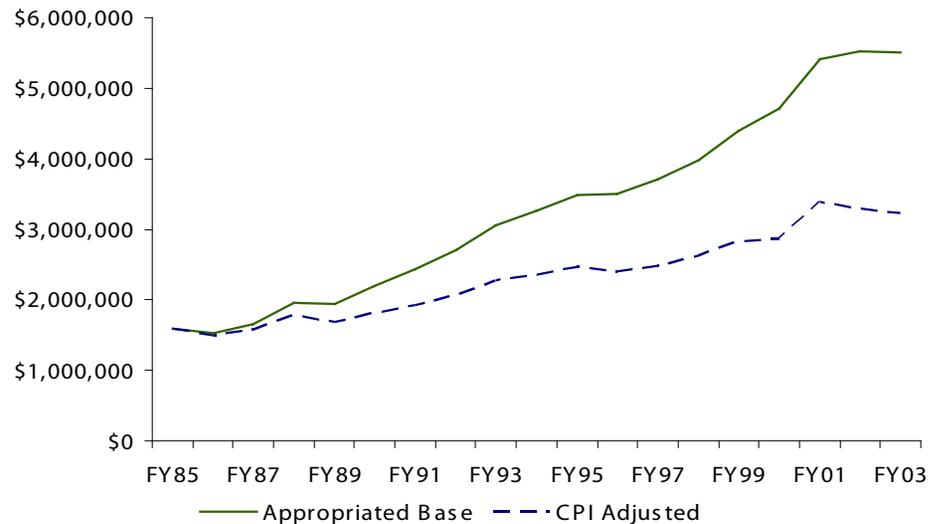
Adjusted Base Budget

Appropriated base funds are intended to cover Hawai'i Volcanoes permanent personnel costs and operational expenses.

The park's base appropriation grew from \$1.6M in FY85 to \$5.4 M in FY04. This equates to a compound annual growth rate of 6%. After adjusting for inflation, however, the growth rate falls to 3%. During the 1990s, Hawai'i Volcanoes' inflation-adjusted (real) base budget steadily increased until FY01. Since FY01, real appropriated base budget increases have not kept pace with inflation and actually decreased at a 3% CAGR.

The park's base budget has not kept pace with inflation or the addition of the Kahuku District.

Appropriated Base Budget History



Base funding variations over the past several years include the following:

- FY01: 11.9% real increase funded visitor services at the Eruption Site, EMS services, and a Pacific Island coral reef program.
- FY03: Inflation-adjusted appropriated base budget decreased by 2.3%. In unadjusted (nominal) dollars, the FY03 base budget was less than in FY02, the first nominal decline since FY91.
- FY04: Although the budget in nominal dollars decreased by 1.1%, the inflation-adjusted budget decrease was even greater, at 3.6%.

As a result, the park has increasingly utilized alternative funding sources and strategies to meet operational requirements.

Per-acre Analysis

Compounding real and nominal budget decreases, the park's base budget has not kept pace with the FY04 addition of the Kahuku District, which increased the park's land base by 56 percent. Without additional base funding for this newly acquired land, the park has had to stretch its base budget over a larger, more dispersed geographic area which has increased the park's operational needs.

Analysis of Real Growth

The National Park Service (NPS) measures staff time in terms of Full-time Equivalents (FTE), or 2,080 hours of work annually. In FY96, the average employee cost, including salary and benefits, was \$45,807 (2004 dollars). By FY04, the average salary and benefit cost had risen by \$17,311, a 38% increase. Federally-mandated annual pay increases of 2.5% to 3% partially contributed to this growth. Other factors related to increasing labor costs are described in the Fixed Cost Analysis on the following page.

From FY95 to FY04, the number of FTE in the park increased by 2.28 FTE, from 70.96 to 73.24 FTE. When these two factors are combined, Hawai'i Volcanoes' real labor costs have increased by \$1.4 million, or 42%, over the eight-year period.

The addition of new permanent staff has not notably affected labor costs. Since FY95, there has been a net increase of 2.28 FTE paid from appropriated base funds.

Since FY95, Hawai'i Volcanoes has increasingly relied on employees paid from non-base accounts to fulfill operational needs. Base employee staffing levels have not kept pace with the demands of increasing visitation, resource management needs, and cyclic maintenance. In order to meet these essential personnel needs, the park uses cooperators, term employees, emergency hires, and partnerships where possible.

Personnel costs are consuming an ever-larger share of Hawai'i Volcanoes' operating budget. From FY95 to FY04, personnel costs accounted for less than 81% of base expenditures, while in FY04 they represented 89%. The \$262,645 real decrease in non-labor base funding from FY95 to FY04 has driven the park to pay for an increasing proportion of operational non-labor expenses out of revenue or other non-base fund sources.



Hāpu'u Fiddleheads are one of the many species endemic to Hawai'i found at Hawai'i Volcanoes.

Operational Costs: Appropriated Base Funding

	FTE	FY 1995 Actual Costs		FY 1995 Inflation Adjusted		FY 2004 Actual Costs		Net Cost Increase	
		Average	Total	Average	Total	Average	Total	Average	Total
FY1995 Staff	69.13								
Salary		\$29,628	\$2,048,186	\$36,743	\$2,540,073	\$45,248	\$3,127,969	\$8,504	\$587,896
Benefits		\$8,507	\$588,079	\$10,550	\$729,311	\$17,871	\$1,235,404	\$7,321	\$506,093
Subtotal		\$38,135	\$2,636,265	\$47,293	\$3,269,384	\$63,118	\$4,363,373	\$15,825	\$1,093,989
New Staff	4.11								
Salary						\$45,248	\$185,968	\$45,248	\$185,968
Benefits						\$17,871	\$73,449	\$17,871	\$73,449
Subtotal						\$63,118	\$259,417	\$63,118	\$259,417
Total Labor	73.24		\$2,636,265		\$3,269,384		\$4,622,790		\$1,353,406
Non-Labor			\$702,354		\$871,029		\$575,497		(\$295,532)
Total			\$3,338,619		\$4,140,413		\$5,198,287		\$1,057,874

Fixed Cost Analysis

Fixed costs accounted for 90.2% of the park's appropriated base budget in FY04.

Fixed costs (defined here as permanent personnel costs, benefits, and utilities) accounted for 90.2% of the appropriated base budget in FY04. This is a 9.9% increase above FY96 fixed cost levels and illustrates the park's increasing reliance on non-base funding sources for operational and managerial flexibility. Several factors that have driven cost increases include:

Conversion from CSRS to FERS

In 1984, the U.S. Government converted to the Federal Employee Retirement System (FERS) from the Civil Service Retirement System (CSRS). For employees who were hired under the FERS system, benefits are approximately 35% as compared to the CSRS's benefit rate of 12%.

Ranger and Resource Career Initiatives

Approved by Congress in 1994, the Ranger Careers Initiative provides classification upgrades for law enforcement and interpretive rangers. Law enforcement rangers moved to a 6(c) retirement classification, which increased personnel costs by 15% with no concomitant base increases. A similar Resource Management Career Initiative increased natural resource personnel costs by 10%.

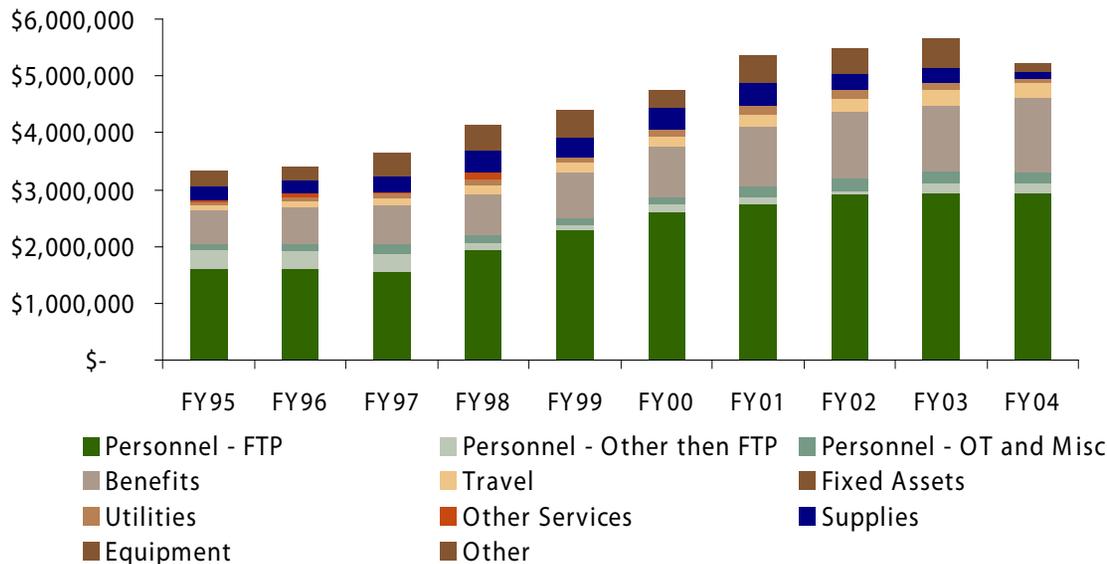
Travel and Transportation Costs

Park staff must travel frequently to meet certification and other training requirements. Travel costs, as a percentage of total fixed costs, have increased by 197.3% since 1996. In addition, due to the island's remote location, increases in airfare and oil prices have contributed significantly to rising travel and transportation costs.

Safety Costs

The presence of active lava flows in the park results in variable visitation patterns. Personnel cost increases reflect the need for increase staffing during periods of high lava activity.

Appropriated Base Expenditures by Category



Analysis of Expenditures

This section discusses total park expenditures by category over the last ten fiscal years. In FY95, salaries and benefits comprised 63.1% of total park expenditures. By FY05, this percentage had risen to 67.6%, excluding fixed asset investments such as the Kahuku Lands acquisition, demonstrating that personnel costs are increasing as a percentage of total park expenditures. Salaries and benefits continue to represent the most significant cost drivers due to increasing compensation costs.

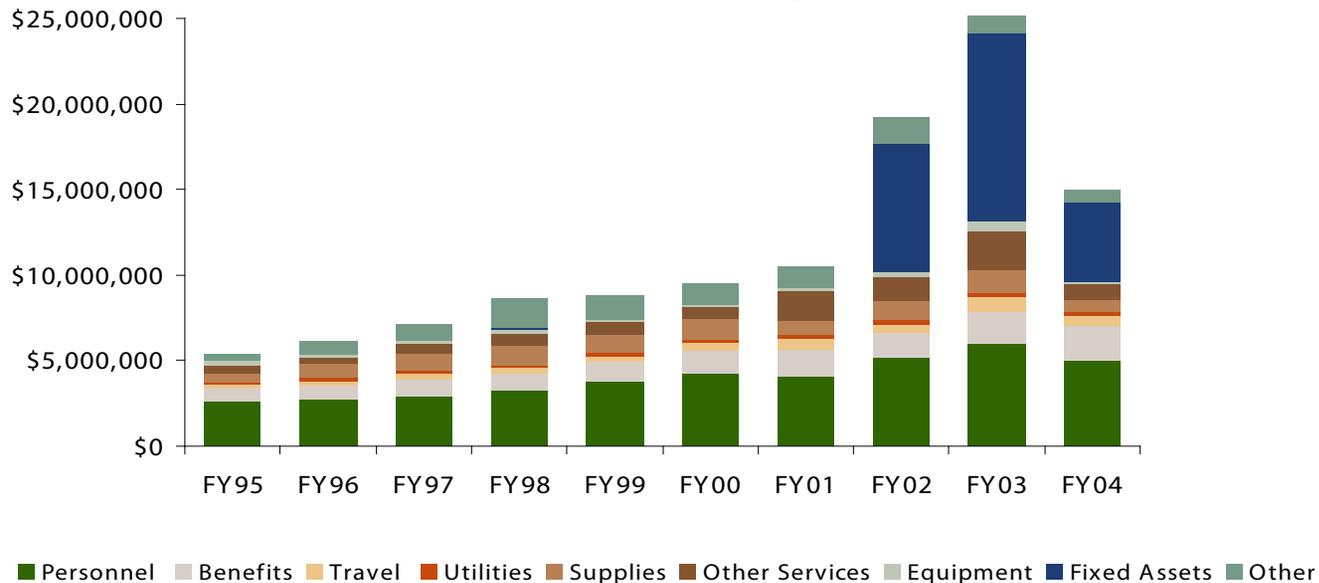
When including fixed asset investments, non-labor expenditures increased as a percentage of total expenditures. Between FY02 and FY04, the NPS paid

\$21.9 million for the purchase of Kahuku Ranch. This major acquisition is represented by the spike in the fixed assets category over this same timeframe. Although the most notable spike can be seen in fixed assets, expenditures in the other services category also increased significantly in FY01 and FY03. The other services category includes contracting services, cooperative agreements, training, and consulting fees. In FY01, other services increased by 172% from the preceding year. Similarly, expenditures on other services after FY01 were 139% above FY00 levels. This was due largely to contracting services for repair and rehabilitation and other projects.



A park law enforcement ranger takes notes on the condition of Halapē Iki, one of the park's remote camping sites.

Historical Expenditures by Category



Hawai'i Volcanoes' visitation trends are closely related to trends in Hawai'i Island visitation.

Visitation

Hawai'i Volcanoes is a year-round park with little seasonal variation in visitation. The park's location attracts many visitors from the mainland U.S., Canada, Japan, and locally from the Island of Hawai'i and the other Hawaiian islands.

Visitation is highest in July, August and March, which are popular travel times for families with school-aged children. Similarly, the lowest visitation month is September, when the school-year begins. In all other months, the park sees steady levels of visitation.

These visitation patterns, however, change dramatically in response to high volcanic activity. In the months following the Mother's Day Eruption of 2002, for example, visitation to the Eruption Site, where visitors can hike out to view

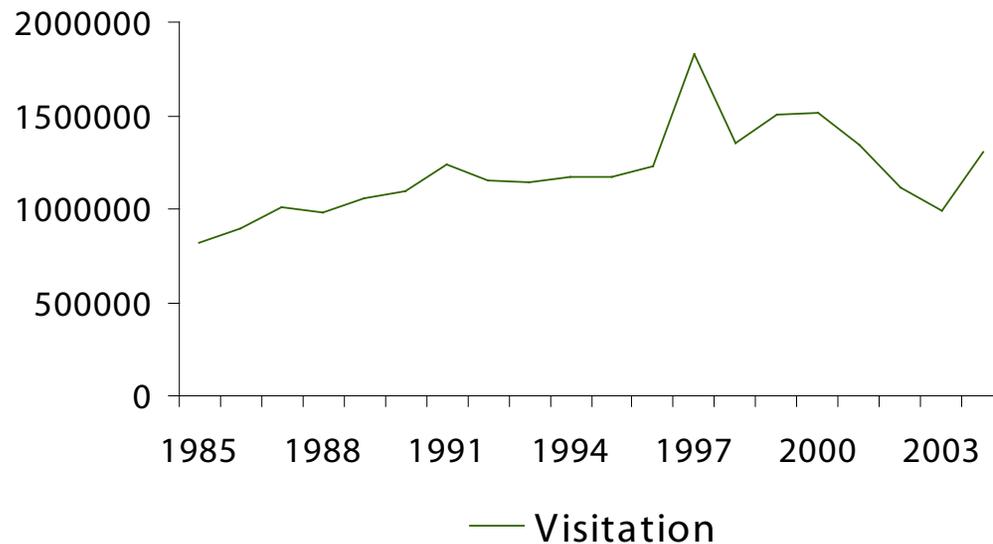
lava spilling into the ocean, increased from an average of 650 visitors per day to between 2,000 and 6,000 per day.

The park's most popular sites are the Thurston Lava Tube and the Eruption Site; the park's most popular trail is Kilauea Iki. Given the spectacular nature of lava viewing after sunset, the Eruption Site drives high volumes of visitors entering the park after entrance booth hours.

Due to malfunctioning traffic counting equipment, the visitation numbers from the NPS Public Use Statistics Office do not reflect the park's true visitation from 1992 to 2004. In actuality, park visitation has been more moderate and consistent, without the unusual spike in 1997.

Although the visitation represented below is approximate, the trend is closely related to trends in Hawai'i Island visitation, indicating that a large proportion of paying visitors are from off-island. Hawai'i Volcanoes has a high commercial to recreational visitation ratio; in FY04, 40% of paying visitors to the park came as passengers of a commercial tour company, many of whom arrived on the large cruise ships. Largely as a result of the high commercial visitation, the average length of stay in the park is shorter than one day.

Historical Visitation



Current Park Operations

This business plan differentiates between two types of expenditures: Operations & Maintenance, and Investments. Operations & Maintenance requirements are those funds needed to carryout everyday operations at a park unit. Some examples include annual payroll costs, janitorial operations, and managing a telecommunications network.

On the other hand, investments are significant one-time costs that parks incur in order to fix current problems or provide for future park development. Investments may include projects such as a resource inventory necessary to establish a credible baseline before beginning a monitoring program as well as constructing a new building. This section of the plan focuses on the Operations & Maintenance activities of the park. In order to describe park operations for this business plan, park activities were divided into five functional areas, which describe the five areas of business for which the park is responsible. The five functional areas are:

- Resource Protection
- Visitor Experience & Enjoyment (VEE)
- Facility Operations
- Maintenance
- Management & Administration

These are then further broken down into 39 programs that more precisely describe park operations. Programs are general in order to cover a broad suite of activities that should be occurring in the park.

The next component of the business planning process is the completion of a detail sheet for each program. These forms describe the day-to-day activities occurring in the park and the totality of financial need associated with them.

Statements of work are developed to describe the suite of activities encompassed by the program. Then operational standards are generated to describe the duties and responsibilities required to meet the critical functions of the program as stated in the statement of work. These standards are then used to determine the total financial resources required to perform the standard tasks of the program. The final step is to compare current park activities to the operational standards to identify the gaps between required and available resources.

The following pages discuss each of the functional areas in detail.

Please note the following conventions used in the Current Park Operations section:

- Kahuku District. Resource needs for the Kahuku lands acquisition are based on the minimum requirements necessary to manage the area while it is closed to the public.
- Full-time equivalents vs. employees. Personnel contributions and shortfalls are measured in Full-Time Equivalents (FTE), rather than by employee. 1.0 FTE is equivalent to 2,080 hours per year, but does not necessarily correspond to 1.0 employee since an employee can be full-time, part-time or seasonal.
- FY04 cost of operations. Dollar values in parentheses beside program titles indicate the program's actual expenditures in FY04.

Resource Protection: encompasses all activities related to the management, preservation and protection of the park's cultural and natural resources. Activities include research, restoration efforts, species-specific management programs, wild land fire management, archives and collections management, historic site protection, and information integration activities.

Visitor Experience & Enjoyment (VEE): includes all park activities directly related to providing visitors with a safe and educational experience while at the park. It includes all interpretation, visitor center management, interpretive media, in-park concessions management, fee collection, and visitor safety services.

Facility Operations: includes all activities required to manage and operate the park's infrastructure on a daily basis. Buildings, roads, trails, utilities, and campgrounds require a range of operational activities from basic sanitation to road clearing to water testing.

Maintenance: includes activities directed solely to prolonging the life of park assets and infrastructure through substantial repair, replacement or rehabilitation of park assets, such as buildings, roads, trails, utilities, fleet vehicles, and equipment.

Management & Administration: encompasses all park wide management and administrative support activities. It includes all park communications and external affairs activities, park level planning, human resource management, information technology, park leadership, and financial management.

Cooperative Ecosystem Studies Unit

Resource Protection achieves many of its operations through its agreement with the University of Hawai'i's Cooperative Ecosystem Studies Unit (CESU). 33.1 CESU FTE contributed to programs in Resource Protection in FY04. However, the FY04 operational figures to the right do not include CESU employees and therefore under-represent true operational costs for the park. The loss of CESU as a cooperater would result in an additional functional area shortfall as these essential activities would no longer be performed.

The table below details FY04 CESU FTE by program and corresponding costs from salary, benefits, and travel. The table excludes the 3.46 FTE and cost for the nationally-funded Emergency Plant Management Team (EPMT).

The park has identified several priority permanent positions whose function is currently carried out by CESU cooperators.

Cooperative Ecosystem Studies Unit		
Program	FTE	Funds
Invasive Species	16.2	\$502,802
Resource Management	1.0	\$64,953
Threatened, Endangered, and Rare	5.8	\$236,404
Restoration	3.7	\$109,700
All Other	0.5	\$17,712
Cultural Resource	4.8	\$171,762
Information Integration	1.1	\$40,774
Total	33.1	\$1,144,107

Resource Protection

Resource Protection is the largest functional area in the park. In FY04, Resource Protection had 33.5 FTE and total operational expenditures of \$3.1 million, or 36% of the park's total operational expenditures. The shortfall in this area of \$1.6 million and 24.1 FTE is primarily driven by needs in Invasive Species and Cultural Resource Management.

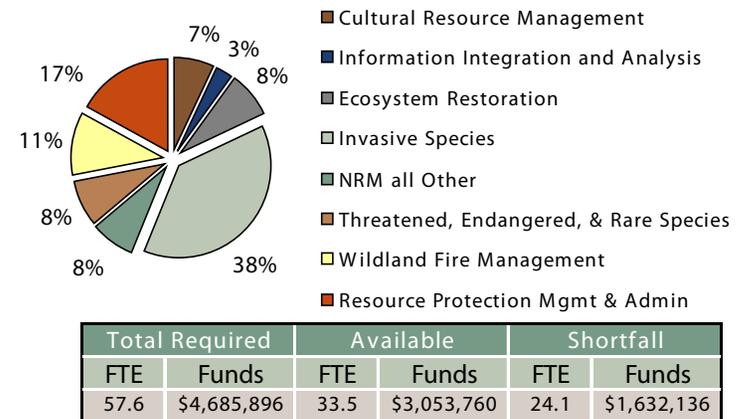
Invasive Species (\$1.2 million)

Invasive species are the overriding threat to natural resources in Hawai'i, degrading and simplifying native ecosystems and eroding biological diversity. The park's primary strategy is to control invasive species and monitor the natural recovery of native species, which involves many recurring tasks, such as inspection and repair of over 111 miles of existing ungulate-proof fences, which will continue indefinitely. An increase of \$494,645, including 7.5 FTE, is needed to effectively manage invasive species.

Resource Management and Administration (\$516,341)

Hawai'i Volcanoes resource managers work to protect, preserve, and maintain natural and cultural resources over the park's 323,431 acres. Through sound planning, management, coordination, and supervision, managers oversee 33.5 FTE and 327 volunteers whose hours are equal to 11.6 FTE. In addition, managers provide technical guidance to the 33.1 FTE CESU cooperators. Managers and resource specialists provide subject matter expertise on a wide range of resource, park development, and visitor experience issues. An additional \$201,881, or 2.7 FTE, will meet management needs in Wildland Fire Management and provide budgetary, accounting, and administrative assistance in the Resource Management division.

**Resource Protection
FY04 Expenditures by Program**



Wildland Fire Management (\$342,861)

The park aggressively suppresses nearly all fires, even ones ignited by lava flows, because fire is either carried by invasive species and/or facilitates the spread of invasive species. The Wildland Fire Management staff at Hawai'i Volcanoes support all parks in the Pacific Island network. The Kupukupu Fire Review (2002) recommended that the park meet national fire standards, including having two Type 3 Incident Commanders on staff and staffing for a three-person fire engine seven days a week. The \$88,985, or 1.7 FTE, shortfall is primarily driven by this need.

Threatened, Endangered and Rare Species (\$248,878)

Invasive species have resulted in a park with a disproportionately high number of threatened, endangered, and rare species. Management programs focusing on the

recovery of these species are underway. These programs include the control of predators and other threats, and captive breeding programs for endangered wildlife or plant propagation. In FY04, this program showed a shortfall of \$119,584 consisting of a need for 1.7 full-time technicians to support rare plant propagation and monitor critical bird populations, and the additional supplies and equipment needed to support these activities.

Ecosystem Restoration (\$237,268)

In highly altered ecosystems, such as in parts of the Kahuku District, active restoration of native species is needed after key invasive species control is achieved. At Hawai'i Volcanoes, many burned areas are revegetated with fire-adapted native species and abandoned pastures are reforested with assemblages of native plant species. The \$81,408 shortfall reflects a need for 1 full-time technician to oversee restoration projects and a 25% increase from FY04 funding for supplies, equipment, and transportation including helicopter flights to remote sites.

All Other Natural Resource Management (\$235,992)

Natural Resource Management at the park also includes air and water quality monitoring (primarily the park's anchialine pools), and ranger patrols to protect backcountry resources. It also includes protection for unique lava rocks, minerals and vegetation from poachers. A \$166,409 shortfall is driven by the need for 2.1 FTE primarily for law enforcement patrols and monitoring of backcountry campsites and trails, and additional air and water quality monitoring equipment.

Cultural Resource Management (\$222,534)

The purpose of the Cultural Resource Management program is to preserve the park's cultural resources from deterioration, destruction, and loss. These resources include historic structures and landscapes, prehistoric and historic archaeology, caves, and natural and cultural

history collections. Park staff is responsible for the protection of cultural resources in park wide planning and in the development, coordination, and implementation of projects. Inventories have been completed on approximately 6% of the park; the cultural resources in large sections of the park are still unknown. An additional \$367,394, or 5.2 FTE and associated support costs, are required to meet federal guidelines and gain a better understanding of the park's cultural resources.

Information integration and analysis (\$85,727)

Geographic information system (GIS) activities include gathering field data, post-processing, and creating database-linked digital maps that summarize information gathered in the field. The primary focus of this program is to provide usable scientific information to park managers and external cooperators for decision-making and future studies. Although a geographer for the Pacific Islands network currently provides technical support and database management for the park, the park is in need of a dedicated GIS specialist and additional support in Natural and Cultural Resources Management. This need drives the \$111,831, or 2.1 FTE deficit for this program area.



Natural Resource fences are critical in protecting and restoring native ecosystems in Hawai'i and probably the most essential recurring task in Natural Resource Management.

Exotic Defenses: Keeping Up the Park's Fences

Fences are essential in the protection and restoration of native ecosystems in Hawai'i. At Hawai'i Volcanoes, fences exclude feral pigs, goats, cattle and mouflon sheep from park lands. Excluding these animals permits the recovery of native vegetation and native invertebrates and birds dependent on native plants, and inhibits the spread of weeds and mosquito-borne avian diseases.

Fence inspection and repair is costly, time-consuming, and unglamorous, but possibly the most essential recurring task in Natural Resource Management. The Resource Management crew works in sensitive ecological areas conducting monthly fence inspections to ensure that fences are not compromised by frequent tree or branch fall in forested areas. During these inspections, the crew also maintains vegetation along fence line corridors to prevent encroachment on the fences. In addition, the crew must continuously and systematically replace older, deteriorated fences that corrode and deteriorate at an accelerated pace because of the sulfur dioxide fumes from the park's active volcanoes.

In FY04, the park spent approximately \$560,000 on fence maintenance and construction, including materials, transportation, and personnel costs for the equivalent of 9.8 FTE, or nearly 2,600 worker days. These operational activities are primarily supported by revenue and cyclic funding.

Visitor Experience and Enjoyment



A visitor to Hawai'i Volcanoes gets an up close look at the park's active lava flow.

Hawai'i Volcanoes is open to visitors 24 hours a day, 365 days a year. Due to a lack of significant seasonal variation in visitation levels, the park is required to maintain a constant level of visitor services throughout the year. The dynamic and changing nature of the park's active lava flows and landscape requires flexibility and continuous adaptation by park staff in order to provide a safe, educational, and enjoyable experience for its visitors. Staffing shortages in the Protection and Interpretation divisions require prioritization of activities such as Visitor Center staffing at the expense of other critical operations such as interpretive programming. The functional area's 42% FTE shortfall primarily reflects this need. Visitor Safety Services, Fee Collection, and Interpretation were the largest program areas in FY04 and had the greatest shortfalls.

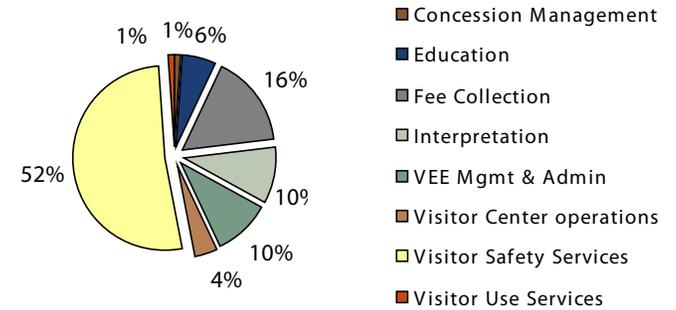
Visitor Safety Services (\$1,163,008)

The staff of Hawai'i Volcanoes performs activities to ensure the protection of all park resources and provide a safe and enjoyable experience to park visitors. Through a variety of road and foot patrols, safety and educational talks, and informational displays, staff provide visitor safety and informational services that include search and rescue, first aid, and crime deterrence. A significant law enforcement public safety concern involves the coastal site during eruption events. Currently, this program accounts for 19% of the shortfall in Visitor Experience and Enjoyment expenditures, requiring an additional \$215,120 including 3.3 FTE. These additional resources will provide for Resource Protection coverage 16 hours a day, the patrolling of the Kahuku District, and critical interpretive services at the Eruption Site.

Fee Collection (\$364,592)

Hawai'i Volcanoes has approximately 2.5 million visitors yearly, including recreational visitors and non-recreational visitors who do not enter the park's primary visitation area.

Visitor Experience & Enjoyment FY04 Expenditures by Program



Total Required		Available		Shortfall	
FTE	Funds	FTE	Funds	FTE	Funds
42.8	\$3,364,027	24.8	\$2,225,533	18.0	\$1,138,494

In FY04, the park generated over \$3.3 million in revenues from entrance fees, sales of park passes, incidental business permits (IBP), and media permits. The program shortfall of \$162,621 includes the need for 4.6 FTE and additional training and travel for the program, as well as support for the film permit and IBP programs. The year-round nature of the park's visitation drives a need for greater coverage of the entrance station and related collection and audit activities.

Interpretation (\$222,231)

The role of interpretation is to inspire and inform visitors through interpretive media, formal programs and informal ranger interaction. Formal interpretation includes evening programs, talks, walks or hikes, cultural demonstrations, and special events. Staffing levels are currently insufficient to consistently provide a variety of interpretive programs, maintain interpretive ranger presence at key sites, and keep interpretive media current.

VEE Management & Administration (\$217,693)

VEE Management and Administration includes oversight of and support for visitor experience activities, including supervision, scheduling, training, budgeting, and planning. The FY04 shortfall of \$113,743 or 1.5 FTE is driven primarily by the need for additional staff to meet budgetary and accounting requirements. Adding these positions will free up valuable time for senior management staff currently covering these activities to perform high-level strategic planning and management.

Education (\$128,400)

Interpretive ranger-led educational programs introduce school groups to the unique geologic, natural, and cultural history of the park. In FY04, 4,656 students and teachers participated in these programs, a decrease of over 50% from previous years. The program requires 1.3 additional FTE to meet demand from interested schools groups and ensure that the educational curriculum is current. In addition, the “‘Imi Pono no ka ‘Āina”, [Seeking Good for the Land], educational partnership exposes local constituents to ecosystem restoration and the negative impacts of invasive animals. The program is currently run by a Cooperative Ecosystem Studies Unit (CESU) employee. Although the park has identified this environmental educator position as a priority to convert from CESU to a full-time National Park Service employee, this is not calculated in the program requirements.

Visitor Center Operations (\$92,222)

Two in-park visitor centers, Kilauea Visitor Center and the Jaggar Museum, serve as primary points of contact for the majority of the park’s 2.5 million visitors. The centers are intended to provide visitors with information and orientation to the park as well as meaningful interpretation of its resources. The equivalent of 1.9 FTE is currently dedicated to Visitor Center Operations. The Interpretation

division relies on Volunteer In Parks (VIPs) to provide a necessary point of contact for visitors to the park. An increase of 0.6 FTE is needed to ensure a consistent level of VIP training.

Concession Management (\$23,028)

The Concession Authority permits private companies to provide visitor services in the park. Currently, the park operates under a single concession contract, which will expire in December 2008. The park’s sole concessionaire, the Ken Direction Corporation DBA Volcano House, manages a hotel, restaurant, snack lounge, two gift shops, bar, campground cabin operations, and an eruption site outlet. In order to identify and manage the most necessary and appropriate services in the park, Hawai‘i Volcanoes is developing a Commercial Services Plan and concession contract. An additional \$99,788 including 1.1 FTE are required to support the current Concession Management program in the development and oversight of the program. Hawai‘i Volcanoes also provides support in concession management for other Pacific Island parks.

Visitor Use Services (\$14,358)

Interpretive staff assists visitors planning backcountry and extended camping trips. These services are provided during normal business hours, 365 days a year. In FY04, the park issued 1,200 backcountry permits and recorded a total of 5,530 backcountry visitor nights. Rangers also issue plant picking permits to Native Hawaiians who are permitted to pick limited quantities of specific plants within the park. Training is required for rangers who issue permits to ensure they have first-hand knowledge of the resource and are able to address all safety and resource protection issues with visitors. An addition of \$3,542 including 0.1 FTE is needed to ensure that rangers receive adequate training to issue these permits.

Viewing Lava Safely: The Eruption Crew

Following the Mother’s Day eruption of 2002, lava flows at the end of Chain of Craters Road have become easily accessible, and now draw hundreds of thousands of visitors each year. A large portion of these visits to the Eruption Site occur during the evening, outside of the park’s normal operating hours. Currently there are approximately 1,200 visitors per day who spend an average of two hours viewing lava. Visitation to the Eruption Site requires that the park provide for the safety of these visitors and interpretation of the lava event.

Visitation varies significantly depending on accessibility of flowing lava. When the lava was not accessible between January and May 2004, and then in September 2004, visitation to the Eruption Site decreased by fifty-percent. By contrast, during the months of accessible active flow, from May to September 2004, over 300,000 people visited the eruption site. Due to the unpredictable nature of volcanic activity, Hawai‘i Volcanoes relies primarily on annual project funding from its revenue dollars to hire 12 to 13 emergency hires, the “eruption crew,” and provide other visitor services at this location over the last several years. This allows the park flexibility to meet visitor demand during times of active flows, and also to reduce services when visitation decreases. In FY04, the park spent \$221,948 on these services.



The visitor safety sign on the trail leading to the coastal Eruption Site demonstrates the park's need for increased trail maintenance funding to upkeep trails for safety and resource protection.



Kulanaokuaiki campsite on Hilina Pali road is one of two frontcountry campgrounds at Hawai'i Volcanoes that are inspected daily.

Facility Operations

The park's unique natural, geological, and cultural assets draw millions of visitors every year. To accommodate the steady stream of visitors, consistent oversight of all park facilities is critical. Facility Operations encompasses all activities necessary to operate the park's infrastructure in order to support both visitors and staff. This includes custodial services, grounds, roads, trails, and utilities operations. This functional area represented 11% of total park expenditures in FY04 with a total of 17.8 FTE. Currently there is a shortfall of 6.8 FTE and \$505,055 for all Facility Operations, which is primarily due to staffing needs in the Building Operations, Utilities Operations, Roads Operations, and Trails Operation programs.

Janitorial Operations (\$199,372)

The Janitorial Operations program performs custodial services, recycling pickup, and solid waste disposal for the park. Activities include interior and exterior window washing, carpet and floor cleaning, trash pick-up, comfort station and vault toilet cleaning, and litter removal throughout the park. The shortfall of 0.1 FTE, or \$15,487 is driven by the need to expand custodial operations to the Kahuku District.

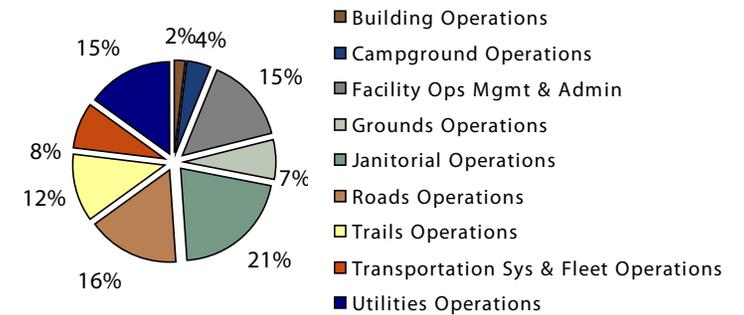
Roads Operations (\$146,893)

The Roads Operations program oversees the park's road system. Activities include brushing, sweeping, keeping drainage structures unobstructed and maintaining proper signage on park roads. The program's deficit of \$83,668 includes 1.1 FTE to help the program achieve its operational objectives, and additional funding for training and safety equipment.

Utilities Operations (\$140,656)

The Utilities Operations program oversees all day-to-day maintenance of electrical, solar, water, rain catchment and sewage systems. Activities include daily

**Facility Operations
FY04 Expenditures by Program**



Total Required		Available		Shortfall	
FTE	Funds	FTE	Funds	FTE	Funds
24.6	\$1,432,373	17.8	\$927,318	6.8	\$505,055

water testing, cleaning water tanks, reservoir and storage tank inspection, and regular monitoring of generators, septic tanks, plumbing systems, HVAC systems, and vault toilets. Program deficits include an additional \$90,911 and 1.1 FTE to increase the monitoring and inspection of utility systems throughout the park.

Facility Operations Management and Administration (\$135,092)

The Management and Administration program provides oversight and administrative support for Facilities Operations. The management group manages overall planning, organization, direction, and coordination of Facility Operations through goal-setting, planning and budgeting. In FY04 this included such activities as overseeing planning for the remodeled Kilauea Visitor Center. Facility Management and Administration's available funding amount is driven primarily by the cluster

of professional staff in the program such as project managers and landscape architects. The program's shortfall of \$48,872 includes 0.6 FTE for a data entry position, additional training and travel, leasing of a General Services Administration (GSA) vehicle, and office rent for the program.

Trails Operations (\$107,343)

The Trails Operations program manages the park's 128 miles of frontcountry and backcountry public trails. In FY04, road crew personnel assisted the trail crew's one employee in trail clearing, keeping drainage structures free of obstructions, and ensuring that trails were safe, in good condition, and that signage was clear and legible. The program's deficit is driven by the need for an additional \$118,261 in funding to support 2.3 more trail crew employees, over and above all staff time in FY04.

Fleet Operations (\$78,260)

The Fleet Operations program oversees operation of the park's auto shop, which maintains and repairs park vehicles and equipment; the stock program, which provides a minimum-impact tool for transporting supplies to backcountry research and project sites; and administration of the GSA vehicle rental program. In order to maximize facility operations personnel time, the park could centralize fleet-related reporting and billing, which is currently performed by several different employees. This leads the program to have a .2 FTE and \$5,217 surplus.

Grounds Operations (\$69,297)

The Grounds Operations program maintains lawns, picnic areas, and roadside vegetation in 14 acres of developed public-use areas and in the Kahuku District. This includes mowing lawns, pruning vegetation, removing tree limbs and hazardous debris, and treating

vegetation with herbicides as needed to enhance the park's appearance. An additional 0.5 FTE and \$43,567 are required to ensure adequate grounds operations and expand existing services to the Kahuku District.

Campgrounds Operations (\$35,232)

Hawai'i Volcanoes operates two frontcountry campgrounds and six backcountry shelters. All campgrounds are free of charge and are open year-round. Frontcountry campsites, picnic areas, and bathrooms are inspected daily. Backcountry shelters reside in remote locations, such as the Mauna Loa cabin at 13,250 ft. elevation. As a result, backcountry operations are performed across several divisions. Protection rangers, trail crews, the animal caretaker, and custodial personnel tend to backcountry sites. An additional 0.5 FTE and \$24,216 are required to inspect and maintain all campground facilities.

Buildings Operations (\$15,173)

The park oversees 198 buildings, nearly 80% of which are historic structures. Building operations include all activities required to maintain structures in a safe and sound condition, including addressing safety hazards, minor structural repairs, mechanical and plumbing repairs, interior painting, and pest control. The Buildings Operations program requires an additional \$85,289, which is driven by the 0.9 FTE required to address unmet needs such as responding to all safety-related work orders within one day.

A New Welcome for Park Visitors: The Kilauea Visitor Center

On April 25, 2005, a newly renovated Kilauea Visitor Center opened its doors to Hawai'i Volcanoes' 2.5 million annual visitors. From 2001 to 2005, staff and local artists dedicated thousands of hours to planning, designing, and developing the interior exhibits and layout for the \$1,377,486 investment. The remodeled Kilauea Visitor Center includes new interpretive exhibits, a 24-hour outdoor lānai with visitor information, a remodeled lobby and exhibit hall, and new bookstore. Park partners assisted in funding and planning for this project, particularly the Hawai'i Natural History Association (HNHA), which donated \$400,000. HNHA has a bookstore which offers an extensive array of educational materials related to Hawai'i's natural and cultural history.

In order to complete this new facility, contractors and maintenance crews worked together to upgrade Kilauea Visitor Center, construct a new air filtration system, upgrade accessibility, and create the center's exhibits. While the construction of the facility was supervised by the Maintenance division, other divisions such as Interpretation and Administration collaborated with Maintenance staff to design and oversee the project.

Maintenance



Increased preventative maintenance would slow the deterioration of park assets such as this building.



A mural in the interior of the Jaggar Museum tells the rich cultural history of Hawai'i Volcanoes.

Volcanic fumes, acid rains, high precipitation, and high visitor volume necessitate frequent maintenance of the park's roads, trails, utilities, buildings, and fleet. The Maintenance function at Hawai'i Volcanoes focuses on prolonging the life of park assets through preventative and cyclic maintenance, and repair and rehabilitation projects. Several top-priority investments requiring park employees' skills in FY04 stretched the capacity of maintenance teams between implementing those investments and managing day-to-day operations. To alleviate this and to address the park's \$58 million (FY05) deferred maintenance backlog, Hawai'i Volcanoes has identified the establishment of a preventative maintenance program as one of its top three priorities.

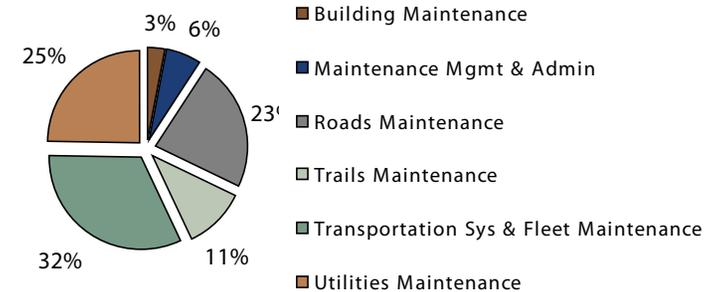
The large portion of project funding for this area is due in part to the number of cyclic maintenance projects performed in FY04. It also underscores, however, the lack of base funds to perform necessary preventative maintenance.

The Maintenance function had the second-lowest expenditures of all programs in FY04, but had the highest percentage shortfall. The functional area's 49% shortfall was driven primarily by additional FTE needs across utilities, buildings and fleet, and additional cyclic road maintenance funding needs.

Maintenance Management and Administration (\$307,636 in FY04)

The Management and Administration program provides executive oversight and administrative support for the Maintenance function, performing such activities as financial planning, employee supervision and development, and annual workplan development. In addition, the division chief, two landscape architects and project manager spend a significant amount of time

Maintenance FY04 Expenditures by Program



Total Required		Available		Shortfall	
FTE	Funds	FTE	Funds	FTE	Funds
21	\$1,939,867	15.1	\$988,092	5.9	\$951,775

planning, designing, performing extensive compliance for, and managing mid-to large-scale maintenance projects. The program shortfall of \$36,264 includes the need for 0.4 FTE for data entry, additional training and travel, leasing of a GSA vehicle, and office rent for the program.

Roads Maintenance (\$256,254)

The Roads Maintenance program focuses on cyclic maintenance, repair, and rehabilitation of the park's public and staff roads. Cyclic road maintenance at Hawai'i Volcanoes occurs on shorter cycles than at many mainland parks due to eroding elements such as volcanic gases and resulting acid rains. Personnel also spot-maintain the Kahuku District's extensive network of 4-wheel drive roads that are closed to the public, and a portion of road open to the public during special events. The program's large shortfall is comprised of a need for \$460,178 in additional funding, including 0.9 additional FTE. Of the

additional funding requirement, over \$375,000 stems from an annualized shortfall in cyclic road maintenance such as paving and chip sealing.

Buildings Maintenance (\$240,749)

The Buildings Maintenance program oversees all cyclic repair and rehabilitation work for the 198 structures located within the park. Program activities include exterior repairs, roof repairs/replacement, structural stabilization, exterior painting, deck and step repairs, seismic upgrades, and historic preservation. The program shortfall of \$140,632, including 0.8 FTE, is driven by the additional resources required to ensure that all building maintenance standards are met and that preventative maintenance is performed on all assets.

Fleet Maintenance (\$88,335)

The Fleet Maintenance program oversees maintenance and repair of the park's GSA and Interior-owned vehicles, including engineering equipment and heavy machinery. The program also encompasses care of the five horses and four mules in the park's stock program. Two employees staff the park's auto shop; one employee's time is also spent overseeing shop operations. Staffing shortages limit the vehicle repairs that can be performed annually, and limit the shop's ability to perform much of the preventative maintenance needed to keep vehicles in good condition. This results in long repair wait times for non-priority vehicles, unnecessarily high repair costs, and inefficient labor allocation as other divisional staff perform repairs that would otherwise be performed by shop employees. Key shortfalls in this program stem from the need for an additional \$67,752, which includes 1.1 FTE to perform vehicle and equipment repairs, and funding to maintain updated shop tools and equipment.

Utilities Maintenance (\$73,517)

The Utilities Maintenance program is designed to prolong the life of all utility assets. Currently the park operates electrical, solar, water, rain catchment and sewage systems. In order to preserve the infrastructure and reduce operational costs, utilities maintenance includes such activities as servicing, repairing, and replacing system parts. The current resource shortfall of \$143,516 includes 1.8 FTE and stems from the additional labor requirements necessary to perform preventative maintenance, such as inspecting and checking electrical and solar systems, and maintaining water pumps and storage tanks.

Trails Maintenance (\$21,601)

Trails Maintenance performs repair and rehabilitation on the park's frontcountry and backcountry public trails. Many repairs must be made in remote areas, necessitating mule or helicopter transport of supplies. Regular maintenance work is not currently performed in the Kahuku District. With one employee overseeing trail maintenance and operations, the program's deficit stems from the need for 0.8 additional FTE to cover the park's extensive backcountry trail systems. The \$103,435 funding shortfall includes additional FTE and \$68,000 in annualized cyclic maintenance deficits.

Transforming the Park's Utilities

In 2004, Hawai'i Volcanoes began the planning and implementation of a project to replace the park's sewage system. The project will update the park's old system of cesspools with a new septic system that will bring it in compliance with a 1999 EPA mandate to eliminate large capacity cesspools.

The EPA rule aims to prevent contamination of groundwater from sewage systems. Although Hawai'i Volcanoes operates on above-ground water catchment systems, concerns about waste leakage into lava tubes and neighboring communities' water systems led the park to invest in a new septic system.

The new system was designed by an engineering firm that performed a similar project on Moloka'i, at Kalaupapa National Historic Park. The increased complexity of the new system will raise water treatment effectiveness, but is also expected to increase the maintenance required to upkeep the utilities.

Implementation of the \$4.3 million project will be contracted out and managed by the Denver Service Center. The project's target completion date of 2007 coincides with the EPA's extended compliance date. Securing funding for the implementation remains a high priority for Hawai'i Volcanoes.

Management and Administration



The Pacific Island Network's dispatch office which provides 24-hour/day, year-round emergency dispatch for the seven National Park Service units in the Hawaiian Islands is located at Hawai'i Volcanoes



The park's management team meets frequently to provide strategic direction, planning, and support for all divisions of Hawai'i Volcanoes National Park.

Management and Administration provides overall direction and administrative support to all divisions of Hawai'i Volcanoes and represents 16% of the total FY04 operational expenditures. This functional area ensures effective internal systems and oversees all communications with external stakeholders. Because the park is growing both physically and in programmatic activity, an additional \$756,140, including 8.7 FTE, are required to increase staffing for parkwide planning activities, technology and communications, and public relations.

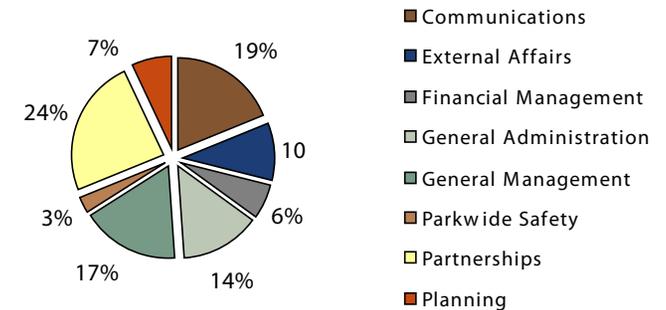
Partnerships (\$322,046 in FY04)

A key objective of park management is fostering stewardship and appreciation of park resource values through effective partnerships. Numerous organizations partner with Hawai'i Volcanoes to further the park's mission including non-governmental organizations, educational organizations, community-based groups, and other federal and state agencies. These partnerships are created to achieve shared goals, use shared resources, sponsor joint events, share in-kind services, promote community-based stewardship of park resources, and support scientific research. An additional \$179,818, and 2.0 FTE, are needed to strengthen existing relationships, create new partnerships, and solidify partnership agreements.

Communications (\$261,995)

The Communications program includes both park and Pacific Island Network support. The program oversees park data, telecommunications, radio, dispatch, alarm systems, and the website. In addition, it provides regional services such as Pacific Island Network IT support and the Pacific Area Communications Center, which provides 24-hour/day, year-round emergency dispatch for the seven National Park Service units in the Hawaiian Islands. Hawai'i Volcanoes' data, network and phone systems are currently overseen by one employee; an additional \$138,918 in funding would

Management & Administration FY04 Expenditures by Program



Total Required		Available		Shortfall	
FTE	Funds	FTE	Funds	FTE	Funds
23.5	\$2,140,426	14.9	\$1,384,286	8.6	\$756,140

address the need for additional training and travel for personnel, and 2.1 FTE including an additional park IT specialist and a full-time webmaster.

General Management (\$241,720)

The General Management program provides overall management of park functions, human resources, and long-term strategic planning. The Management Team sets overall management policy and oversees implementation. The Human Resources division services all employees of Hawai'i Volcanoes and assists other parks located on the Hawai'i Island. The \$94,601 deficit, which includes an additional 0.5 FTE, consists of the additional staff time necessary for the Management Team to increase coordination and oversight of park activities.

General Administration (\$199,726)

General Administration at Hawai'i Volcanoes encompasses a wide variety of functions required to support the park's basic mission responsibilities, including contracting, procurement, property services, travel coordination and maintenance of the central filing system. The deficit of 0.6 FTE or \$31,436 is driven primarily by the need for a Program Assistant and additional annual training for administration staff.

External Affairs (\$134,753)

The External Affairs program oversees all public relations, media development, and community affairs initiatives for the park. The goal of the program is to promote and develop local, regional, national, and international understanding of the park's programs and mission. To this end, External Affairs involves activities as diverse as coordinating Congressional hearings and special events, writing press releases, facilitating meetings with local Hawaiian groups, and conducting outreach. An additional \$98,808, including 1.3 FTE, is driven by the need for a public affairs assistant and an interpretive specialist to provide media support and outreach to community groups.

Planning (\$103,352)

The Planning program develops park management documents that outline strategies for visitor use, facility development, commercial visitor services, preservation maintenance, resource management activities and land management activities. Planning and compliance reviews identify potential environmental impacts, appropriate compliance actions, and mitigation measures. The Planning program also reviews activities occurring outside the park that have the potential to impact park resources. In addition, Hawai'i Volcanoes provides support for planning activities for the Pacific Island Network. With the forthcoming General Management Plan and other

on-going planning activities, the program has a deficit of \$113,363, which includes 1.0 FTE. Program deficits are driven by the need for additional support in compliance and park planning.

Financial Management (\$83,164)

The Financial Management program manages the park's \$15.1 million parkwide budget. Key program activities include budget formulation and reconciliation, preparation of requests for base and project funding, cost and needs projection, and enforcement of internal financial controls. Parkwide finances are currently overseen by the Administrative Officer and Budget Assistant in conjunction with divisional budget assistants. The program's \$79,262 deficit, or 0.9 FTE, is driven by the need for tighter financial control through the addition of a park budget analyst and associated training.

Parkwide Safety (\$37,530)

The Parkwide Safety program coordinates all workplace safety initiatives and provides information to all divisions regarding current safety issues. Located on an active volcano, the park's safety program must address a variety of unique hazards, including sulfuric fumes, lava flows, earthquakes, tsunamis, and fires. The park's safety officer is a collateral duty assignment which rotates among park staff. An additional \$19,935 is driven by the 0.3 FTE needed to institutionalize the Safety Committee, which is comprised of a safety officer and staff representatives from all park divisions.

Regional Collaboration in Emergency Services: The Pacific Area Communications Center

In January 2004, the Pacific Area Communications Center (PACC) went live, providing the first 24-hour/day, year-round emergency radio dispatch to the seven Hawaiian Islands park units of Hawai'i Volcanoes National Park, Kaloko-Honokōhau National Historical Park, Pu'uhonua O Hōnaunau National Historical Park, Pu'ukoholā Heiau National Historic Site, Haleakalā National Park, Kalaupapa National Historical Park, and the U.S.S. Arizona Memorial.

The project reflected the spirit of collaboration and mutual reliance that characterizes the Hawaiian parks. Planning was a joint effort between the seven Hawaiian Islands park units and regional resources. Available space and personnel trained on the park's existing dispatch system made Hawai'i Volcanoes the logical location for the Center. The expertise to build and bring the Center and all seven parks online was provided by Hawai'i Volcanoes, the Pacific Island network, and Regional employees. The PACC's multi-park support mission is reflected even in its staffing, which combines Hawai'i Volcanoes and Kaloko-Honokōhau personnel.

Financials

Summary Financial Statement

In FY04, the greatest shortfalls occurred in Resource Protection and Visitor Experience and Enjoyment. These two functional areas are also the park's largest in terms of operational expenditures.

In FY04, Hawai'i Volcanoes received a total of \$15.1 million from all fund sources. Of this, \$8.6 million (57%) funded the park's everyday operations and maintenance, while the remaining \$6.5 million (43%) funded one-time investments. This section focuses on operational expenditures and requirements, while investments are discussed further in the plan. The park's total expenditures on operational activities are comprised of four funding sources: appropriated base funding (54%), appropriated non-base (24%), reimbursable monies (4%), and revenue (18%).

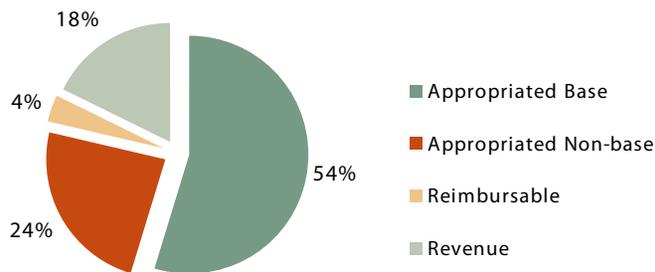
The Summary Financial Statement on the opposite page details operational requirements for the park's five functional areas and 39 programs in FY04. Hawai'i Volcanoes required \$13.6 million in FY04 for all programs. As a result, the park was operating at a 37% deficit, or a \$5.0 million shortfall for all programs.

Hawai'i Volcanoes utilized the equivalent of 106 FTE in FY04, but required an additional 63.4 FTE. It should be

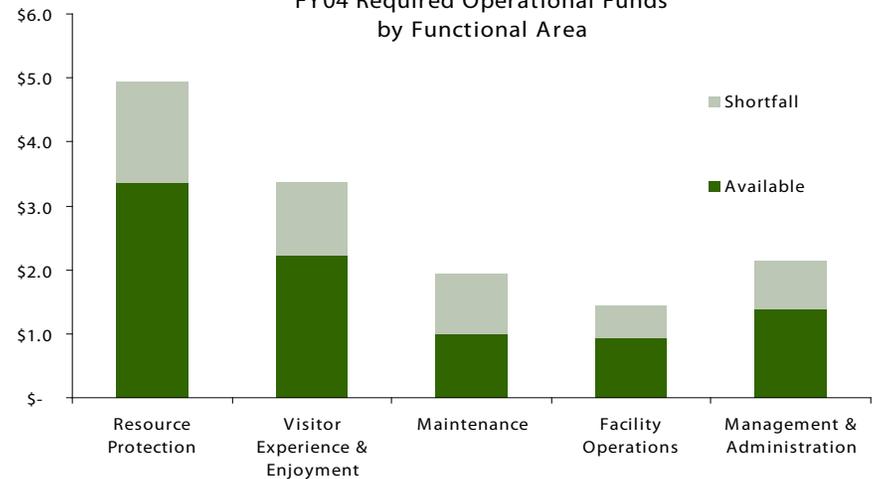
noted that the number of available or required FTE does not incorporate the large number of cooperators employed by CESU in Resource Management and other volunteers, partners, and cooperators that contribute to the park's operations. However, the park has identified seven priority permanent positions whose function is currently carried out by CESU short-term cooperators in order to meet their long-term species and ecosystem restoration goals.

In FY04, the greatest shortfalls occurred in Resource Protection (\$1.6M and 24.1 FTE) and Visitor Experience and Enjoyment (\$1.1M and 18 FTE). These two functional areas are also the park's largest. Resource Protection accounted for nearly 36% of the park's operational expenditures and Visitor Experience and Enjoyment accounted for 26% of operational expenditures. However, relative to total available funding, Maintenance operated with the largest funding shortfall, at 49% of what was required.

FY 04 Operational Expenditures by Fund Source



FY04 Required Operational Funds by Functional Area



FUNCTIONAL AREAS AND PROGRAMS	REQUIRED		AVAILABLE				SURPLUS / (DEFICIT)		% SHORTFALL			
	FTE	Funds	APPROPRIATED		NON-APPROPRIATED		TOTAL		FTE	Funds	FTE	Funds
			Base	Non-base	Reimburs.	Revenue	FTE	Funds				
Resource Protection												
Cultural resource management	8.2	\$589,928	\$116,446	\$48,667	\$0	\$57,421	3.0	\$222,534	-5.2	(\$367,394)	64%	62%
Information integration & analysis	3.3	\$197,558	\$37,347	\$32,522	\$0	\$15,858	1.2	\$85,727	-2.1	(\$111,831)	64%	57%
Ecosystem restoration	3.6	\$318,676	\$61,723	\$153,067	\$13,400	\$9,078	2.6	\$237,268	-1.0	(\$81,408)	29%	26%
Invasive species	20.8	\$1,658,804	\$418,811	\$501,906	\$13,400	\$230,042	13.3	\$1,164,159	-7.5	(\$494,645)	36%	30%
NRM all other	3.1	\$402,401	\$215,009	\$14,037	\$0	\$6,946	1.0	\$235,992	-2.1	(\$166,409)	67%	41%
Threatened, endang. & rare species	3.6	\$368,461	\$98,203	\$60,433	\$478	\$89,763	1.8	\$248,878	-1.7	(\$119,584)	49%	32%
Wildland fire management	6.8	\$431,846	\$162	\$342,699	\$0	\$0	5.1	\$342,861	-1.7	(\$88,985)	25%	21%
Resource protection mgmt & admin	8.2	\$718,222	\$364,437	\$144,155	\$0	\$7,749	5.5	\$516,341	-2.7	(\$201,881)	33%	28%
Subtotal	57.6	\$4,685,896	\$1,312,138	\$1,297,487	\$27,278	\$416,856	33.5	\$3,053,760	-24.1	(\$1,632,136)	42%	35%
Visitor Experience and Enjoyment												
Concessions management	1.4	\$121,817	\$23,028	\$0	\$0	\$0	0.3	\$23,028	-1.1	(\$98,788)	80%	81%
Education	3.0	\$230,025	\$95,778	\$25,001	\$0	\$7,621	1.7	\$128,400	-1.3	(\$101,625)	44%	44%
Fee collection	11.5	\$527,213	\$50,178	\$763	\$4,871	\$308,780	6.8	\$364,592	-4.6	(\$162,621)	40%	31%
Interpretation	9.5	\$613,545	\$154,102	\$6,268	\$0	\$61,862	4.0	\$222,231	-5.5	(\$391,313)	58%	64%
VEE mgmt & administration	4.4	\$331,437	\$214,690	\$0	\$239	\$2,765	2.8	\$217,693	-1.5	(\$113,743)	35%	34%
Visitor center operations	2.5	\$143,963	\$66,674	\$1,268	\$0	\$24,280	1.9	\$92,222	-0.6	(\$51,741)	24%	36%
Visitor safety services	10.2	\$1,378,128	\$736,295	\$279,348	\$0	\$147,366	6.9	\$1,163,008	-3.3	(\$215,120)	32%	16%
Visitor use services	0.4	\$17,900	\$8,690	\$0	\$0	\$5,667	0.3	\$14,358	-0.1	(\$3,542)	17%	20%
Subtotal	42.8	\$3,364,027	\$1,349,434	\$312,648	\$5,110	\$558,341	24.8	\$2,225,533	-18.0	(\$1,138,494)	42%	34%
Maintenance												
Buildings maintenance	5.5	\$381,379	\$98,235	\$97,257	(\$30,842)	\$76,100	4.7	\$240,749	-0.8	(\$140,632)	15%	37%
Maintenance mgmt & admin	5.0	\$343,900	\$111,828	\$18,434	\$3,585	\$173,791	4.7	\$307,636	-0.4	(\$36,264)	7%	11%
Roads maintenance	3.6	\$716,432	\$53,340	\$165,874	\$0	\$37,040	2.6	\$256,254	-0.9	(\$460,178)	27%	64%
Trails maintenance	1.1	\$125,036	\$19,293	\$701	\$0	\$1,607	0.3	\$21,601	-0.8	(\$103,435)	70%	83%
Transportation sys & fleet maint	3.2	\$156,086	\$4,418	\$13,777	\$0	\$70,140	2.1	\$88,335	-1.1	(\$67,752)	34%	43%
Utilities maintenance	2.5	\$217,033	\$47,692	\$21,673	\$405	\$3,748	0.7	\$73,517	-1.8	(\$143,516)	72%	66%
Subtotal	21.0	\$1,939,867	\$334,805	\$317,716	(\$26,852)	\$362,424	15.1	\$988,092	-5.8	(\$951,775)	28%	49%
Facility Operations												
Buildings operations	2.2	\$100,461	\$27,730	\$969	(\$27,104)	\$13,577	1.3	\$15,173	-0.9	(\$85,289)	40%	85%
Campgrounds operations	1.0	\$59,449	\$19,794	\$3,733	\$5,371	\$6,335	0.5	\$35,232	-0.5	(\$24,216)	47%	41%
Facility ops mgmt & admin	2.7	\$183,964	\$107,509	\$13,723	\$5,621	\$8,239	2.1	\$135,092	-0.6	(\$48,872)	24%	27%
Grounds operations	2.1	\$112,865	\$35,456	\$11,076	\$9,908	\$12,857	1.7	\$69,297	-0.5	(\$43,567)	22%	39%
Janitorial operations	5.5	\$214,859	\$149,550	\$6,543	\$31,024	\$12,255	5.3	\$199,372	-0.1	(\$15,487)	3%	7%
Roads operations	4.0	\$230,560	\$104,504	(\$6,777)	\$0	\$49,166	3.0	\$146,893	-1.1	(\$83,668)	27%	36%
Trails operations	4.0	\$225,604	\$102,229	(\$2,639)	\$0	\$7,753	1.8	\$107,343	-2.3	(\$118,261)	56%	52%
Transportation sys & fleet ops	1.1	\$73,043	\$69,612	\$768	\$4,062	\$3,818	1.3	\$78,260	0.2	\$5,217	-16%	-7%
Utilities operations	2.0	\$231,568	\$86,445	\$297	\$49,076	\$4,838	0.9	\$140,656	-1.1	(\$90,911)	54%	39%
Subtotal	24.6	\$1,432,373	\$702,828	\$27,693	\$77,959	\$118,838	17.8	\$927,318	-6.8	(\$505,055)	28%	35%
Management and Administration												
Communications	5.2	\$400,913	\$250,235	\$0	\$6,111	\$5,649	3.2	\$261,995	-2.1	(\$138,918)	39%	35%
External affairs	2.8	\$233,560	\$106,530	\$1,646	\$162	\$26,415	1.5	\$134,753	-1.3	(\$98,808)	48%	42%
Financial management	2.3	\$162,426	\$83,164	\$0	\$0	\$0	1.4	\$83,164	-0.9	(\$79,262)	38%	49%
General administration	3.2	\$231,162	\$137,295	\$45,181	\$0	\$17,251	2.6	\$199,726	-0.6	(\$31,436)	19%	14%
General management	3.7	\$336,320	\$219,498	\$10,541	\$0	\$11,681	3.1	\$241,720	-0.5	(\$94,601)	14%	28%
Parkwide safety	0.7	\$57,465	\$27,509	\$6,658	\$0	\$3,364	0.3	\$37,530	-0.3	(\$19,935)	47%	35%
Partnerships	3.1	\$501,864	\$100,344	\$0	\$221,702	\$0	1.0	\$322,046	-2.0	(\$179,818)	67%	36%
Planning	2.7	\$216,716	\$78,031	\$11,265	\$0	\$14,056	1.7	\$103,352	-1.0	(\$113,363)	36%	52%
Subtotal	23.5	\$2,140,426	\$1,002,605	\$75,290	\$227,975	\$78,416	14.9	\$1,384,286	-8.7	(\$756,140)	37%	35%
Grand Total	169.4	\$13,562,590	\$4,701,811	\$2,030,834	\$311,469	\$1,534,875	106.0	\$8,578,989	-63.4	(\$4,983,601)	37%	37%

* This financial statement has been prepared from the books and records of the National Park Service in accordance with NPS accounting policies. The resources available reflect the total operations and maintenance expenses incurred by the park during the last complete fiscal year. The resources required represent the funding needed to operate the park while fully meeting operational standards as defined in business plan supporting documentation. Program requirements are presented as a five-year planning tool based on salary and wage tables from the same fiscal year, given current resource inventories, and the current park infrastructure. Changes resulting from one-time projects and capital improvements (e.g. investments) may have a resulting impact on the operational requirements presented.

* The value of donated materials and in-kind services is not included as an available resource in the financial summary because these materials and services are not only used for required operations See the Volunteer Analysis section for information on the valuation of work performed by volunteers.

* This financial statement presents the available and required resources for the operational activities of the park only. Investment expenditures for capital improvements or other one-time projects are not accounted for in this statement.



Volunteers provide essential support to the park's turtle recovery program.

Volunteer Analysis

Hawai'i Volcanoes manages a Volunteers-in-Parks (VIP) program that provides valuable assistance in attaining the park's mission as well as exposing the public to opportunities in the park. In FY04, 480 volunteers contributed 43,035 hours to the park, an equivalent of 20.6 FTE, providing critical support to park operations. Hawai'i Volcanoes receives volunteers through its own volunteer program, cooperative partnerships with non-profit organizations such as the Student Conservation Association (SCA) and the Youth Conservation Corps (YCC), and partners such as Friends of Hawai'i Volcanoes National Park.

The value of volunteers

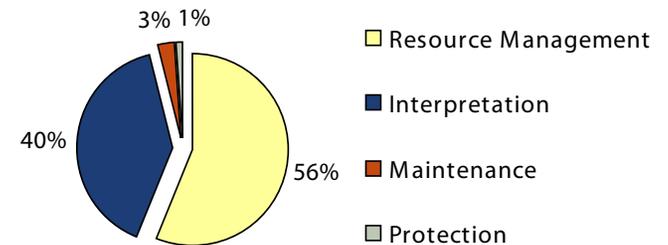
In FY04, Hawai'i Volcanoes received a net benefit of \$629,149 from volunteer contributions using the National Park Service estimate of \$17.19 per volunteer hour. This benefit is equivalent to 7% of the park's 2004 operating budget. The cost-per-volunteer averages \$231, exclusive of supervision and training costs. Many of the park's volunteers come from other states or other countries. As a result, food and lodging comprise 85% of volunteer costs.

Areas benefiting from volunteer support

Volunteers contribute to the many aspects of park operations. The chart to the right shows the park programs that benefited from volunteer work in 2004. These include:

- **Resource management:** Natural resource management projects received the largest contribution of 24,194 total volunteer hours (56% of park's total). Of that time, nearly 75% was dedicated to endangered species recovery programs, particularly Hawksbill turtles and Nēnē. The remaining 25% was largely devoted to revegetation of disturbed habitat and control of invasive non-native plants.

2004 Volunteer Hours by Category



- **Interpretation:** 40% of total park volunteer hours were used to support visitor center operations, leading guided walks for visitors, and presenting education programs for school groups.
- **Maintenance:** Time spent maintaining trails and park facilities comprise the majority of volunteer time in this category, which represents 3% of the park's total volunteer hours.
- **Protection:** The park's remaining 1% of volunteer time was spent on routine patrol and monitoring of sites in the park's extensive backcountry.

The future of the VIP program

Hawai'i Volcanoes is a popular park for individuals seeking to volunteer their time. The park receives many requests from volunteers, and over the past four years the park has averaged approximately 43,000 total volunteer hours annually. In fact, the park regularly turns away requests from volunteers to work at Hawai'i Volcanoes due to limited park housing, budgetary constraints, and limited capacity to train and supervise additional volunteers.

Government Performance and Results Act

Congress passed the Government Performance and Results Act (GPRA) to improve federal management practices and accountability. The goals listed in the sidebar at right comprise the National Park Service's primary focus areas. The chart below shows resource application and shortfalls by goal for Hawai'i Volcanoes in FY04.

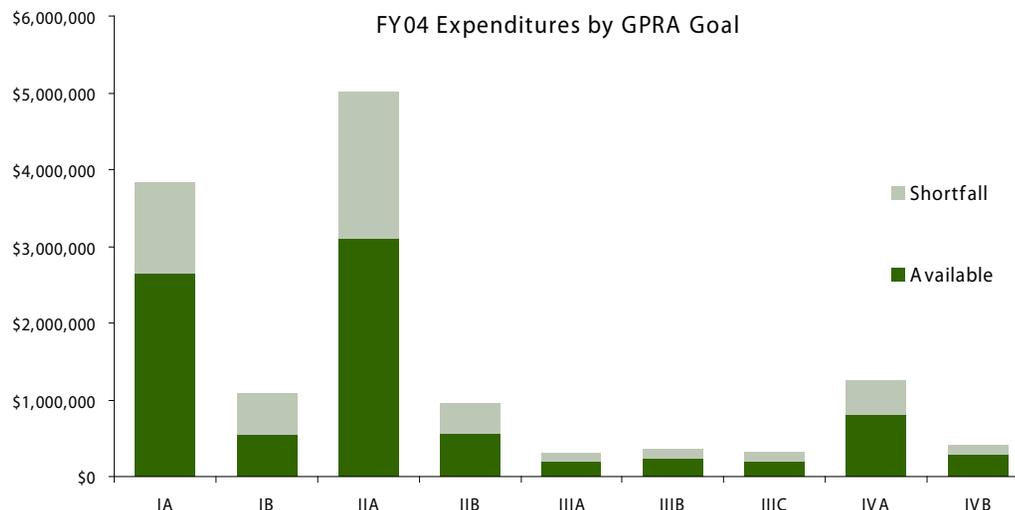
Goal I: Key resource preservation activities include ecosystem restoration, invasive species control, wildland fire management, inventorying and monitoring, compliance, and management planning. 37% of FY04 resources supported this goal. The shortfall, 35% of total, consists mainly of shortfalls in cultural resource management and invasive species control.

Goal II: Public education and safety through Interpretation, Education, Visitor Safety and Use Services, Maintenance, and Facility Operations all contribute to visitor experience and enjoyment at Hawai'i Volcanoes. These efforts accounted for 43% of FY04 resources and 46% of the total park shortfall. Additional needs in cyclic

maintenance, interpretation and visitor safety drive shortfalls.

Goal III: Hawai'i Volcanoes partners with such groups as the those under the 'Ōla'a Kīlauea Partnership, the Hawai'i Natural History Association, the Kūpuna (Hawaiian elders) group, the park's friends group, and VIP's to strengthen and preserve its natural and cultural resources. Seven percent of FY04 resources supported partnership management and oversight, public outreach and revenue generation. Seven percent of the park's total shortfall falls within this goal. The main deficit stems from additional Partnership staff needs.

Goal IV: Administration, management and communications support this goal, to which Hawai'i Volcanoes dedicated 13% of FY04 funds. Twelve percent of the total park shortfall falls under this goal and is driven mainly by additional needs in Partnerships and Fee Collection.



I. Preserve Park Resources

- a. Natural and Cultural resources and associated values are protected, restored, and maintained in good condition and managed within their broader ecosystem and cultural context.
- b. The National Park Service contributes to knowledge about natural and cultural resources and associated values; management decisions about resources and visitors are based on adequate scholarly and scientific information.

II. Provide for the Public Enjoyment and Visitor Experience of Parks

- a. Visitors safely enjoy and are satisfied with the availability, accessibility, diversity, and quality of park facilities, services, and appropriate recreational opportunities.
- b. Park visitors and the general public understand and appreciate the preservation of parks and their resources for this and future generations.

III. Strengthen and Preserve Natural and Cultural Resources and Enhance Recreational Opportunities Managed by Partners

- a. Natural and cultural resources are conserved through formal partnership programs.
- b. Through partnerships with other federal, state, and local agencies and nonprofit organizations, a nationwide system of parks, open space, rivers and trails provides educational, recreational, and conservation benefits for the American people.
- c. Assisted through federal funds and programs, the protection of recreational opportunities is achieved through formal mechanisms to ensure continued access for public recreational use.

IV. Ensure Organizational Effectiveness

- a. The National Park Service uses current management practices, systems, and technologies to accomplish its mission.
- b. The National Park Service increases its managerial resources through initiatives and support from other agencies, organizations, and individuals.

Funded Investments

In FY04, Hawai'i Volcanoes undertook numerous investment projects ranging from accessibility improvements to historical conservation. In total, park investment expenditures totaled \$6.5 million.

Kahuku Lands Acquisition (\$3.9 million)

In FY04, Hawai'i Volcanoes completed the final portion of the \$21.9 million Kahuku lands acquisition for \$3.9 million. This represented the largest historic land conservation deal in Hawai'i.

Upgrade Buildings and Trails Accessibility (\$1.1 million)

Several of Hawai'i Volcanoes' FY04 funded investments brought park buildings and trails into compliance with requirements of the Federal Architectural Barriers Act, Americans with Disabilities Act, and National Park Service policy on providing access to essential programs and facilities to all visitors and employees.

KVC's main building, outside courtyard, adjoining administrative offices, restrooms, and parking area were upgraded from partially accessible to fully accessible. Upgrades at both KVC and Jaggar Museum included improvements in the areas of hearing, vision, mobility impairments and language barriers. Planning for trail accessibility enhancements on the Ka'ū Desert Trail and Kipuka Pu'au Nature Trail ensure that the trails meet ADA guidelines.

Rehabilitate Four Miles of Crater Rim Drive (\$200,000)

The first phase of this \$4.4 million (total) investment was funded in FY04. Preliminary planning, design, procurement and other park-level project management activities were performed for the project, which will rehabilitate a four-mile segment of Crater Rim Drive that

provides primary visitor and employee access to the park entrance, KVC, Jaggar Museum, Kilauea Military Camp, USGS Hawaiian Volcano Observatory, Volcano House, and several trailheads and natural resource features. The investment will restore the road condition, preserve its historic features and upgrade all handicap ramps to meet current accessibility codes. Although a portion of the project remains unfunded, the target completion date for the rehabilitation is 2008.

Construct Safety Improvements on Highway 11 (\$184,861)

Highway 11 runs through the park, carrying an estimated 1,750 and 1,100 vehicles per day through the east and west entrance respectively. This project will redesign and widen certain key features of Highway 11 to address safety concerns that arise from traffic turning into the park and pulling off the road to photograph park entrance signs, and bicycle traffic moving along the busy highway. The project, totaling an estimated \$1.35 million, received \$184,861 in funding for preliminary planning and design. The investment is projected to be complete by 2009.

Provide Emergency Radio Communication System for Kahuku District (\$80,000)

Since Hawai'i Volcanoes acquired the Kahuku District in 2004, the park has made minimal improvements to the district's roads and buildings. This investment provided critical radio contact in the remote Kahuku District for both emergency and regular operational purposes. The project provided radio repeaters with FM interlinks in the district with phone hardline and computer links to the Pacific Area Communications Center.

In FY04, Hawai'i Volcanoes undertook numerous investment projects ranging from historical conservation to road rehabilitation and design. In total, park investment expenditures totaled \$6.5 million.

Construct Building at Eruption Site (\$56,900)

In addition to operations at Volcano House, under amendment to concession contract CC-HAVO001-89, the park's concessionaire sells food, water, flashlights and other supplies needed by visitors to safely and comfortably enjoy lava viewing at the end of the Chain of Craters Road. The sales building was constructed in FY04 to replace an older van which had served as the concession outlet. The new building is designed to be portable, allowing it to be towed to a safer location if lava flows shift direction and head towards it.

Conserve Historical Paintings (\$80,000)

Through \$30,000 in funding in prior fiscal years, the park conducted an initial evaluation of its 19th century paintings collection and prioritized the paintings in need of restoration. The park identified 14 paintings in need of immediate attention and began restoration work on four of the paintings. With FY04 funding, the remaining paintings will be restored for public display at Volcano House, Volcano Art Center, and Kilauea Visitor Center, and a rack will be constructed to safely store the paintings in a dust-free environment.

Conserve Library and Archival Holdings (\$149,715)

The park holds an extensive collection of files, photographs, maps, and rare books in its archive. This project provided the critical conservation necessary to ensure that the park's collections last for decades to come. Activities included the digitization of library holdings, the preservation of Volcano House registers, and the implementation of environmental controls in the facilities that house the library.

Rehabilitate Civilian Conservation Corps Stonework (\$75,000)

This investment completed the rehabilitation of 5,000 feet of Civilian Conservation Corps era stonework as part of a FY01 historic preservation project (\$80K). Stonework at the Thurston Lava Tube had become cracked and unstable, and posed a safety hazard for visitors. The project was contracted out to a historic preservation team that resided within the park for the duration of the project.



Designing for environmental challenges: this building constructed at the Eruption Site is designed to be easily relocated by heavy machinery if its current location is threatened by lava flows.



As part of the park's push to upgrade facilities and trails for accessibility, Hawai'i Volcanoes rehabilitated Sulfur Banks Trails to meet ADA accessibility standards.

Priorities and Strategies

Operations and Maintenance Priorities



Restoring endangered species such as the Hawaiian Honeycreeper or 'Apapane is one of the park's top operational priorities.

Restore Threatened and Endangered Species (\$367,000)

Recovery programs are urgently needed for the park's 27 endangered plants, nine endangered birds, and two other endangered animals. An alarming percentage of the park's native flowering plants (9%) and birds (21%) are endangered. Many of these species, including Hawai'i Volcanoes' four flagship species, the Mauna Loa silversword, Hawaiian goose (Nēnē), Hawksbill turtle, and dark-rumped petrel, require intensive long-term species recovery programs. Funding will be used to identify and manage factors responsible for species decline. Currently, one permanent National Park Service employee is dedicated to the Nēnē recovery program, while other essential endangered species personnel are funded on a short-term basis from park revenue through the Cooperative Ecosystem Studies Unit (CESU). The addition of 1.0 FTE in education, 1.0 FTE in protection, and 4.0 FTE in resource management will expand and professionalize the stewardship of endangered species, allow the park to sustain effective long-term recovery programs, and educate the public.

The Current Park Operations section identified additional funding needs for Hawai'i Volcanoes' operations. Of all funding needs, Hawai'i Volcanoes has identified the following top priorities for the next few fiscal years to help the park achieve its objectives.

The priorities listed below are organized by the park's strategic goals, and total \$2.6 million, including 37 FTE. This represents 50% of the park's operational shortfall. The management of the new Kahuku District is the highest operational priority of the park. However, estimating the specific funding needs for Kahuku requires both short-term and long-term assessments. In this section, funding requirements for operating Kahuku are based on short-term requirements, that will continue to oversee the District at its current level.

Goal: Preserve Park Resources

Strengthen Management and Operation of Kahuku District

The management and operation of the Kahuku District presents a new and unique challenge for the park. Since its acquisition, the park has maintained the Kahuku District at a minimum level, opening it periodically for special events, but otherwise keeping it closed (federal code of regulations 36CFR1.5). To continue managing the district at this level, the park requires a minimum of 7.8 FTE and a total of \$449,263, with an exception of \$10,000 for the Wildland Fire Management program, which is not included in this section.

Manage Museum Collection (\$185,000)

The valuable Hawai'i Volcanoes natural and cultural collections, soon to be 100 years old, have no permanent staff dedicated to their management. The cultural history collection consists of rare books, photographs, historic

paintings, and archives. The natural history collection houses rare and common plant and animal specimens collected in the early years of the park's development. The addition of 2.0 permanent FTE to fill the museum curator and museum technician positions will allow the park to manage the diverse collections and keep up with growing requests for information.

Restore Threatened and Endangered Species (\$367,000)
See sidebar to left.

Control Invasive Species (\$355,000)

Fencing and ungulate control have been highly effective tools in native ecosystem and rare species restoration in Hawai'i, triggering the recovery of native plants and slowing the spread of invasive weeds. Additional funds will provide for alien animal proof fencing costs, control of introduced animals, routine weed maintenance for 60,000 acres of Special Ecological Areas, and control of localized weed populations and new weeds parkwide. The addition of 5.0 permanent FTE will address the recurring and long-term nature of invasive species control.

Goal: Provide for the Public Use and Enjoyment and Visitor Experience of Parks

Provide Needed Law Enforcement Services (\$294,000)

Hawai'i Volcanoes is under exclusive federal jurisdiction; as such the park is entirely responsible for law enforcement and emergency services within its boundaries. Current staffing levels do not allow the Protection division to provide necessary coverage to ensure visitor and employee safety. In addition, the Protection division has insufficient resources to focus on crime prevention. The addition of 3.7 FTE will increase law enforcement presence, visitor education, and investigative success. These FTE also include a budget officer to assist in administration and budget activities for Law Enforcement.

Establish Preventive Maintenance Program to Prevent Deterioration of Park Assets (\$360,708)
See sidebar to right.

Boost Core Interpretive Content to Support Rangers and Visitors (\$380,000)

Ongoing training, strengthened liaisons with scientists and cultural advisors, and the development of new interpretive content is required to ensure that interpretive programs, materials, and rangers provide visitors with current scientific knowledge and Native Hawaiian cultural understanding. The addition of 5.0 FTE will allow the park to keep up-to-date with the constant flow of new knowledge from the continuous volcanic activity, scientific and resource management breakthroughs, and a Hawaiian cultural renaissance.

Goal: Ensure Organizational Effectiveness

Meet Statutory Planning and Compliance Needs (\$404,000)

Hawai'i Volcanoes is currently engaged in several planning activities, both internally and with external partners. The park plans to begin the development of its first General Management Plan (GMP) within the next five years. To date, planning activities have been completed by staff within various divisions and by the park's environmental protection specialist, a term hire. In order to complete the GMP, as well as other Development Concept Plans, Special Resource Plans, and parkwide plans, the park seeks to establish a permanent planning team comprised of a park planner, planning assistant, and environmental protection specialist. In addition, a historic architect will perform assessment and documentation of historic structures and rehabilitation planning and compliance. These 4.0 FTE are distributed as requirements in the Planning and Cultural Resource programs.

Tighten Financial Controls (\$69,600)

Hawai'i Volcanoes' financial and administrative staff manages an annual base appropriation of over \$5 million. Yet despite FY04 operational and investment expenditures of over \$15 million, the park does not have a parkwide budget analyst. The addition of 1.0 FTE to fill a budget analyst position would increase financial oversight and accountability by providing a devoted staff person to fiscal planning and reconciliation.

Manage Communications (\$72,200)

Hawai'i Volcanoes' single IT specialist supports the park's data, network, telecommunications, the Technology Enhanced Learning (TEL) training station and base radio systems and is frequently called to assist other Hawaiian Islands park units. An additional 1.0 FTE IT specialist is required to support the systems' approximate 206 users and ensure that all security, service and connectivity requirements are met.

Professionalize Maintenance (\$87,000)

Professional design and planning services are a critical need for Hawai'i Volcanoes. The park has taken temporary action by hiring a landscape architect on a term basis. However, the park has identified a need for 1.0 FTE in a permanent full-time landscape architect position.



Increased preventative maintenance would slow the deterioration of park assets such as this utility system.

Establish Preventive Maintenance Program to Prevent Deterioration of Park Assets (\$360,708)

Corrosive volcanic fumes, acid rain, high humidity, rapid vegetation growth, and saltwater spray accelerate the deterioration of the park's infrastructure and create safety concerns. This funding would allow development of a preventive maintenance program to transform maintenance activities from reactive to proactive. The addition of 8.3 base-funded FTE will allow the park to establish preventative maintenance programs for the park's roads, trails, buildings, utilities and equipment.

Investment Priorities



Current Resource Management facilities, like the one pictured, are limited in space and have poor ventilation. Funding is needed to meet accessibility and health standards.

Future capital investments constitute potential one-time expenditures that further develop the park's capabilities to achieve its mission. In total, Hawai'i Volcanoes has identified over \$20.6 million worth of potential investments. Priority projects are listed in order of park priority.

Construct New and Rehabilitate Existing Resource Management Facilities (\$6.7 million)

This group of projects would provide new and rehabilitated offices for the Resource Management division as well as USGS Biological Resources Division staff. Current structures have limited space and poor ventilation. The new office would eliminate crowding and improve environmental health for staff. Existing facilities would be rehabilitated to meet ADA requirements and bring fire alarms and sprinkler systems in compliance with national and National Park Service (NPS) fire and life safety standards.

Rehabilitate Kahuku Road System (\$4.7 million)

The gravel road system in the Kahuku District is currently in poor condition, with roads eroded by rain and vehicular wear. This investment would repair eroded areas on approximately 18 miles of single-lane unpaved road and $\frac{3}{4}$ miles of existing paved road. The work is needed to ensure that roads are safe for visitors and employees.

Construct Emergency Services Building (\$2.2 million)

Hawai'i Volcanoes' geography, geological features and high visitation make it prone to both natural and human emergencies. Currently the park's emergency services facilities are distributed over three separate locations. This project would centralize workspace, training, and equipment and vehicle storage for the park's emergency services and raise their level of efficiency, security and professionalism.

Replace Obsolete Jaggar Museum Exhibits – Concept Planning (\$1.5 million)

Exhibits in Jaggar Museum today are over 21 years old and do not reflect current scientific knowledge of Hawai'i's active volcanoes, or adequate health and safety information. Initial funding will be used for preliminary planning and design work for the replacement of obsolete displays at Jaggar Museum. The rehabilitated museum will provide critical safety information and updated interpretative displays on the Kilauea and Mauna Loa volcanoes. Partners of Hawai'i Volcanoes National Park will raise approximately half of the estimated \$1.5 million needed to make state-of-the-art exhibits for Jaggar Museum.

Install Narrowband Land/Mobile Radio System (\$415,515 including matching funds)

This investment will replace Hawai'i Volcanoes' old wide-band radio system with a new P25-compliant narrowband digital/analog (hybrid) design and help the park fulfill a Department of the Interior directive that all narrowband systems will be capable of transmitting in both analog and digital format. The project will use matching 50% funds from the WASO Equipment Replacement Program and will include system design, modifications to communications sites and infrastructure, and replacement of old analog equipment. P25-compliant radios will be given to law enforcement and public safety units.



Exhibits at Jaggar Museum are not current with today's scientific knowledge of Hawai'i volcanoes. Funding would replace obsolete displays and provide critical information on the Kilauea and Mauna Loa volcanoes.

Develop Essential Kahuku Orientation Kiosk (\$68,000)

Residents and tourists are curious about the park's new Kahuku addition and are already beginning to access this remote area of the park. This project will provide interpretive messages and critical safety and resource protection messages to orient visitors to the Kahuku District by enabling design, construction and installation of a 24-hour open-air information kiosk. The structure will provide orientation on key management issues and current geologic activity, and will be located in a key traffic corridor to reach locals and tourists alike. The project will include research on and writing of interpretive text for the kiosk as well as for use on the Hawai'i Volcanoes website. Examples of information to be included are NPS Leave No Trace principles, stewardship programs, and cultural topics such as the Hawaiian Paniolo ranching history.

Complete Rehabilitation of a Single Housing Unit (\$75,000)

In 2004, the park received \$11,300 to conduct minor repairs and complete an assessment of a historical housing unit (#6). Upon assessment, the building interior was found in need of rehabilitation. Additional funding will be used to complete the rehabilitation of this unit while applying the Secretary of the Interior's Standards for the Treatment of Historic Properties.

Complete Road Rehabilitation (\$5.4 million)

Although preliminary planning and design for both the Crater Rim Drive rehabilitation and Highway 11 construction projects (see Funded Investments section) were funded in FY04, the funding has not yet been approved for final planning and implementation of either project. These investments remain a high priority for the park. The park requires \$4.2 million for the Crater Rim Drive rehabilitation, and \$1.2 million for the Highway 11 construction.

Replace Cesspools with Water Treatment System (\$4.2 million)

To comply with an EPA mandate, the park must replace its old cesspool system with a new water treatment system by 2007. The \$102,220 preliminary assessment and planning for this project was funded in FY05. The unfunded balance will support the cost of the contract, supplies, equipment, and NPS project management personnel.

Investments Stemming from new Concession Contract and GMP (cost TBD)

Within the next five years, the park will issue a new concession contract and initiate the development of a new General Management Plan. Although no specific projects have been planned, it is assumed that these documents will identify several new capital investment priorities within the park's existing footprint.



Then and now: road work on Crater Rim Drive in 1941; Crater Rim Drive today. The park funded preliminary planning for the rehabilitation of three miles of Crater Rim Drive, which will further upgrade the condition of the road and improve accessibility for all park visitors.

Strategies for Reducing Costs



The park's road crew rebuilds Hilina Pali Road. Increasing preventative maintenance will help reduce the long-term costs of rebuilding park assets.

Implementing cost-reduction strategies can help the park use existing resources more effectively, freeing up funds from one area to be used in other under funded areas. Several strategies involve an upfront investment that will result in long-term savings. The following list provides a set of strategies for Hawai'i Volcanoes to achieve greater economic flexibility.

Increase Preventative Maintenance

Keeping pace with preventative maintenance needs has been a challenge at Hawai'i Volcanoes, and has resulted in expensive restoration projects. By increasing preventative maintenance, the park can reduce costs in the long-run by prolonging the life of park assets. The rehabilitation of Hilina Pali Road in FY03 and FY04 illustrates the cost of cyclic maintenance. The ten-mile portion of Hilina Pali Road requires chip sealing on a ten-year cycle. With 30 years since the last chip seal, however, the FY03 and FY04 investment to rebuild the road cost 2.5 times more than it would have had regular maintenance been performed. This difference equates to an additional annualized cost to Hawai'i Volcanoes of \$12,000 for one ten-mile portion of road. The park can realize significant long-term savings by performing further analysis on the cost of additional FTE for preventative maintenance vs. the savings from reducing the number of large investments for rebuilding deteriorated assets.



The vehicles pictured are a few of the GSA and interior-owned vehicles in Hawai'i Volcanoes' fleet.

Fleet Analysis

In FY04, Hawai'i Volcanoes had a total of 41 General Services Administration (GSA) vehicles and 39 Interior-owned vehicles, excluding heavy machinery and equipment. In FY04, the park spent approximately \$230,000 in rent on its GSA fleet (an average of \$4,833 per vehicle) and used the vehicles an average of 5,000 miles per year. Excluding Law Enforcement, 96% of the park's

fleet is comprised of large vehicles including SUVs, trucks, and vans. Although the park requires large vehicles to access and transport materials to remote areas of the park, many of these vehicles are being used by single individuals over short distances for activities that only require smaller vehicles. Replacing larger vehicles with smaller, more fuel efficient cars where appropriate would save the park 50% per vehicle in rental costs. In addition, investing in several small electric vehicles for shared use around the main offices would allow the park to use larger vehicles more effectively, while contributing to significant cost and fuel savings for the park.

Explore the use of competitive sourcing for day-to-day facility operations

The park performs many day-to-day operations that could be performed by contracted personnel. By examining opportunities to outsource activities that are currently performed by park staff such as grounds and janitorial services, campground maintenance, and fleet maintenance, as well as analyze outsourcing costs prior to implementing significant staff increases to assess whether private providers could perform the needed activities more effectively and efficiently, the park can save approximately 2% (\$25,000) of labor costs a year.

Hire term and contract personnel to oversee projects funded by revenue dollars

In FY04, Hawai'i Volcanoes spent only 30% (\$903,394) of its available revenue dollars on priority projects and investments, with the remaining funds carrying over into future fiscal years. Due to this trend, Hawai'i Volcanoes now has one of the highest amounts of unobligated revenue dollars within the National Park Service. In FY04, the park's total unobligated dollars, including carryover from previous fiscal years, equaled \$2.3 million. A primary reason for Hawai'i Volcanoes' high unobligated revenues is that

the park requires additional resources to plan, manage, and carry out investments and other park projects. Hiring contract or short-term specialists to assist the park in these activities would address this issue. These employees would provide valuable assistance to the park without any significant costs to the park's base budget. For example, contracting or hiring a project planner, contract specialist, and an additional environmental compliance specialist on a term basis would cost the park approximately \$220,000 in revenue funds annually. Assuming that these new positions would allow the park to spend 20% more of its unobligated dollars at a minimum, the park would still benefit from an additional \$380,000 in net revenues expended for project implementation.

Evaluate Stock Program

Hawai'i Volcanoes maintains a stock program with nine horses and mules, which provides a service to park divisions for packing supplies into the backcountry. In addition, horses are used during parades and special events. While the stock program preserves park resources by minimizing the amount of helicopter use, backcountry trips for fencing and other projects often require heavy supplies that cannot be packed in by horse. Given Hawai'i Volcanoes' unique terrain and the remoteness of its backcountry project sites, the park should audit the stock program and review the most effective combination of stock and helicopter use in the park. The stock program costs the park \$126,000 per year, including fixed and variable costs. For each animal by which the park reduces its fleet, the park can save \$9,500 per year in feed, healthcare, and labor costs.

Increase Volunteer Opportunities for Local Community

Volunteers currently assist Hawai'i Volcanoes in achieving essential functions by performing a wide array of park

activities. There is considerable interest in increasing the park's Volunteer In Parks (VIP) program, but due to limited housing space, the park can not accommodate more non-local volunteers.

By targeting local groups, such as a local Elderhostel and/or student's at the University of Hawai'i, the park can expand its current VIPs, without the need for additional lodging space. The local volunteers would not only help the park meet its mission, but also benefit from a deeper connection to the park and its resources.



The park's horses are used to carrying supplies to remote locations in the park like the Halapē shelter.

The NPS Scorecard

The NPS Washington Office has recently developed a new strategic tool to assist NPS managers in the evaluation and prioritization of unit funding requests. This tool, the NPS Scorecard, is designed to provide information on unit performance and efficiency across a variety of indicators. This information is collected in a centralized database and is designed to be used by Regional and Washington leadership as they prioritize these funding requests. The performance and efficiency measures found in the Scorecard include indicators such as the visitor contact rate, the cost of collection rate, the percent of invasive species contained in the park, and dozens of other criteria across a broad spectrum of park operational areas. Park units can be compared to one another individually, to all parks within a Region, or to parks of similar budget size or business model.

The Scorecard is currently being piloted with select park units nationwide to ground truth the measures and validate existing data. Hawai'i Volcanoes NP is actively working with NPS leadership and the Scorecard Working Group to provide feedback on performance and efficiency measure, and will be using the tool once it is available to evaluate its OFS funding requests for FY '08.

Strategies for Increasing Non-Appropriated Funding



Implementing an automated fee machine like this one, recently installed at Haleakalā National Park, will increase visitor fee receipts by continuing to collect fees after entrance booth station hours.

Hawai'i Volcanoes can generate additional revenues by evaluating and implementing new strategies. The following strategies will help raise funding from non-appropriated sources, thereby benefiting the park.

Implement Automated Fee Machine (\$130,000 year one, \$380,000 each subsequent year)

One of Hawai'i Volcanoes' main visitor draws is a popular after-hours phenomenon: visitors enter the park at night to view the glowing surface lava flows from Pu'u 'Ō'ō vent spilling into the ocean. A count performed during a high visitation period observed an estimated 79 cars in one night that entered after the entrance booths closed. Capturing these entries outside of booth operations using an automated fee machine will increase park revenues significantly. Taking into consideration the initial costs and visitor reductions associated with installing automated fee machines, the park could capture an estimated \$130,000 in new revenue the first year, and \$380,000 each subsequent years.

Implement Guest Donation Program

On October 1, 2003, the Secretary of Interior's Office granted a permanent extension for the National Park Guest Donation Program. This program allows lodge guests staying in the park the opportunity to make a voluntary donation of \$1 per night to support the park. Implementing this program at several locations will increase available donation funds. Potential locations within the park include Kīlauea Military Camp and Volcano House. With the help of the Friends' Group, the park can implement this program outside the park at local lodging establishments.

Expand Capacity of Friends' Group

The mission of the Friends of Hawai'i Volcanoes National Park (FHVNP) is to support and promote restoration,

protection, understanding, and appreciation of the park. The park collaborates with FHVNP to offer educational seminars, special events, preservation projects, and other programs. By investing further in this partnership, the park will continue to benefit from joint fundraising efforts. Possible fundraising ideas include membership drives, guest donation programs, donation boxes, annual auctions, special fundraising events, adopt-a-fauna/flora, fee-based interpretive tours, endowment or planned gift campaigns, and capital investment projects.

Review lease agreements for historic and non-historic structures

The park owns a total of 198 buildings, the majority of which are classified as historic structures. Many of these buildings are used as office space for park staff and as housing for volunteers and partners. Several of these buildings, totaling over 27,000 square feet, are currently used by partner agencies such as the U.S. Forest Service, under interagency contracts. While these agencies pay a fee for custodial operations and utilities, the park should consider reviewing the agreements to ensure cost recovery for the maintenance and historic preservation of these buildings. At fair market value for office space, this space can generate up to \$867,000 per year in additional revenue.

Install Donation Boxes at External Affairs Events

In the first ten months of FY05, the park's donation boxes at the Kīlauea Visitor Center, Jaggar Museum and Nāmakani Paio campground generated almost \$27,000 in donation income. Additionally, the park places boxes at the Eruption Site, at events such as the Cultural Festival, and at its After Dark in the Park interpretive programs. box at other events such as the Wilderness Run could generate further donation income.

Evaluate Cost Recovery Fees

The park may be able to enhance non-appropriated funding by implementing or raising existing fees in several areas:

- Implement frontcountry and backcountry camping fees. Implementing fees at the park's two frontcountry campsites and for backcountry permits would generate additional revenues and begin to recover campsite maintenance costs and administrative overhead costs.
- Charge entry fee for Volcano House and Kilauea Military Camp (KMC) dining guests. Visitors entering the park solely to dine at Volcano House or KMC enter free of charge; and it is not certain that such guests do not venture further into the park. Charging a park entry fee, to be paid by these guests or by Volcano House and KMC, will increase revenues. In the first 11 months of FY05, Volcano House reported an average of 130 guests per month entering the park solely for dining. For Volcano House alone, this equates to an additional \$7,800/year, assuming two people per vehicle.
- Charge entry fee for Kilauea Wilderness Run Participants. Park resources help set up, monitor and clean up after the Wilderness Run. A park entrance fee for participants would help recover costs. Assuming a per-person individual weekly pass price of \$5, this fee would have generated an additional \$5,795 from the 1,159 Run participants in 2005.
- Raise film permit application fees. The park currently charges \$150 per film permit application for its approximate 50-75 permits processed per year. This fee is meant to recover the cost of application processing, and is an estimated average cost per application. However, since processing time varies greatly with complexity of filming

activity, number lead to greater adherence to waiver terms, thereby reducing wear and tear on park assets of crew members, and nature of props and equipment involved, replacing the uniform charge with one that varies with these factors will yield a truer cost recovery.

Audit All Fee Waiver Holders

The park issues fee waivers for education groups, guests of KMC, and active duty personnel. Fee waiver holders are bound by the terms of their waiver to remain in certain areas of the park. Implementing an audit process to verify that waiver holders are adhering to the terms of their waiver may lead to increased revenues if waiver holders are found in other park areas and asked to pay the regular entry fee. Alternatively, the audit process may lead to greater adherence to waiver terms, thereby reducing wear and tear on park assets.



An aerial view of some of the park's buildings including the Volcano House, Kilauea Visitor Center, and Volcano Art Center at the edge of Kilauea Caldera.

Strategies for Increasing Efficiencies

In addition to reducing costs, the park recognizes the value in reevaluating its current operations and using techniques to increase efficiency. The following list provides a set of strategies for Hawai'i Volcanoes to achieve greater economic efficiency.

Strengthen Financial Management: Park Administration

The park lacks a budget analyst to oversee and centralize financial operations for the park's various divisions. A budget analyst will help enhance the park's financial management by streamlining and improving the park's current budget process. The analysts will 1) oversee budgeting operations, 2) instituting quarterly meetings with division chiefs and program assistants to evaluate financial status, 3) increasing training opportunities for budget assistants in each division, and 4) conducting annual budget audits of each division to ensure greater transparency and accountability. The addition of a budget analyst will result in better financial tracking and management for the park, as well as allow the Administrative Office to focus on more high level financial matters.

Several park divisions, some with annual expenditures of over \$1 million, currently operate without dedicated budget and administrative support staff. As a result, senior management performs administrative tasks such as payroll and tracking project expenditures, tasks which should be delegated to support staff. By performing administrative duties, senior management staff is pulled away from duties that require their unique expertise, such as strategic planning. In addition, administrative tasks effectively become more expensive for the park. Of the divisions currently without adequate budget and administrative support staff, senior staff spends 25% of their time on budget-level tasks. The value of their labor is estimated

at \$57,000. This same time filled by support staff would have a value of approximately \$29,000, yielding a net savings of \$28,000.

Strengthen Financial Management: Auto Shop

The park's auto shop provides an additional opportunity for the park to benefit from increased financial controls. The shop lacks a controlled storage space and a system to track use of supplies by divisions outside of the shop's mechanics. The resulting inability to track supply usage and bill appropriate divisions ultimately leads to the inability to make cost-effective decisions regarding inventory levels, re-order volume, and reduces the park's negotiation power during the purchasing process. This lack of control can be addressed in a number of ways, which include hiring a dedicated employee to manage and track inventory use, and bill appropriate divisions; or contracting with a supply company to maintain a controlled inventory at the auto shop, billing the shop as supplies are used.

Implement Guidelines for Purchase and Disposal of Interior-Owned Vehicles

In addition to replacing the park's vehicles with smaller, more efficient cars (discussed in Strategies to Reduce Costs), the park can benefit from improve the quality, management, and effectiveness of the park's vehicle fleet by implementing guidelines for the purchase and disposal of Interior owned vehicles. A fleet manager can make effective decisions regarding the acquisition, pooling, and disposal of vehicles. The fleet manager would introduce a formal approval process for all additions/deletions to the park's fleet, with guidelines to ensure that vehicle specifications match the task that the vehicle is being used for.

Additional Information

The Kahuku Land Acquisition

In 2004, the National Park Service purchased the Kahuku Ranch from Damon Estates. The purchase increased the size of the park by 115,788 acres, or 56%. This acquisition represented the largest land conservation deal in Hawai'i's history, and it has expanded both the immediate and long-term operational requirements for Hawai'i Volcanoes National Park.

The Kahuku District holds significant geological, natural, and cultural resources. In this area alone there are dozens of rare and endangered plants, undiscovered archeological sites, and the most active rift zone of the Mauna Loa volcano. Some of the endangered species include forest birds such as the Hawaiian creeper, Hawaiian hawk, Nēnē, forest mammals such as the Hawaiian bat, as well as unique flora such as the endangered Mauna Loa silversword plant. Placing this area within Hawai'i Volcanoes enables the National Park Service to manage the greatest threats to conservation, such as ranching, unsustainable logging of native koa trees, and the spread of invasive mammal species.

Residents of the Island of Hawai'i are eager to access these lands that have been closed off for over 100 years. To provide for public enjoyment of this region, the park requires significant resources to operate and manage the Kahuku District full-time. The park requires an additional \$1.64 million in funding, which includes 23.0 FTE to support interpretive programs, invasive species control and ecosystem restoration, cultural resource protection and compliance, maintenance, law enforcement, administrative operations, and district management. All future operations will be guided by the Kahuku Interim Operating Plan in the short-term and by the General Management Plan upon its completion.

The General Management Plan

General Management Plans (GMP) are used by individual park units in the Park Service to clearly define the resource conditions and visitor experiences to be achieved by a park unit, provide a framework for managers to use when making decisions about park operations, and to ensure that the foundation for park decisions making has been developed in consultation with interested stakeholders. The park is currently operating under an outdated, 30 year old GMP. Since the plan was written in 1975, major changes have occurred in NPS management, policy land ownership, and practices that directly affect the park. For example, a continuous lava flow since 1983 has reshaped the east side of the park, destroyed a visitor center and roads and added over 500 acres of new land. In addition, the 2004 land acquisition of the Kahuku District added 115,788 acres to the park. A new General Management Plan will provide a comprehensive management document that will address these changes and others and further develop strategies to protect, maintain or restore resources and address visitor access, services and development.

Like any successful business, the park needs a blueprint that defines the actions and procedures necessary to build a successful organization. The blueprint assesses not only where the park is now, but where it is headed, and by which means to accomplish its mission. A new GMP will allow the park to significantly improve its operations, the quality of facilities and services, and be more cost-effective and efficient in its delivery of services. Estimated cost for the new GMP is \$900,000 with a start date of FY07.



This original artwork by artist Dietrich Varez celebrates the land and life of Kahuku—a maile leaf lei encircles a steaming spatter rampart, 'ama'u fern, 'ōhi'a-lehua tree, Haleakalā silversword ('āhinahina), and Hawaiian goose (nēnē).



The Kahuku District contains an active rift zone of the Mauna Loa Volcano 13,667 ft. above sea level.

Partnerships



Partners like the Volcanoes Art Center promote Hawai'i's cultural heritage by bringing special events like this Hula performance to park visitors.

A key objective of the park is to partner with other organizations to promote the appreciation and stewardship of park resources. The park recognizes the tremendous benefits that can result from effective partnerships and seeks to develop strategies to better suit partnership development needs. As a result, Hawai'i Volcanoes prioritizes the cultivation of relationships with other agencies that support the park's mission. Several of the park's significant partnerships are listed below.

Friends of Hawai'i Volcanoes National Park

The Friends of Hawai'i Volcanoes National Park (FHVNP) is a non-profit organization whose mission is to support and promote restoration, protection, understanding, and appreciation of the park. FHVNP was originally founded as Friends of 'Āinahou, whose mission was to preserve the historic 'Āinahou Ranch. In 2005, the organization changed its name and broadened its focus to encompass fundraising for a diversity of park projects. Between 2002 and 2005, FHVNP's membership base expanded from 40 members to 162 members. In 2004, FHVNP secured \$5,000 from the Hawai'i Tourism Authority for the Kilauea Cultural Festival, and held several educational seminars on topics related to the park and its resources for members. In 2005, FHVNP provided \$7,500 in matching funds to a grant from National Parks Foundation (NPF) and Unilever for a Junior Ranger Program.

'Ōla'a Kilauea Partnership

The 'Ōla'a Kilauea Partnership is a cooperative land management effort for approximately 420,000 acres of state, federal and private land. The goals of the partnership are to enhance the long-term survival of native ecosystems and manage a large, contiguous landscape across multiple boundaries. The area contains one of the best remaining native forest ecosystems in

Hawai'i and is essential for four species of endangered forest birds and 22 rare plant species. The park works in conjunction with several partners to purchase and manage land, including the U.S. Fish and Wildlife Service, Kamehameha Schools, and the Nature Conservancy. The coordinator of the program is a CESU cooperator.

Hawai'i Natural History Association

The Hawai'i Natural History Association (HNHA), in partnership with the National Park Service (NPS), advocates and promotes the discovery, understanding, appreciation, enjoyment, and stewardship of the natural and human history of the National Parks and the Pacific. The Association assists the park in serving visitors and protecting the resource through donations to park programs and sales of educational and interpretive materials. In FY04, HNHA contributed \$7,500 to the Kilauea Cultural Festival, and also provided \$400,000 for the rehabilitation of the Kilauea Visitor Center. Founded in 1961, HNHA is one of the oldest partnership in the park.

Volcano Art Center

The Volcano Art Center (VAC) operates under a Cooperative Agreement. Founded in 1974 as a nonprofit organization, its mission is to promote, develop and perpetuate the artistic and cultural heritage of Hawai'i's people and environment through activities in the visual, performing, and literary arts. The VAC gallery exhibits and sells fine art of the islands and is housed in the original 1877 Volcano House. VAC hosts hula performances, cultural demonstrations, art exhibits, and educational activities. Approximately 250,000 people participate in VAC programs each year.

Student Conservation Association

The mission of the Student Conservation Association is “to build the next generation of conservation leaders and inspire lifelong stewardship of our environment and communities by engaging young people in hands-on service to the land.” In the last few years, Hawai‘i Volcanoes has continued to expand its partnership with SCA. In 2005, the park received a “Proud Partner” grant with the Ford Foundation and the National Park Foundation to support two SCA interns working in Interpretation as Transportation Scholars. Additionally with SCA, the park hired two backcountry rangers, and three business plan consultants.

Kīlauea Military Camp

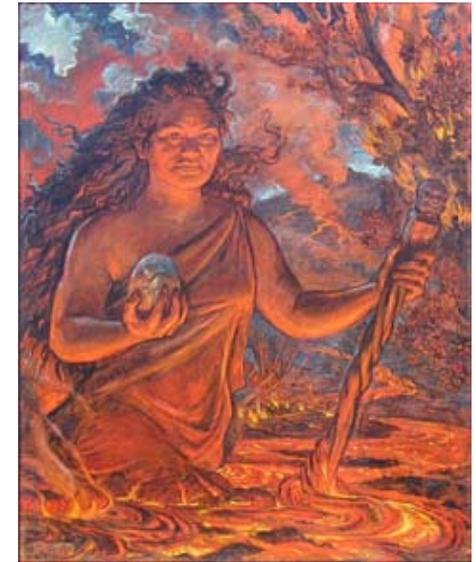
Kīlauea Military Camp (KMC) operates in the park under a Special Use Permit with the Department of the Army. The camp began as a private business venture in 1916 and management was taken over by the military in 1921. It provides lodging, food service and retail sales. KMC operates as a joint service recreation center for military and their guests. KMC is not open to the general public and its use is intended to be restricted. However, KMC permits non-profit and educational groups to use its facilities. KMC is one of the highest grossing facility in operations in the Pacific and does not return any revenues to the park service.

Inter-Agency Agreements

The National Park Service manages interagency agreements with the U.S. Geological Survey (USGS), the USGS Hawaiian Volcano Observatory, and the USGS Biological Resources Division to provide goods and services through an authority of the Economy Act of 1932. The purpose of these agreements is to provide dormitory quarters for USGS personnel, utilities, janitorial services, garbage collection, lawn maintenance, water, office and laboratory space, and vehicle and equipment maintenance. The agreement is annually modified each federal fiscal year based on availability of funds, and the services and goods provided by NPS.

Ken Direction Corporation

Ken Direction Corporation, DBA the Volcano House, is the sole concession operation in the park and provides hotel services, a restaurant and lounge, gift shop, and contact station at the eruption site for the benefit of all visitors. This operation is the highest grossing concession operation in the Pacific Island network. The contract will expire in 2008.



A portrait of the Hawaiian deity Pele hangs in Kīlauea Visitor Center to celebrate Hawai‘i Volcanoes’ unique cultural history.

Annual Kilauea Cultural Festival



Visitors learn how to make traditional Hawaiian crafts like the lei at the Kilauea Cultural Festival.

For the last 23 years, Hawai‘i Volcanoes National Park has hosted the annual Kilauea Cultural Festival, which is co-sponsored by partner organizations such as the Hawai‘i Natural History Association, Friends of Hawai‘i Volcanoes, KMC, Volcano Art Center, and the Hawai‘i Tourism Authority.

The park recognizes the vital connections that the island’s first people have to sacred sites in and around park grounds. For the last twenty-five years, the festival has provided opportunity for native born Hawaiians and newcomers to the islands to celebrate and promote native Hawaiian culture. Visitors can learn how to make Hawaiian crafts, experience traditional hula dances, and hear Hawaiian musical performances.

Dedicated staff in all divisions of the park spent over 1,500 hours in 2005 to prepare for this event. NPS staff from the Pacific Island network contributed the equivalent of \$32,800 in labor. In addition, volunteers from park partners provided the equivalent of \$33,720 in labor. The park also raised \$13,000 in grants and donations to support the event.

The Kilauea Cultural Festival is free to the public. As one of the most important special events each year, it demonstrates the remarkable role that the park and park partners play in promoting the preservation of traditional Hawaiian customs on the Island of Hawai‘i.

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