



Joshua Tree National Park Business Plan

Fiscal Year 2001



Introduction

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

The goal of the business planning process is 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 current park operations and funding. Finally, it outlines park priorities and funding strategies for the future.

Parks apply a common method when developing a business plan. Park activities are organized into five functional areas that describe all areas of business for which a park is responsible. The functional areas are further broken down into 35 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 35-program structure for all parks provides a needed measure of comparison across all park units.

The process is facilitated by the use of a web-based application that allows parks to complete data collection, analysis, and document production with step-by-step instructions.

Completion of 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.

Superintendent's Foreword



It is the general sentiment of the American public that the value of our national parks cannot be measured, that they are priceless and deserve the highest level of protection. National Park Service managers struggle with the cost of meeting this admirable goal.

In today's world, maintaining park operations is equivalent to managing a community, township, or city. Park managers must manage available congressionally-appropriated funds and visitor fees to operate the park on a daily basis, to maintain the park's infrastructure and resources, and to invest for the future. Like many in the business world we employ a variety of business initiatives to meet growing fiscal demands and public expectations. For example, at Joshua Tree National Park, we have implemented cost-saving measures by reducing our reliance on conventional fuels and commercial utilities through the installation of solar power generating systems, by using electric and compressed natural gas powered vehicles, and by recycling waste. The gains in efficiency thanks to these initiatives are significant; however, a more comprehensive business approach for assessing parkwide operations is still necessary.

The National Park Service, in partnership with the National Parks Conservation Association, has developed a new business initiative for analyzing park operations. This business plan is a product of that partnership.

Business plans provide another perspective of park operations and an accounting of park financial and human resources. From this analysis, parks can define the financial and staff resources required to provide for the visitors' enjoyment and the protection of park resources. Importantly, business plans also enable park managers to look to the future and identify innovative strategies for reducing costs and raising new funds.

One thing is certain: the financial burden of sustaining park operations has increased significantly over the years and is

expected to continue to grow.

Today's park managers will need to enlist the support of gateway communities, the private sector, philanthropic organizations, and the public, in order to find creative solutions for achieving sustainable park operations. This business plan is a bold and refreshing first step towards achieving that end.

Your thoughts and comments are welcome.

A handwritten signature in black ink that reads "Ernest Quintana". The signature is written in a cursive, flowing style.

Superintendent Ernest Quintana

Executive Summary

This business plan is designed to identify and document the operational capabilities of Joshua Tree National Park. The key findings described in this plan show a gap between current funding of the park's operations and the funds necessary to fulfill the goals and mission of the National Park Service.

Joshua Tree National Park was first established as a national monument in 1936 and then became a national park in 1994. The park was established to preserve an ecologically dynamic region of the California Desert, a transition zone between the Colorado and Mojave Deserts. The park provides recreational opportunities to approximately 1.2 million visitors annually, and protects and preserves a rich array of natural and cultural resources.

Key Findings

■ Base operations of the park are not funded sufficiently to meet the basic goals and mission of the park as defined by Congress. In fiscal year (FY) 2001, Joshua Tree National Park spent \$6.0 million, while \$8.6 million was needed to meet its operational and maintenance needs. This shortfall of \$2.6 million represents 31% of the overall funding needed by the park. Insufficient funding results in the failure to achieve many of the park's primary goals. For example, the park cannot honor all requests for educational outreach programs, nor can it monitor all the species of special concern within the park. This plan also reveals that the park is increasing its reliance on non-recurring funding to pay for the day-to-day operations of the park.

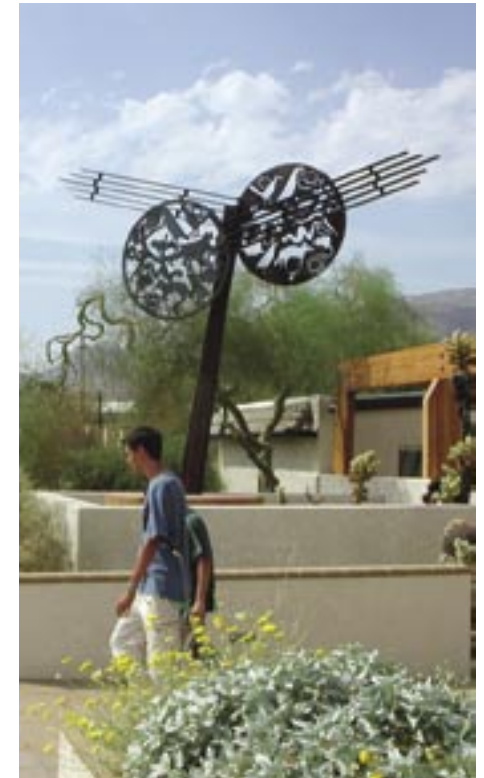
■ The functions most affected by the funding shortfall at Joshua Tree National Park are Resource Protection, Visitor Experience and Enjoyment, and Facility Operations. Only 62% of funds needed are available for these Resource Protection tasks. Visitor Experience and Enjoyment, which includes those programs designed to educate and protect visitors, is currently receiving only 66% of required funds. Facility Operations, which receives only 72% of its required funds, encompasses the day-to-day management of the

park's infrastructure. Increased funding would allow the park to extend its operations to seven days a week to better meet visitor use needs.

■ In FY 2001 the park spent \$1.5 million to finance a number of investments. These are significant one-time expenditures for the development of the park's infrastructure and information base. The investments funded in 2001 included renovations of park headquarters and the Oasis Visitor Center, installation of solar power systems, and new visitor center exhibits. This plan also identifies a number of unfunded investment needs. The park's top eight investment priorities total \$19.9 million and include rehabilitation of trails, campground roads, abandoned mine sites, and primary park roadways.

■ Strategies to remedy the funding shortfall at the park rely on reducing costs through better application of resources and generating additional funding through partnerships and new revenue sources. The park will continue to implement a number of cost reduction strategies such as cost sharing with other parks and replacing diesel-generated and public utility electricity with photovoltaic (solar) energy systems.

The future is bright at Joshua Tree National Park. While additional base operating funds are needed, the park is committed to fulfilling its mission in the most efficient means available.



Visitors stroll past the kinetic sculpture at the park's newly-refurbished headquarters complex.

Park Overview

Joshua Tree Inventory

Natural Features

792,726 acres
585,040 acres of wilderness
Elevations from 536 to 5814 feet
712 plant species
40 reptile species
41 mammal species
240 bird species
1 federally threatened species (desert tortoise)
1 federally endangered species (Coachella Valley milk vetch)
26 species of special concern

Cultural and Historic Features

501 archeological sites
88 historic structures
19 cultural landscapes
123,253 items in the museum collection
1 paleontological area, 8 potential areas

Facilities

88 miles of paved roads
81 miles of unpaved roads
191 miles of hiking trails
32 trailheads
911 regulatory and 123 trail signs
9 campgrounds with 523 campsites
10 picnic areas with 38 picnic sites
10 water treatment facilities
9 solar power stations
4 maintenance facilities
8 employee housing units
95 vehicles in fleet
3 visitor centers

Two desert ecosystems merge within Joshua Tree National Park, creating unique associations of plants and animals. The Colorado Desert occupies the eastern half of the park where creosote bush, ocotillo, and palo verde dominate. The Mojave Desert spans the western half of the park and provides a higher, slightly cooler, and wetter habitat for Joshua trees. The Joshua tree is a critical component of the Mojave Desert ecosystem and provides habitat for birds, mammals, insects, and lizards. The park provides an escape from urban pressures, a place in which to experience solitude and wilderness areas, and a chance to explore those areas on foot.



Wildlife includes desert tortoises, rattlesnakes, bighorn sheep, golden eagles, desert iguanas, roadrunners, and a range of other species that represent important park resources. In recent years, the park has faced new challenges associated with urban sprawl such as degradation of air quality, increased levels of nitrogen in the soils, and human interaction with wildlife. The park is developing strategies to address the effects of these human influences.



Joshua trees and large boulders are characteristic of the Mojave Desert.

Despite the seeming vastness of the desert landscape, the park's ecosystems are fragile and marked by climatic extremes. Natural water sources in the park are scarce, and the land appears parched. Rainfall is infrequent, but sudden downpours occasionally inundate the land. The park offers remarkable geologic displays of exposed granite monoliths and rugged mountains of rock. Washes, playas, and alluvial fans coexist to form an extensive and complex desert mosaic. There are just 158 desert fan palm oases in North America—five of them are located within the park. Oases and natural springs support vegetation and wildlife distinct from the species found in the rest of the park.

In addition to its extensive natural resources, the park also offers a rich cultural history. During the wetter Pleistocene Era, the Pinto Culture lived in the Pinto Basin region as hunters and gatherers along what used to be a slow-moving river. Several American Indian groups lived in the area after Pinto Culture; traces of their existence include petroglyphs, pictographs, and ceramic pottery found in washes and among rock formations. In the late 1800s prospectors, cattle ranchers, and miners arrived in the desert. These

Park Mission Statement

The National Park Service at Joshua Tree National Park preserves and protects a representative area of the Colorado and Mojave Deserts and the natural and cultural resources for the benefit and enjoyment of present and future generations. The park strives to maintain its rich biological and geological diversity, cultural history, recreational resources, and outstanding opportunities for scientific study.

Enabling Legislation

On August 10, 1936, Presidential Proclamation No. 2193 created Joshua Tree National Monument, consisting of 825,340 acres. In 1950, the size of the monument was reduced by almost 300,000 acres as areas containing mineral reserves were excluded from federal protection. On October 31, 1994, the California Desert Protection Act (Public Law 103-433) added 234,000 acres to Joshua Tree National Monument and changed its status from a national monument to a national park.

settlers built dams and mines; their remnants are found at Ryan Ranch, Desert Queen Mine, Barker Dam, and Desert Queen Ranch, which are all popular visitor destinations today. In the 1930s, aided by the construction of new roads and the advancement of the automobile, homesteaders moved into the desert region. As settlers claimed homesteads on desert tracts, increased human contact began to impact the fragile desert ecosystems.

These stresses to the desert landscape inspired Minerva Hamilton Hoyt, a Pasadena native, to work for the protection of the desert and the creation of a national monument. She worked to bring national attention to the issue of desert protection, and was instrumental in helping to establish Joshua Tree National Monument in 1936.

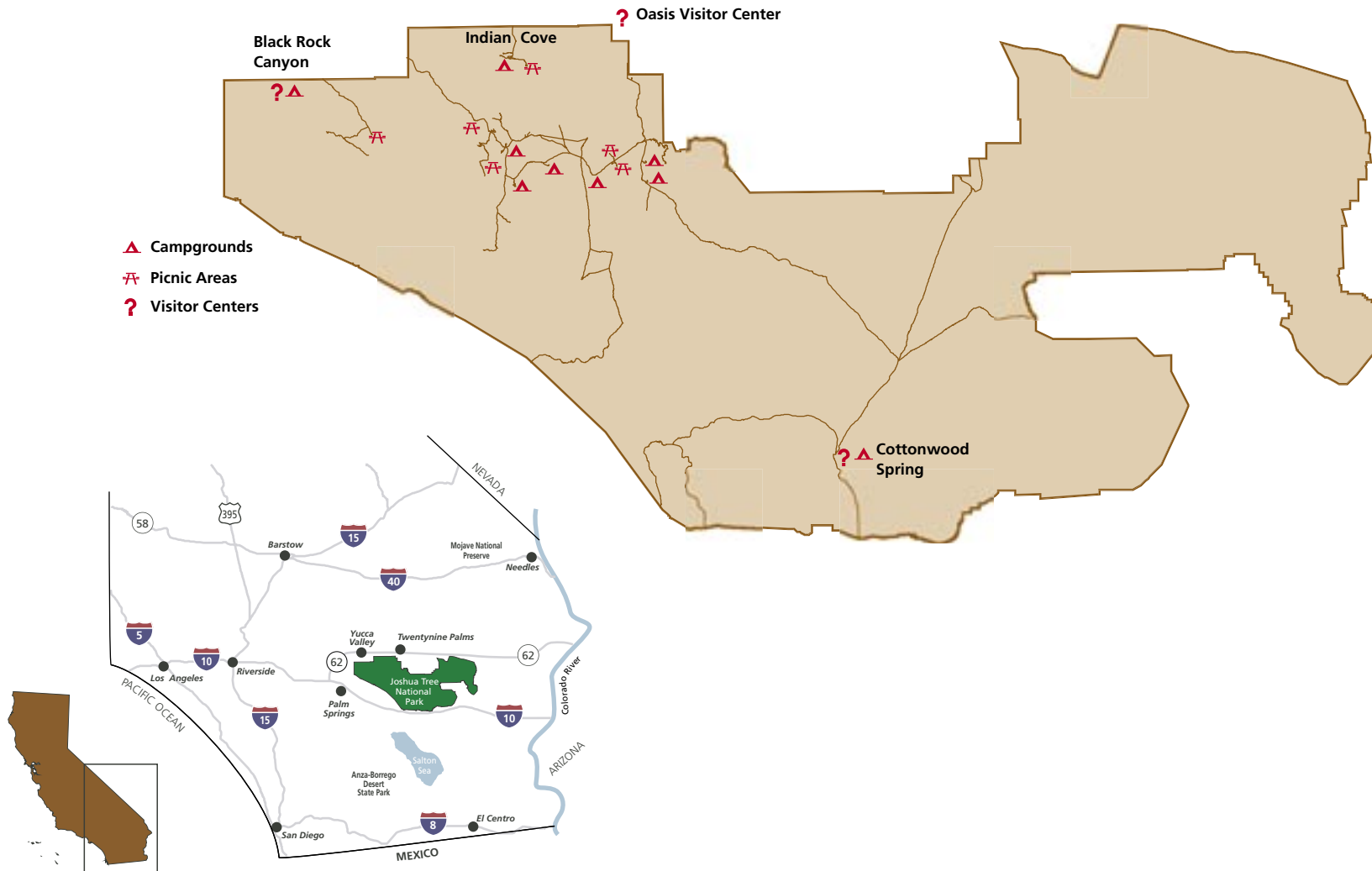
Located 140 miles east of Los Angeles and just north of Palm Springs, the park follows visitation patterns associated with those of an urban park. Visitors come to Joshua Tree National Park to bird-watch, backpack, hike, camp, horseback ride, and rock climb. The park is recognized worldwide as a climbing destination with more than 4,500 established climbing routes concentrated within approximately 100,000 acres of land in the western section of the park. During wet years, the park offers a vivid display of wildflowers, attracting a higher numbers of visitors.

Exploding rates of population and economic growth in Southern California have transformed Joshua Tree National Park into an ecological region surrounded by freeways, highways, industrial sites, cities, and planned communities. Expansion of human activities along park boundaries has created new challenges for the park managers in terms of protecting park resources, mitigating visitor impact, and minimizing the incompatible use of boundary areas.



Visitors interested in birdwatching, wildlife viewing, or a cool place to rest on a hot afternoon head for one of Joshua Tree's five fan palm oases.

Joshua Tree National Park Map



Historical Context

Fund Source Analysis

The park's annual funding from all sources has grown from \$3.9 to \$7.5 million since FY1992. Joshua Tree's success in securing project funds and its participation in the Fee Demonstration program is largely responsible for its funding growth. The park receives funds from four sources:

Appropriated Base (base)

Each year Congress sets a base budget for the park and mandates that the park fund all permanent staff and recurring operating expenses from that budget. On average Joshua Tree National Park's base budget represents 59% of its total annual funding.

Appropriated Non-base (project)

Each year Congress provides the National Park Service with funds for one-time projects. These funds are managed centrally and are distributed on a competitive basis. The park has been successful in securing project funding, typically receiving 30% of its annual funds from this source.

Reimbursable

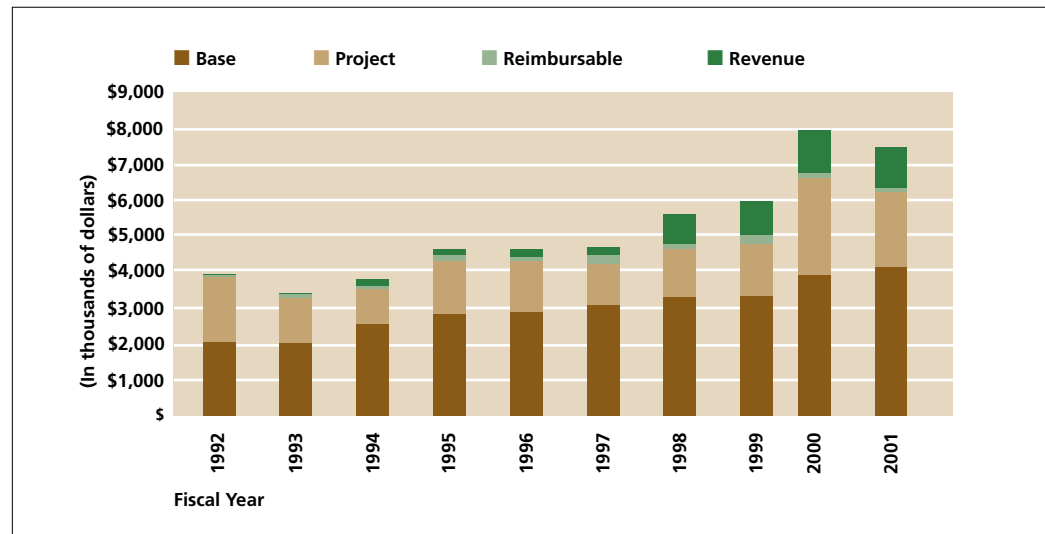
In addition to dollars appropriated to the park, Joshua Tree National Park often collaborates with other government agencies. These agencies reimburse the park for its efforts at an average annual rate of \$140,000. Representative projects include the construction of a multi-agency fire station in FY 1999 and the ongoing contract sale of desert plants grown in the park's nursery.

Revenue

In FY 1997, the National Park Service launched the Federal Recreation Fee Demonstration program (fee demo), allowing parks to retain up to 80% of visitor fees. These funds are used to improve park infrastructure and visitor services. Fee demo revenue has grown from \$800,000 in FY 1998 to \$1.1 million in FY 2001.

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Funding by Source



Adjusted Base Budget

Despite base budget increases during the 1990s, the park does not have the resources it requires to fulfill its mission.

The park's appropriated base budget has grown from \$1.1 million in 1980 to \$4.1 million in 2001, which equates to a compound annual growth rate (CAGR) of 6.3%. While this growth appears to be substantial, after adjusting for inflation, the 2001 base budget is only \$2 million, a CAGR of 2.6%. The inflation-adjusted figures are calculated using the government-published Consumer Price Index. The 20-year story of the park's base budget can best be understood by examining the funding trends depicted on the graph below.

The park's inflation-adjusted base budget actually decreased during the 1980s, not exceeding 1980 levels until FY 1991. This led to a deterioration of park services and resources, which the park has had to address over the past decade.

In 2000, Congress granted the park a \$498,000 increase to its base budget, the largest increase that Joshua Tree

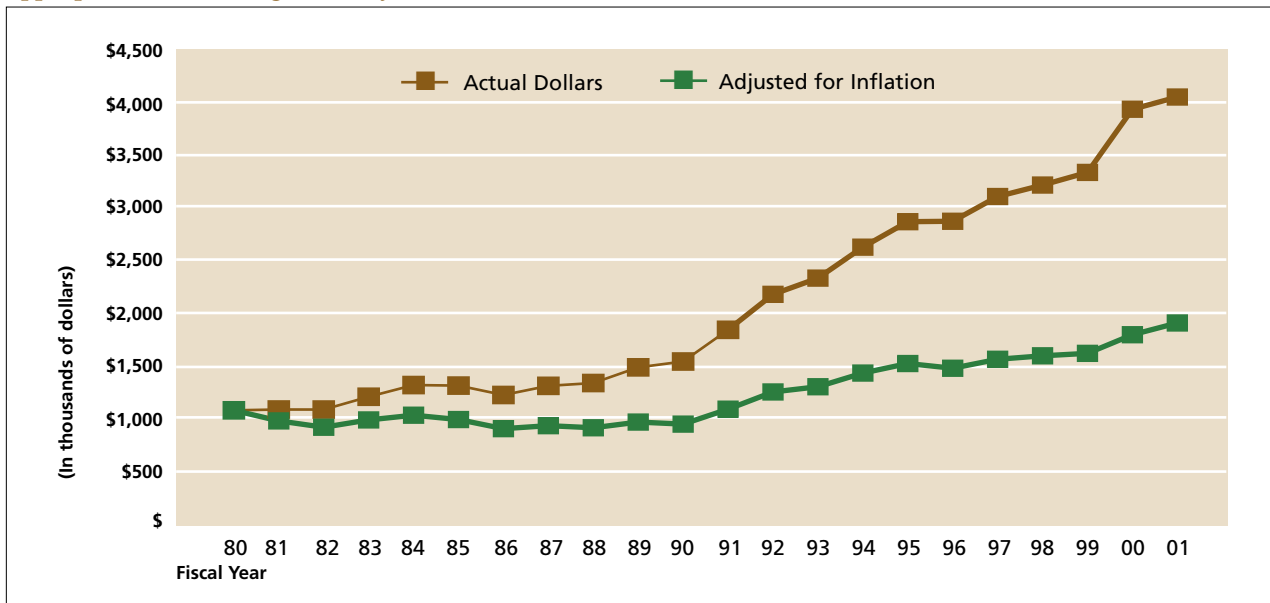
National Park has received in 20 years. Excluding this event, the park has averaged annual budget increases of \$136,000 since 1992; this money has been used to cover uncontrollable cost increases such as salaries and benefits.

Despite base budget increases during the 1990s, the park does not have the resources it requires to fulfill its mission. In addition to the costs of operating a larger park, this financial shortfall can be traced to four causes:

- A larger staff with higher salaries and benefits
- Increased operating costs
- Significant growth in visitation
- Reliance on project funds to cover operational costs

These issues will be analyzed on the following pages.

Appropriated Base Budget History



Analysis of Real Growth

Over the past decade, the cost of employing permanent park staff has increased dramatically. In FY 1992, the total cost of labor was \$1.9 million, which equals \$2.4 million in 2001 dollars. Comparatively, in FY 2001 labor costs totaled \$4.6 million, a 92% increase over 1992.

Staff Increases

As a result of the California Desert Protection Act the park grew in both size and profile. The growth in acreage and visitors added significantly to the responsibilities of the permanent park staff. Therefore, the staff grew from 64 in 1992 to 106 today. These 42 new staff members add \$1.8 million to the park's labor costs and accomplish a greater workload.

Salary Increases

In addition the cost of labor has increased dramatically over the past decade. Average salaries have grown 37% from \$25,478 to \$35,011. Average benefits have grown 100% from \$4,412 to \$8,833. These cost increases can be traced largely to initiatives designed to make Park Service careers more financially competitive with the private sector.

Base Budget Increases

Staff increases and salary increases are only the beginning of the story: the park's labor costs are growing much faster than its appropriated base budget. In FY 1992, staff costs represented only 48% of the park's available funding. In FY 2001 staff costs had risen to 62% of funding. As a result, the park is finding it increasingly difficult to meet both its operational labor and non-labor financial obligations.

Staff increases and salary increases are only the beginning of the story: the park's labor costs are growing much faster than its appropriated base budget. In FY 1992, staff costs represented only 48% of the park's available funding. In FY 2001 staff costs had risen to 62% of funding.

	1992 Actual Costs		1992 Inflation-Adjusted		2001 Actual Costs		Net Cost Increase		
	FTE	Average	Total	Average	Total	Average	Total	Average	Total
Staff in 1992	64								
Salaries		\$25,478	\$1,630,610	\$32,161	\$2,058,311	\$35,011	\$2,240,691	\$2,850	\$182,380
Benefits		4,412	282,380	5,569	356,446	8,833	565,340	3,264	208,894
Subtotal		\$29,890	\$1,912,989	\$37,731	\$2,414,757	\$43,844	\$2,806,031	\$6,114	\$391,274
New staff	42								
Salaries					\$35,011	\$1,469,403	\$35,011	\$1,469,403	
Benefits					8,833	370,740	8,833	370,740	
Subtotal					\$43,844	\$1,840,143	\$43,844	\$1,840,143	
Total Labor	106		\$1,912,989		\$2,414,757		\$4,646,174		\$2,231,417
Non-labor Costs			2,032,031		2,565,023		2,826,806		261,783
Total Costs			\$3,945,021		\$4,979,780		\$7,472,980		\$2,493,200

As the steward of one of America's most treasured natural resources, Joshua Tree National Park strives to be on the forefront in protecting the environment and in providing access to park resources for all visitors.

Increased Cost Analysis

As outlined earlier, Joshua Tree National Park's appropriated base budget increased \$2.2 million in the past ten years. This growth was due to the \$498,000 special base increase in FY 2000 and average annual increases of \$136,000 to cover growth in uncontrollable costs. However, after adjusting for the cost of inflation, the growth falls to \$1.6 million. Additionally, the benefits of this funding increase have been diminished further by significant cost increases that the park has been forced to cover.

The dramatic increase in staff costs over the last ten years can be traced directly to new Federal and Department of Interior regulations that are described below:

Federal Employee Retirement System (FERS)

In 1984, the Federal Government launched a new employee retirement system, FERS. It replaced the existing program; Park Service employees hired after that date usually receive FERS benefits. The cost to the park of providing for FERS benefits is significantly higher than the cost of the previous retirement system, Civil Service Retirement System (CSRS). Estimated annual cost: \$292,000

Career Initiatives

Since 1994, the Park Service has instituted various career initiatives to make the salaries, benefits, and career opportunities for selected professionals more competitive in the marketplace. The primary initiatives that have affected Joshua Tree National Park include the following:

- The 1994 Ranger Careers Initiative and Protection Ranger 6C Retirement and Benefits with an estimated annual cost of \$175,000
- The 1994 Administrative Careers Initiative with an estimated annual cost of \$35,000
- The 1999 Resource Careers Initiative with an estimated annual cost of \$31,000

Seasonal Employment

Office of Personnel Management's (OPM) Seasonal Employment Rule Change. After this change, seasonal employment was limited to a half-year. Employees who worked beyond this limit were reclassified as full-time employees and thus eligible for benefits. Estimated annual cost: \$93,000

Operational and overhead costs have been especially affected by the following:

Compliance

As the steward of one of America's most treasured natural resources, Joshua Tree National Park strives to be on the forefront in protecting the environment and in providing access to park resources for all visitors. As a result, the park dedicates resources to comply with laws and regulations that include the Americans with Disabilities Act, Clean Air Act, Clean Water Act, the National Environmental Policy Act, and hazardous waste regulations. Estimated annual cost: \$46,000

California Energy Shortage

Like all organizations, Joshua Tree National Park must absorb the unexpected cost increases of essential supplies and services. Over the past few years electricity prices have risen dramatically. In 2000 and 2001, California experienced widespread electricity shortages that raised prices significantly and directly affected the operating budget of the park. Estimated annual cost: \$20,000

The estimated total financial impact of these cost increases at Joshua Tree National Park is \$692,000, 16% of the annual operating budget.

Analysis of Expenditures

Joshua Tree National Park received significant financing from its revenue and appropriated non-base funding sources in 2000 and 2001. Most of the revenue comes from the Fee Demonstration program. The park used these funds to finance one-time projects that improved its infrastructure, visitor services, and resource protection efforts. In the graph below, the expenditure increases in personnel, benefits, supplies, and other services came largely from these projects. Selected projects include the following:

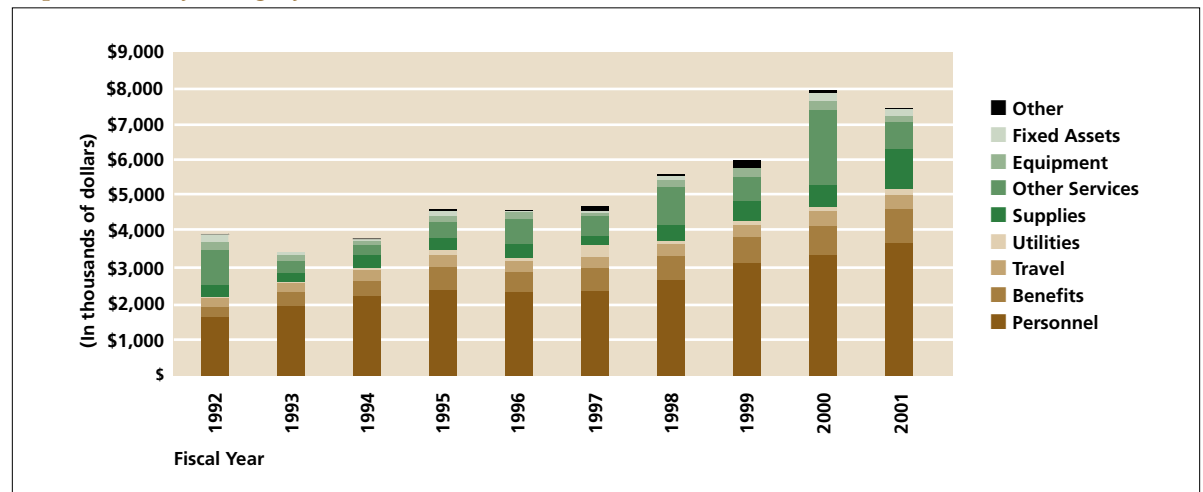
- Installation of new vault toilets, picnic tables and grills in many of the park's most popular campgrounds and picnic areas
- Protection of desert tortoises and transplantation of Joshua trees and other plants during the road reconstruction around Hidden Valley
- Replacement of diesel generators with solar power systems and reconstruction of the water and sewage system at the Cottonwood Visitor Center and campground
- Renovation of the Oasis Visitor Center and park headquarters.

These projects are only a small sample of how the park has benefited from project funds. However, despite these funds, the park continues to face an annual cash crunch. Each year, the park struggles to cover its permanent labor costs and recurring operating expenses. As a result, the park is forced to rely on project funds to cover these expenses. In the long run, this strategy is not sustainable because these funds are highly variable and will likely decline from present levels.



Joshua trees and other slow-growing desert plants were "rescued" during the Federal Highways project and replanted at its completion.

Expenditures by Category



Visitation



Joshua Tree National Park is one of the premier rock climbing destinations in the world.

Annual visitation has increased approximately 135%, from 548,000 in 1980 to almost 1.3 million in 2001. This jump in visitation equates to a 4.1% compound annual growth rate. In the early 1980s, Joshua Tree National Monument was a popular destination for residents of California, Nevada, and Arizona, and for rock climbing enthusiasts. Today Joshua Tree is a high-profile national park with visitors from all over the world.

The park continues to be a popular destination for local residents. As of the 2000 census, over 21 million people resided in the eleven counties closest to the park and the park has experienced a dramatic increase in visitation on weekends and holidays. Throughout the fall, winter, and spring, it is not uncommon for all of the park's campsites to be filled to capacity.

The park experiences a decline in visitation during the hot months of June, July, and August. In 1980, 15.4% of visitors came to the park during the summer; in 2001 it was 16.1%. However, the number of summer visitors increased from 84,000 to 206,000, or 145%. Thus, while visitation continues to follow a seasonal pattern, the growth in the

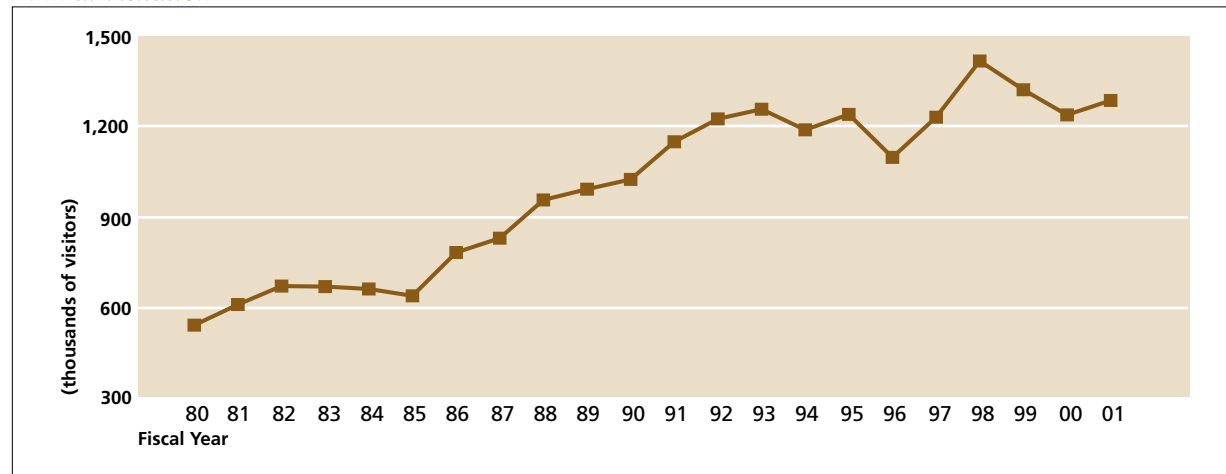
total number of visitors has transformed the park to a year-round destination.

Looking at the historical visitation data, three interesting trends can be identified:

- As rock climbing has grown in popularity in the United States and Europe, Joshua Tree National Park has become famous as a climbing destination.
- In the early 1990s, the California Desert Protection Act generated significant publicity for the park, pushing visitation numbers even higher.
- During rainy years, such as 1998, the number of park visitors increases dramatically during spring as visitors flock to the park to view desert wildflowers.

The year-round growth in visitation has put significant new demands on both the park's resources and visitor services. As a result, the park's staff and financial resources are being stretched to meet this demand. Additional staff and funding are required to ensure that visitor service and resource protection efforts can be provided year-round.

Annual 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 carry out everyday operations at a park unit. Some examples include annual payroll costs, janitorial operations, and management of 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 or the construction of 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
- Facility Operations
- Maintenance
- Management & Administration

These five areas are comprised of 35 programs that more precisely describe park operations. Program descriptions are general in nature in order to cover a broad suite of activities that should be taking place 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 of the park and the total 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 outlined 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. These financial resources include both the cost of staff salaries and benefits and of non-labor expenses. Required staff resources are calculated based on a measurement of staff full-time equivalent units (FTEs). 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.

Functional Areas

Resource Protection

Management, preservation, and protection of cultural and natural resources: research, restoration, species-specific management, wildland fire management, archives and collections management, historic site protection, and information integration.

Visitor Experience & Enjoyment

Involves providing visitors with a safe, enjoyable, and educational experience while at the park: interpretation, visitor center management, interpretive media, concessions management, fee collection, and visitor safety services.

Facility Operations

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 snow plowing to water testing.

Maintenance

Activities directed to prolonging the life of park assets and infrastructure such as substantial repair, replacement, or rehabilitation of buildings, roads, trails, utilities, fleet vehicles, and equipment.

Management & Administration

Leadership, management and administration of communication systems, external affairs, park-level planning, human resources, information technology, and finances.

Resource Protection



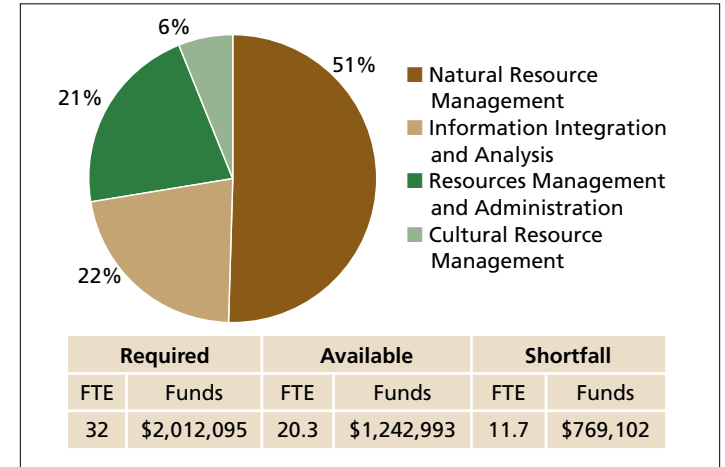
Wildlife biologists monitor the desert tortoise, one of several species of concern that have a protected habitat within the boundary of Joshua Tree National Park.

Resource Protection at Joshua Tree National Park encompasses activities related to the management, preservation, and protection of the park's cultural and natural resources. Natural resource management activities include ecosystem monitoring, research, restoration efforts, species-specific management initiatives, wildland fire management, National Environmental Policy Act (NEPA) management, and general resource protection. Cultural resource management includes the protection, maintenance, and management of all historic documents and artifacts, archives and collections management, as well as historic site protection, restoration, and rehabilitation. This functional area also includes information integration activities, such as the development and maintenance of a Geographic Information System (GIS), and all management and administrative functions for resource protection activities. The program keeps abreast of current resource management methods and documents resource impacts. Overall, resource protection constitutes 21% of total park expenditures with spending at a level of \$1,242,993 in FY 2001. The total deficit for this functional area is \$769,102.

Law enforcement staff provides site patrols, resource damage detection and investigation, prosecution, and law enforcement. They help enforce the park's Wilderness and Backcountry Plan, monitor resource conditions, coordinate the clean up of parklands, and manage closures for resource protection. In FY 2001, the park experienced more than 81 natural resource and 64 archeological violations. The law enforcement rangers are unable to cite all violations due to limited staff resources. For example, less than half of all archeological violations resulted in citations of offenders. Additional law enforcement rangers would help the park detect resource damage and, over time, prevention will reduce that kind of damage.

The natural resource management program had the largest deficit of all 35 programs, totaling \$408,170. The program currently lacks essential positions such as a wildlife biologist, restoration ecologist, and monitoring specialist.

Fiscal Year 2001 Expenditures by Program



Under the current deficit conditions, the park is unable to monitor and respond to all the threats that the park faces such as urban encroachment, wildfires, exotic species, and loss of resources from destruction, damage, and theft. The program also needs a database manager to store and present historic data in a useful form at the park.

The cultural resource management program is also operating at a significant deficit of \$234,247. Due to the absence of a staff archeologist, 97% of the park has not been inventoried for archeological sites. Currently, archeological theft occurs at many sites at an unknown rate. The park has significant cultural resources, including 88 structures on the List of Classified Structures, over 180,000 museum objects, and 19 cultural landscapes. The park library is not staffed, and the historic Desert Queen Ranch, listed on the National Register, is unprotected from theft and vandalism. Additional staff resources are needed to hire an archeologist, support a librarian and curator, and establish a caretaker/historic maintenance worker position at Desert Queen Ranch. Additional funds are essential to be able to provide documentation of, access to, and

protection of the park's cultural and historic resources.

The information integration and analysis program is a rather small one, but it is significantly underfunded by 152% of its actual budget, one of the highest percentages among park programs. The program needs additional equipment to meet increasing technological advances in GIS. The park also needs new staff expertise that includes a fire GIS specialist and database manager to implement and supervise the program.

The park faces serious threats to its resources. As external threats to resources from air pollution, urban and industrial encroachment, and exotic grass invasion continue, the demands on Resource Protection will only increase in the future. The required 32 FTEs and \$1,988,286 total funding represents what the park needs to deal with the management challenges of today. Tasks such as assessment and monitoring of threatened and endangered species, inventory of plants and vertebrates, maintenance of a desert restoration nursery, integrated pest management, NEPA management, fire impacts monitoring, air and water quality monitoring, abandoned mine lands restoration, increased use of GIS, and data base management will only be possible if the park has the needed staff expertise and funding available.



Data and samples gathered at Black Rock Canyon are used to monitor ozone levels, particulate matter, precipitation, and weather.



Park fires are increasing in frequency and in intensity due to the invasion of highly flammable non-native grasses.

Air Quality, Exotic Grasses, and Fire

Joshua Tree National Park suffers from the worst air pollution in the national park system. Air pollution generated in the Los Angeles basin moves into the park with the westerly winds. Ozone pollution threatens park ecosystems, archeological sites, and human health.

Also, park staff expect that desert vegetation will be sensitive to nitrogen air pollutants, and they are conducting research to measure nitrogen deposition and plant responses. Nitrogen acts as a fertilizer for plants, with exotic grasses having higher rates of response than many native species. Exotic grasses have invaded 63% of the park, and these grasses compete with and crowd out native plants.

Park staff expect that elevated nitrogen from air pollution will increase the growth of exotic grasses, which will trigger an increase in fire frequency in the park. Since 1970, exotic grass-fueled wildfires have destroyed 40% of the piñon/juniper habitat in the park. This rate of fire damage far exceeds the ability of piñon/juniper stands to regenerate under current conditions.

Visitor Experience and Enjoyment



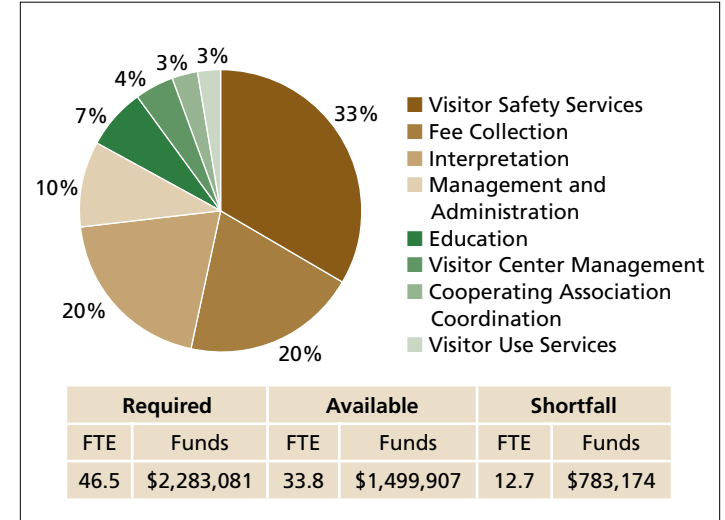
Search-and-rescue training ensures that park staff are prepared to assist visitors in emergency situations.

Visitor Experience and Enjoyment at Joshua Tree National Park covers all park activities related to providing visitors with a safe and educational experience while in the park. Visitor Experience and Enjoyment includes interpretation, visitor center operations, fee collection, and management and administration for those activities. Visitor safety services include search and rescue operations, emergency medical services, handling of hazardous materials, and traffic and law enforcement patrols. Visitor Experience and Enjoyment has the greatest monetary shortfall of all five functional areas, totaling 30% of the overall \$2.6 million park deficit. The identified shortfall was \$782,175 and 12.7 FTEs. In FY 2001, Visitor Experience and Enjoyment spent \$1,499,907 and had 33.8 FTEs available. Through those services, the park reaches well over 1.3 million visitors annually.

The park provides the public with interpretive programs about the park's natural and cultural resources. These programs help visitors better appreciate their park experience, make emotional connections with the park and its resources, become aware of important safety and regulatory information, and understand current resource concerns and issues. The programs and services provide important consumer value to the public and allow the public the opportunity to have one-on-one contact with NPS representatives. The park manages information services through formal interpretive programs and the operation of two visitor centers and one visitor contact center. Through the fee collection program, the park engages in the sale of park recreation permits and passes. The park depends on Joshua Tree National Park Association (JTNPA), its cooperating association, for funding and staffing support. Employees of JTNPA help to staff the visitor centers and interact with visitors throughout the park. JTNPA provides a critical source of funding for interpretative services through profits from bookstore sales and special events.

Unmet needs in the Visitor Experience and Enjoyment

Fiscal Year 2001 Expenditures by Program



functional area are found in several programs:

Visitor Safety Services

The park needs additional law enforcement rangers for visitor safety services. The park extends 30 miles north-to-south and 65 miles east-to-west with over 240 miles of boundary. With three additional law enforcement rangers the park would be able to provide more complete patrol coverage of the entire park and reduce the number of visitor incidents. In FY 2001, the park staff handled 43 search and rescue incidents and 36 cases of basic and advanced life support. Additional rangers would enhance the park's readiness for responding to these critical incidents. Requested funds would enable the park to provide regular, recurring patrol shifts to ensure continued safe public access to park campgrounds, recreational areas, and backcountry trails.

Education Services

The park education program offers on-site and off-site curriculum-based programs and lesson plans that meet

both California state and national education mandates. Nearly 600 programs are offered annually to approximately 16,000 students. In FY 2001, the education program had to turn down approximately 75 requests for school programs because of a lack of staff resources. An additional 3.3 FTEs and \$132,121 in funds would allow the staff to meet the expanding educational demands of schools in surrounding areas and would allow the park to staff a Nature Center and Science Camp. The park's General Management Plan calls for the creation of a Nature Center to provide students with an on-site science education experience. The development of the Science Camp was conceived in response to a direct request from the local school district, which has expressed an interest in sharing the cost of the camp. While the Nature Center and Science Camp are still in the planning stages, the park currently does not have the available resources needed to create and staff this type of initiative.

Interpretive Services

The park is in need of additional rangers to provide informal interpretive services by staffing visitor centers and formal interpretive services including campfire programs, guided walks and hikes, talks and lectures, and guided tours. The current staff is insufficient to meet the growing year-round visitor needs within the park. The interpretation program and visitor center operations are currently operating at a combined deficit of 2.2 FTEs and \$172,051.

Fee Collection Services

Increasing the fee collection program by \$251,123 would extend the hours of operation of collection and improve compliance. Fee operations require funds to provide the presence of park staff in campgrounds and contact stations to prevent disruptive social gatherings. Additional funds are needed to increase the number of permanent staff to minimize employee turnover. The additional fees generated from extended hours and campground collection should fund most of this current deficit.



Visitors learn about the park's mining history on a ranger-led tour of the historic Desert Queen Ranch.



Campgrounds often fill to capacity on weekends with visitors from the surrounding metropolitan areas of Riverside, San Bernardino, Los Angeles, and San Diego.

Desert Queen Ranch

In the 1800s and early 1900s, the area that was to become Joshua Tree National Park was the site of cattle ranching, mining, and homesteading. The homestead of William F. Keys and family is today a cultural resource of the park.

In 1910, Keys worked as a custodian and assayer of the Desert Queen Mine. After the mine ran into financial troubles and closed, Keys claimed the mine area and mill site to compensate for unpaid wages. Then Keys homesteaded additional acreage totaling 160 acres, and this area became known as Desert Queen Ranch.

Today, the park offers a ranger-led tour of the ranch, which covers the story of the Keys family and their 60 years spent working and living in the desert. The ranch house, school, store, and workshop still exist at the site, and the orchard has been replanted. The ranch grounds are full of historic cars, trucks, mining equipment, and spare parts that are part of the tour. Desert Queen Ranch is a critical cultural resource of the park, and in FY 2001 over 4,000 people visited the ranch with a park guide.

Facility Operations



Maintenance of park facilities is one of the essential tasks performed by park staff.

Facility Operations at Joshua Tree National Park encompass all activities required for the day-to-day operation of the park's buildings, campgrounds, picnic areas, roads, trails, vehicles and utilities.

With facilities located throughout the 794,000-acre park, the daily management of the park's infrastructure is a significant operation. In FY 2001, the park staff dedicated to facility operations work totaled 15.6 FTEs. The funding for facility operations exceeded \$1.1 million, which represented 19% of the park's total funding, excluding investments.

The analysis of Joshua Tree National Park's facility operations programs identified a significant staffing and funding deficit. Required staffing levels equaled 20.1 FTEs, a 29% increase over the FY 2001 staffing level. In FY 2001, required funds totaled \$1.6 million, a 40% increase over the \$1.1 million of available funds.

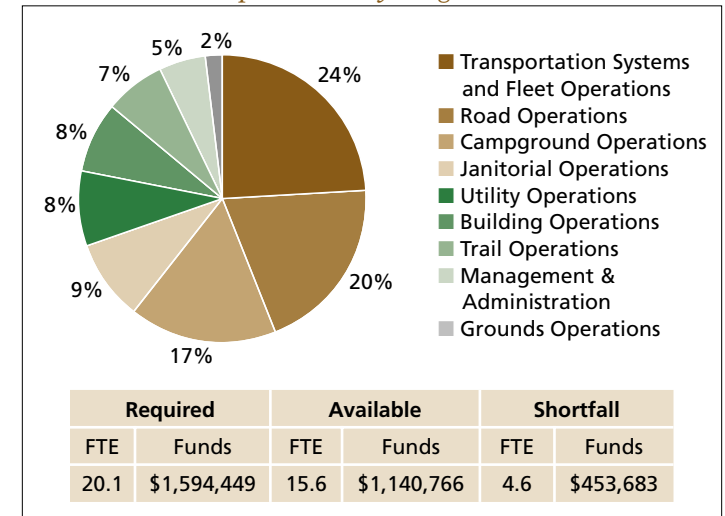
The business plan separates Facility Operations into six programs that are described below:

Campgrounds, Buildings, Grounds, and Janitorial Operations

These programs include the daily staff activities and the supplies required to keep the park's campgrounds, buildings, and grounds clean and in good working order. In FY 2001, these programs expended \$406,000 or 36% of the Facility Operations budget. The staff dedicated to these programs includes the park's entire campgrounds crew and members of the maintenance crew. The staff performs daily cleaning, re-supply and inspection of the park's buildings, campgrounds, and picnic areas. Minor repairs are performed as needed.

For these programs, a funding shortfall of \$233,000 has been identified. New funding would cover the cost of additional staff, prevent shortages in supplies and equipment, and support the park's purchase of environmentally-friendly products. The personnel increase will allow the park to staff these operations seven days

Fiscal Year 2001 Expenditures by Program



a week. The growth in visitation, especially during the summer, requires the park to provide these services daily.

Facility Operations, Management, and Administration

The planning, budgeting, regulatory compliance, clerical, and employee management work required to support facilities operations is included in this program. Funding in FY 2001 totaled \$60,000. To support planned facilities expansion and to ensure environmental compliance, the maintenance division requires the expertise of a landscape architect and an environmental technician. The need to increase the number of staff is the primary driver behind the program's \$69,000 funding shortfall.

Roads Operations

The roads operations program includes the day-to-day management of the park's roads: grading, striping and sweeping of roads, and management of roadway signs. In FY 2001, the park's roads operations received \$227,000 in funding, equating to 20% of the Facility Operations budget. Thanks to one-year non-base funds, this program had only

a minor deficit of \$3,000 in FY 2001.

Trails Operations

The trails operations program covers the day-to-day management of the park's 191 miles of trails. Trails operations activities include clearing and inspection of trails; management of social trails; and delineation of trails, campsites, and picnic areas. Funding in FY 2001 totaled \$77,000. Year-round visitation demands year-round trails operations. To support these operations, the park must expand its trails crew, resulting in the need for \$50,000 in additional annual funding.

Transportation Systems and Fleet Operations

The annual cost of leasing, fueling, servicing, and repairing the park's vehicles is reflected in this program. At \$275,000, this is the largest program in the Facility Operations functional area. All automotive service and repair is provided by private vendors. The fleet includes 12 natural gas and 15 electric vehicles, which reflects the park's commitment to improving air quality. An additional \$66,000 a year is needed to achieve program goals.

Utilities Operations

The final program in facility operations includes the day-to-day operations required to support the park's electric; photovoltaic; water; sewage; natural gas; and heating, ventilation, and air-conditioning (HVAC) utility systems. It also includes the park's utility bills for electricity, water and natural gas. Expenditures totaled \$96,000 in FY 2001. Due to the rising cost of electricity and the additional staff required to run this program at higher standards, a \$33,000 annual shortfall was identified.



Maintenance staff preparing solar panels for the Cottonwood Spring photovoltaic installation.

Solar Power at Cottonwood

At the southern end of Joshua Tree National Park, the Cottonwood Visitor Center, campground, maintenance yard and staff housing facilities are the most isolated in the park. Cottonwood has no access to outside utility services including electricity, telephones and water. As a result, the park generates electricity, pumps well water, and operates satellite telephones here.

Prior to 1999, diesel generators powered the Cottonwood facilities. These generators caused significant air and noise pollution and were powered by environmentally hazardous fuel.

In 1999 the park turned off Cottonwood's largest diesel generator and turned on a new 20-kilowatt photovoltaic power system. Suddenly, the lights, computers, swamp coolers, and household appliances were powered by the sun. Since then, two additional photovoltaic power systems have been installed to replace the remaining diesel generators.

Today solar power provides all of Cottonwood's electricity. And, thanks to a donation of electric vehicles by the Ford Motor Company, the Cottonwood staff is able to drive through the area on solar power.

Maintenance



New curbs and walkways were constructed at the headquarters complex and Oasis Visitor Center.

Maintenance at Joshua Tree National Park includes activities performed to extend the useful life of the park's buildings, roads, trails, vehicles, and utilities.

In FY 2001, park staff dedicated to maintenance work totaled 10.7 FTEs. The funding for maintenance exceeded \$1.1 million, which represented 19% of the park's total funding, excluding investments.

The analysis of Joshua Tree National Park's maintenance programs identified a significant staffing and funding deficit. Required staffing levels equaled 15.3 FTEs, a 43% increase over the FY 2001 staffing level. In FY 2001, required funds totaled \$1.3 million, a 17% increase over the \$1.1 million of available funds.

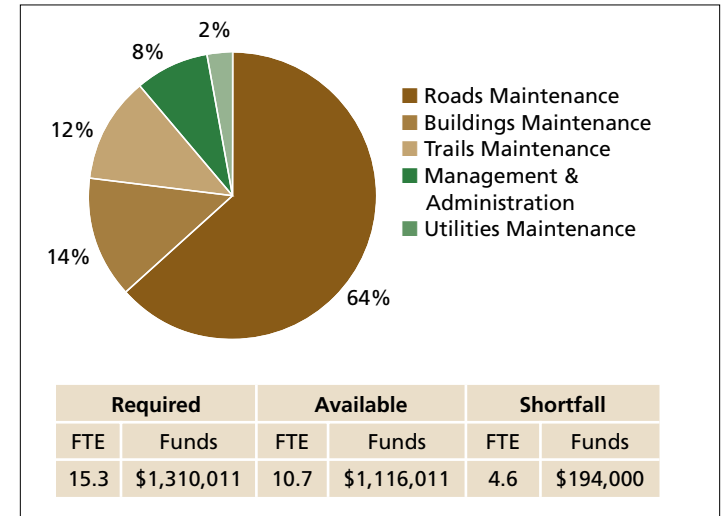
However, the \$194,000 funding deficit shown in the chart on the right is misleading. During FY 2001, the park received \$706,000 of funding exclusively for one-time road maintenance projects. In addition to a large chip and seal project and a shoulder repair project, the park roads sustained storm damage that required significant funding to repair. These projects resulted in a \$186,000 funding surplus for roads maintenance. Excluding this surplus, the park's maintenance activities operated at a \$380,000 deficit in FY 2001.

The business plan separates Maintenance into five programs that are described below:

Buildings and Utilities Maintenance

The buildings and utilities maintenance programs include activities by the park's maintenance crew that prolong the life of the park's structures and utilities. The park's utilities include electric, photovoltaic, water, sewage, natural gas, and HVAC systems. From repair of air conditioners to replacing painted building exteriors with stucco, the park's maintenance crew provides a wide range of services. In FY 2001, these programs expended \$179,000 or 16% of the maintenance budget.

Fiscal Year 2001 Expenditures by Program



However, a significant funding shortfall of \$192,000 was identified for buildings and utilities maintenance. This shortfall was largely caused by staff shortages across all maintenance and facility operation programs. Due to staffing shortages in the park's campgrounds, buildings, and janitorial operations, the maintenance crew has been forced to dedicate significant time to these duties. Additionally, many maintenance crew members have worked on investment projects which have been well funded in recent years. As a result, the park has been unable to maintain a proactive preventive maintenance program for its existing buildings and utilities. The increased staff would allow the park to refocus its efforts on preventive maintenance instead of emergency repairs.

Maintenance Management and Administration

Activities included in this program include the planning, budgeting, regulatory compliance, clerical, and employee management work required to support park maintenance activities. Funding for this program in FY 2001 totaled \$92,000. As described in Facility Operations, the

maintenance division requires the expertise of a landscape architect and an environmental technician. Portions of time required of these new staff members are the primary factor in this program's \$128,000 operational funding shortfall.

Roads Maintenance

The roads maintenance program includes road improvement work such as shoulder and pothole repair, chip and seal projects, asphalt patching, and road surface and drainage structure repairs due to storm damage. In FY 2001, total funding available for roads maintenance was \$706,000. As described above, due to one-time expenditures for back-logged maintenance, this program operated at a \$186,000 surplus in FY 2001.

Trails Maintenance

Trails maintenance activities include rehabilitation and stabilization of trails, installation of trail drainage structures, re-routing of trails, and repair of trails damaged by storms. Funding in FY 2001 totaled \$133,000. To repair and manage the park's trails in compliance with park service standards, the park requires additional trails crew staff. The cost of this new staff would create a \$58,000 funding shortfall.

Transportation Systems and Fleet Maintenance

In its efforts to outsource non-essential operations, the park closed its automotive maintenance operations prior to FY 2001. All automotive services and repairs of park vehicles are provided by outside vendors located in the park's gateway communities. As a result, vehicle maintenance costs are not tracked separately from day-to-day vehicle operating costs. Therefore, all vehicle maintenance and operating costs are found in the Transportation Systems and Fleet Operations program. The \$7,000 in required funding for this program reflects a small amount of staff time dedicated to vehicle maintenance administrative support annually.



The park's trail crew worked with CCC and YCC youth groups to rehabilitate the handicapped-accessible Cap Rock Nature Trail.

Cap Rock Nature Trail Rehabilitation

In the summer of 2001, Joshua Tree National Park rehabilitated the half-mile Cap Rock Nature Trail. The severely deteriorated handicapped-accessible trail was in dire need of reconstruction. The project improved the trail corridor, replaced the asphalt surface with environmentally-friendly cactus extract soil hardeners, and used recycled plastic lumber.

The project was accomplished through the cooperative efforts of the park's trail crew, the California Conservation Corps (CCC) and the 2001 Youth Conservation Corps (YCC). The CCC employs at-risk youth as park staff members and the YCC provides employment to local high school students during the summer.

The young crew members gained invaluable Park Service work experience reconstructing the Cap Rock Trail. They removed 80 tons of asphalt, installed 5,200 linear feet of plastic lumber, and placed over 150 tons of soil hardening material.

Management and Administration



Administrative staff reconcile expenditures with available funding at the end of each fiscal year.

Management and Administration at Joshua Tree National Park encompasses the parkwide leadership activities of the superintendent and the division chiefs. It also includes the administrative and human resources functions that provide support for all of the park's employees and operations. In FY 2001, the number of park staff dedicated to management and administration work totaled 13.1 FTEs. The funding for management and administration totaled \$1.0 million, which represented 17% of the park's total funding, excluding investments.

The analysis of Joshua Tree National Park's management and administration programs identified a staffing and funding deficit. Required staffing levels equaled 17.3 FTEs, a 32% increase over the FY 2001 staffing level. In FY 2001, required funds totaled \$1.4 million, a 45% increase over the \$1.0 million in available funds.

The business plan separates Management and Administration into the programs described below:

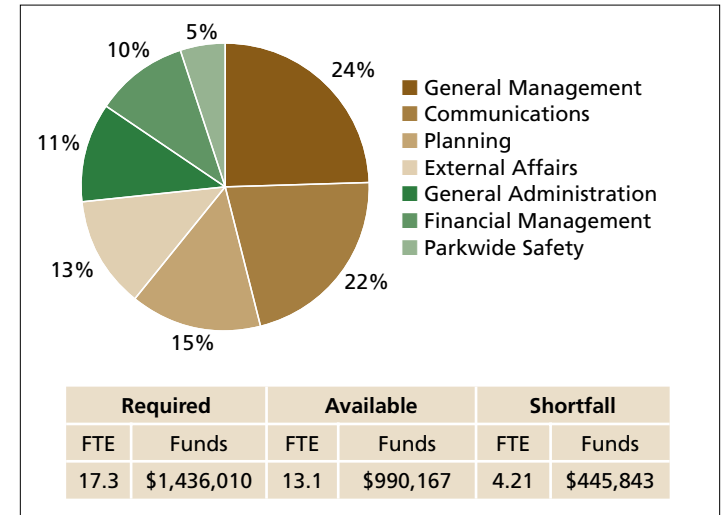
General Management

The task of park leadership is carried out by the superintendent and division chiefs and is outlined in the general management program. In addition to parkwide decision-making, the management team is responsible for employee development and personnel management. The management team and the human resources staff work together to provide employees with career development opportunities and human resources support and counseling. Funding for general management activities totaled \$243,000 in FY 2001. A new human resources staff member is required to improve support services for employees, resulting in an annual funding shortfall of \$71,000.

General Administration and Financial Management

Together, these two programs constitute the administrative backbone of the park's operations and staff. General administration includes the park clerical, procurement, and

Fiscal Year 2001 Expenditures by Program



property management activities. Financial management encompasses a range of activities that include budgeting, submission of funding requests, and balancing the books. In FY 2001, funding for these two programs totaled \$212,000, or 21% of the total management and administration expenditures. The analysis of these two programs identified a funding shortfall of \$59,000 due to a vacant administrative staff position and increased supply expenditures required for the entire park.

Planning and External Affairs

Recognizing that the park is part of a larger community, Joshua Tree National Park works hard to maintain productive and positive relationships with its external stakeholders. These partners include gateway communities, other state and federal agencies, members of Congress, the press, and park visitors. The superintendent manages the external affairs efforts with the close support of the management team and other staff members. Many of the park's partners are also heavily involved in the park's planning efforts, which set the overall direction and

priorities for the park. Funding totaled \$270,000 in FY 2001 for these two programs.

Looking to the future, the park will be working even more closely with its external stakeholders. Whether it is through innovative partnerships or coordinated planning efforts, park staff will need to spend more time working with these partners. The \$126,000 funding shortfall is largely driven by the need for increased staff time dedicated to these efforts.

Parkwide Safety

Joshua Tree National Park is committed to achieving safety excellence for its employees and visitors. Through the park safety plan, the park has formalized its safety policies and management practices. However, one of the most significant unmet staffing needs in the park is for a full-time safety officer. The safety officer would conduct safety audits and inspections and be responsible for ensuring that the park meets its safety standards. In FY 2001, parkwide safety received \$50,000 in funding. The program's \$85,000 funding shortfall would cover the cost of the new safety officer.

Communications

The technology revolution has changed the way the park

operates. From Internet-based financial reporting to digital radios, Joshua Tree National Park is using new technologies to improve staff productivity and parkwide safety. The communications program includes all of the park's communication and information technology expenditures. In FY 2001, funding for communications totaled \$213,000. Although the park already recognizes the benefits of adopting new technologies, the cost of these technologies can be prohibitive. Therefore, the park's funding shortfall for communications equaled \$106,000. Additional funding would provide for improved communications and technology services that include faster Internet access to support new Park Service Web applications and satellite phone service for protection rangers.



The park superintendent meets with community stakeholders and partners.

Coachella Valley Conservation Plan

Coachella Valley, which lies along the southern border of Joshua Tree, encompasses 1.2 million acres and is home to nine rapidly growing cities including Palm Springs and Indio. In 1970, the population of the valley was 86,866. As of 2000, the population had grown to 312,177 and is expected to reach 456,971 by 2020.

To support the growing population, the cities of the valley have expanded rapidly. Not surprisingly, this development has affected the wildlife, vegetation, air, water, and open spaces of the valley and surrounding areas.

In recognition of the environmental impact of development, an innovative planning effort, The Coachella Valley Multi-Species Habitat Conservation Plan, was launched in the mid-1990s. This plan brings the cities of the Coachella Valley together with Riverside County and multiple State and Federal agencies to accomplish the following:

- Balance environmental protection and development objectives in the valley.
- Simplify compliance with endangered species-related laws.

Joshua Tree National Park is an enthusiastic participant in this planning effort.

Financials

Summary Financial Statement

Functional Areas and Programs	Required Resources		Available Resources						Resource Deficit	
	FTE	Dollars	Base	Project	Reimbursable	Revenue	FTE	Total	FTE	Dollars
Resource Protection										
Cultural Resources Management	7.8	\$501,255	\$209,105	\$28,873	\$1,240	\$27,791	4.5	\$267,008	3.3	(\$234,247)
Information Integration & Analysis	2.5	191,128	61,183	14,726	0	0	1.1	75,909	1.4	(115,219)
Management & Administration	4.2	284,205	152,612	112,097	1,096	6,934	4.2	272,740	0.0	(11,465)
Natural Resources Management	17.5	1,035,507	332,392	209,873	45,538	39,533	10.5	627,336	7.0	(408,171)
Subtotal	32	\$2,012,095	\$755,292	\$365,569	\$47,874	\$74,258	20.3	\$1,242,993	11.7	(\$769,102)
Visitor Experience and Enjoyment										
Concessions Management	0.1	\$4,732	\$3,817	\$8	\$0	\$0	0.1	\$3,824	0.0	(\$908)
Cooperating Association Coordination	0.7	54,795	38,912	159	116	\$5,030	0.7	44,217	0.1	(10,579)
Education	5.5	236,840	103,448	48	3	1,220	2.2	104,719	3.3	(132,121)
Fee Collection	15.7	549,558	28,194	1,836	4,702	263,701	11.0	298,434	4.6	(251,123)
Interpretation	8.6	444,006	233,704	1,460	516	60,342	6.8	296,023	1.9	(147,983)
Management and Administration	2.7	186,294	108,194	23,365	1,002	14,140	2.2	146,701	0.5	(39,593)
Visitor Center Operations	2.4	90,687	50,617	585	104	15,313	2.1	66,619	0.3	(24,068)
Visitor Safety Services	9.6	652,386	429,876	54,531	2,863	12,806	7.9	500,076	1.6	(152,310)
Visitor Use Services	1.3	63,784	26,488	188	10,562	2,056	0.8	39,294	0.5	(24,490)
Subtotal	46.5	\$2,283,081	\$1,023,250	\$82,182	\$19,868	\$374,607	33.81	\$1,499,907	12.7	(\$783,175)
Facility Operations										
Campground Operations	5.5	\$296,675	\$152,007	\$11,420	\$373	\$25,620	4.3	\$189,419	1.2	(\$107,256)
Buildings Operations	1.9	157,481	73,267	6,122	0	11,535	1.8	90,924	0.2	(66,557)
Grounds Operations	0.8	40,979	18,849	1,285	0	1,685	0.5	21,819	0.3	(19,160)
Janitorial Operations	3.0	143,630	88,080	12,463	0	3,009	2.7	103,552	0.3	(40,078)
Management and Administration	2.0	128,806	57,465	1,039	0	1,409	1.1	59,913	0.9	(68,893)
Roads Operations	3.5	230,000	183,963	43,033	0	0	3.3	226,996	0.1	(3,004)
Trails Operations	2.7	127,339	25,495	34,555	0	17,326	1.4	77,375	1.3	(49,964)
Transportation and Fleet Operations	0.1	340,901	199,762	43,809	3,566	27,574	0.1	274,711	0.1	(66,190)
Utilities Operations	0.8	128,638	87,271	527	0	8,258	0.6	96,057	0.2	(32,582)
Subtotal	20.1	\$1,594,449	\$886,159	\$154,251	\$3,938	\$96,417	15.58	\$1,140,766	4.6	(\$453,683)

Functional Areas and Programs	Required Resources		Available Resources						Resource Deficit	
	FTE	Dollars	Base	Project	Reimbursable	Revenue	FTE	Total	FTE	Dollars
Maintenance										
Buildings Maintenance	4.2	\$298,935	\$72,325	\$14,581	0	\$65,509	2.5	\$152,415	1.7	(\$146,520)
Management and Administration	3.4	220,749	84,183	4,020	0	4,295	1.7	92,499	1.7	(128,250)
Roads Maintenance	2.3	520,006	245,873	460,525	0	0	2.6	706,399	0.3	(186,392)
Trails Maintenance	4.4	190,441	12,390	100,273	0	20,184	303	132,847	1.1	(57,595)
Transportation and Fleet Maintenance	0.2	7,346	4,945	131	0	13	0.1	5,090	0.0	(2,256)
Utilities Maintenance	0.9	72,533	23,368	97	0	3,296	0.5	26,761	0.3	(45,772)
Subtotal	15.3	\$1,310,011	\$443,084	\$579,628	0	\$93,298	10.65	\$1,116,011	4.6	(\$194,000)
Management and Administration										
Communications	2.3	\$319,600	\$202,777	\$8,036	\$0	\$2,437	1.8	\$213,249	0.5	(\$106,350)
External Affairs	1.9	173,566	117,516	1,584	1,692	3,402	1.5	124,194	0.5	(49,373)
Financial Management	2.0	124,201	95,623	2,976	993	3,980	1.9	103,573	0.1	(20,629)
General Administration	3.1	146,580	106,316	3,765	3	341	2.4	110,426	0.7	(36,154)
General Management	4.5	314,257	237,958	2,669	1,737	396	3.5	242,760	0.9	(71,497)
Parkwide Safety	1.7	135,256	49,462	441	88	9	0.6	49,999	1.1	(85,256)
Planning	2.0	222,550	135,096	1,487	1,072	8,311	1.5	145,966	0.5	(76,584)
Subtotal	17.3	1,436,010	\$944,747	\$20,957	\$5,586	\$18,876	13.1	\$990,167	4.2	(\$445,843)
Park Total	131.2	\$8,635,646	\$4,052,532	\$1,202,588	\$77,267	\$657,456	93.5	\$5,989,843	37.7	(\$2,645,803)

This financial statement was 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.

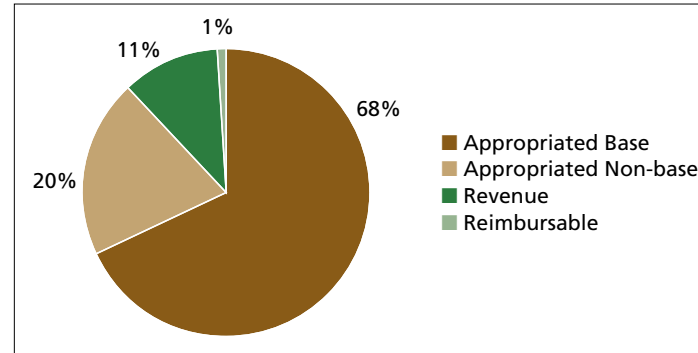
Program requirements are presented as a five-year planning tool based on salary and wage tables from the same fiscal year, given current resource inventories, and the current park infrastructure. Changes resulting from one-time projects, capital improvements, or investments may affect the operational 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 used solely for required operations. See page 27 for information on the valuation of work performed by volunteers.

The 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. For information on the park's investment expenditures, see page 29.

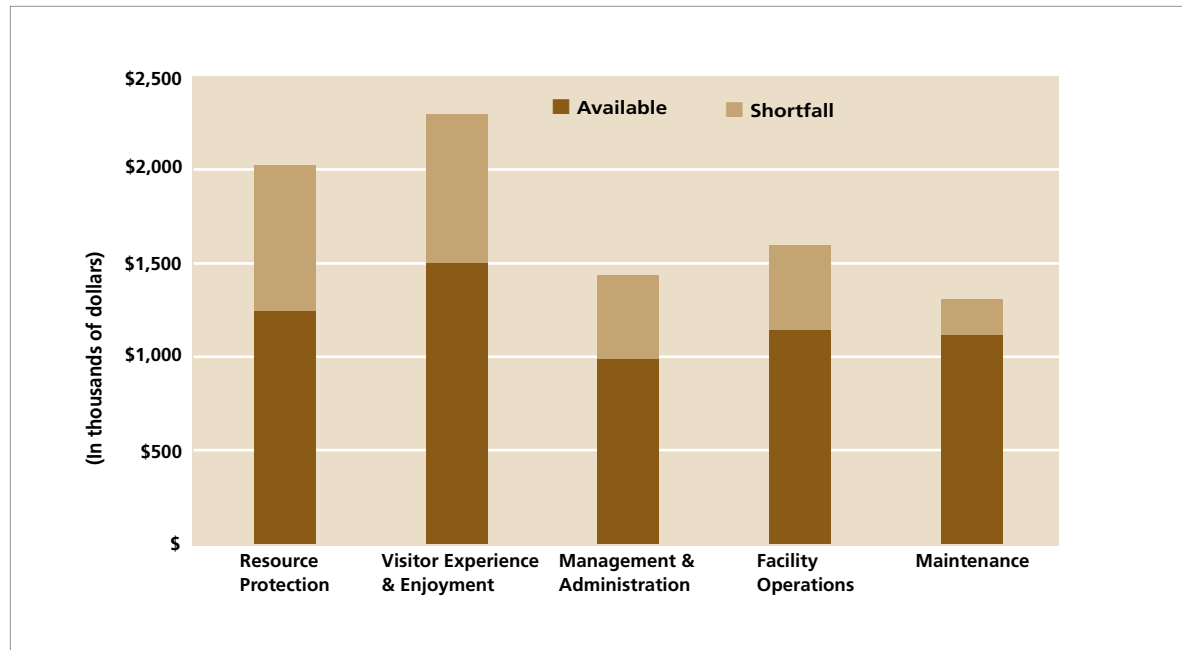
Financial Analysis

Fiscal Year 2001 Expenditures by Fund Source



In FY 2001, Joshua Tree National Park received \$7.5 million from all funding sources. Six million dollars was used to fund the park’s operations and maintenance expenditures.

Funds Required in Fiscal Year 2001



The remaining \$1.5 million was used to finance park investments. The financial analyses on this page, as well as the summary financial statement on pages 24 and 25, focus on the \$6 million of operations and maintenance expenditures. The park’s funded investments are discussed on page 29.

Funding Daily Operations in Fiscal Year 2001

Funds from all four of Joshua Tree National Park’s sources were used to finance daily operations in FY2001. Only 68% of the park’s expenditures were funded by its base budget. Thirty-one percent was paid from appropriated non-base funds and fee revenue. Because these funds vary significantly from year to year, dependence on them exposes the park to significant financial risk.

Funding for Fiscal Year 2001

The FY 2001 summary financial statement for Joshua Tree National Park consolidates the detailed financial information for each of the park’s five functional areas described in Current Park Operations. For each of the functional areas, the FY 2001 funding was identified. Then, based on these actual financial results, the funding requirements were determined. The business plan’s financial analysis determined that in FY 2001 total funding for park operations and maintenance was \$6 million. Each of the five functional areas received at least \$1 million with Visitor Experience and Enjoyment receiving \$1.5 million.

Financial Shortfall for Fiscal Year 2001

The park’s financial shortfall totaled \$2.6 million in FY2001. All five of the park’s functional areas operated at a deficit. With shortfalls of \$0.8 million each, Resource Protection and Visitor Experience and Enjoyment were the most under-funded functional areas. Maintenance reported the smallest shortfall at \$0.2 million, largely due to one-year appropriated non-base funding for large road maintenance projects.

Volunteer Analysis

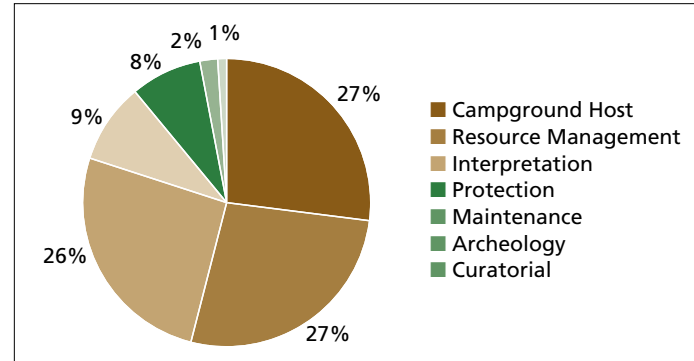
As indicated in this business plan, employee salary and benefit costs comprise a considerable portion of the park's expenditures. The park therefore benefits significantly from volunteer staff time since no salary or benefit costs are incurred. On the other hand, an important aspect of the volunteer program is that volunteers work alongside employees, or under their direct supervision. Salaried staff time is therefore required in order to operate the volunteer program.

In FY 2001, the park benefited from 18,774 hours of volunteer time at a value of about \$287,000, using an NPS estimate of \$15.31 per hour. Accounting for all volunteer-related costs, the estimated net value to the park is about \$187,000. Volunteers require the time of park staff for training and supervision, and this is the most significant limitation of the volunteer program. In FY 2001, volunteers cost the park approximately \$100,000, mostly in supervision and training. Because of a shortage of staff available to provide supervision of volunteers on weekends, the park often has to turn away volunteer groups, such as



Park volunteer, Harold DeLisle, organized the park slide file.

Fiscal Year 2001 Volunteer Hours



the Boy Scouts, who want to do group volunteer projects. The park has an almost unlimited number of volunteer projects but only a limited amount of staff supervision time available to dedicate to volunteers.

As the chart indicates, many programs benefit from volunteer time. Campgrounds, interpretation, and resources management receive most of the volunteer hours. Campground hosts provide logistical support, ensure compliance, and render on-site assistance. Interpretation is able to offer a broader selection of programs, expanded hours of visitor center operation, and overall improved visitor service due to volunteer contributions. Resources management benefits from volunteers through The Student Conservation Association (SCA), and the native plant nursery runs almost entirely on volunteer labor. In visitor protection, volunteers help with trail patrol as well as search and rescue operations. Finally, the park has a long-standing volunteer relationship with the Marine Corps Air Ground Combat Center (MCAGCC) in Twentynine Palms. Marines have provided labor for numerous maintenance projects in the park.

Government Performance and Results Act

GPRA Mission Goals

I. Preserve Park Resources

A. Natural and cultural resources and their 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.

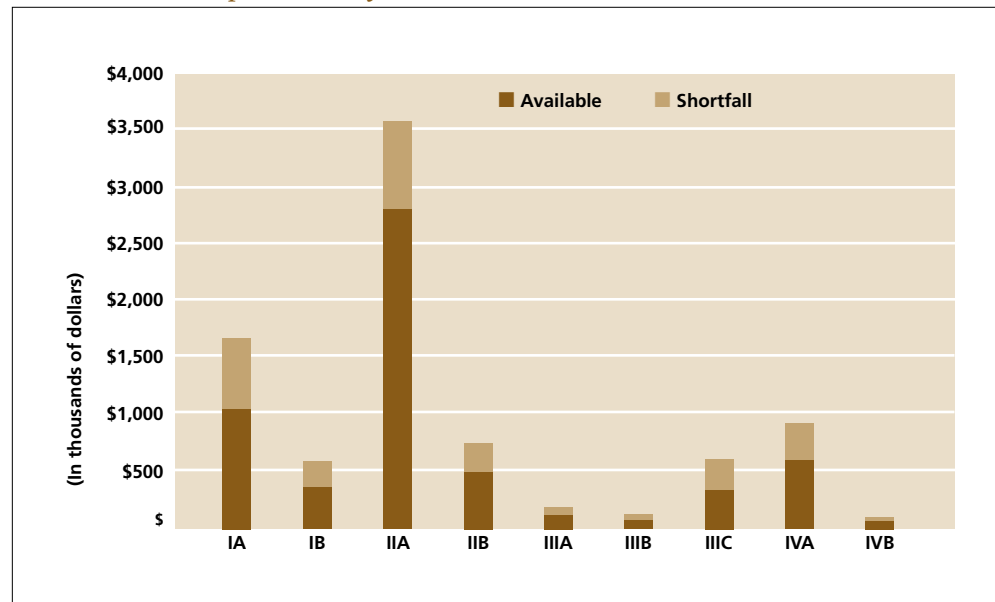
The purpose of the Government Performance and Results Act of 1993 (GPRA) is to make government more effective and efficient. It was designed to connect servicewide goals with operations by making clear what an organization's mission is, what its goals are, and what success looks like, before taking action. In this business plan, park programs have been associated with NPS servicewide mission goal categories. For each program, labor and non-labor resources are used to support one or more of the goals. The chart below shows how park funding has been used to achieve the park's goals.

The chart indicates that Joshua Tree National Park has prioritized most of its funding so that activities associated with Goal IIA, visitor safety and enjoyment, are emphasized. This is linked to visitor-driven activities such as interpretive programs, visitor center operations, and visitor protection. The park also provides significant facility operations to meet visitor needs at campgrounds, on trails,

and on roads. This goal represents the largest shortfall.

The chart suggests that there are several goals that the park is not prioritizing for expenditures. Goals in category III cover programs beyond the boundaries of Joshua Tree National Park and are provided for by the NPS on a regional and national basis. For this reason, the park does not emphasize Goal III in its Strategic Work Plan and does not spend significant funds on it. Goal IVB refers to support from volunteers, donations, concessions, and fee collection. This goal shows low expenditures because the park concessions and partnership programs require only minimal expenditures. Additionally, limited staff time for volunteer supervision and fee collection constrain activities contained in Goal IVB.

Fiscal Year 2001 Expenditures by GPRA Goal



Funded Investments

Investments are significant one-time expenditures to improve and develop the park's infrastructure and information base. In FY 2001 the park completed investment projects totaling \$1.5 million. The most significant projects were:

Sustainable Renovation — \$116,000

In FY 2001, the park began a two-year project to renovate the visitor center and park headquarters. In addition to modernizing the buildings, the park used environmentally friendly and energy-efficient materials and construction practices.

Visitor Amenities — \$152,000

The first in a series of park highway rehabilitation projects was completed in FY 2001. Six miles of Highway 12 were reconstructed around Hidden Valley. In conjunction with the road work, the park completed a comprehensive



New interpretive exhibits in the Oasis Visitor Center provide information about park resources.

rehabilitation of day-use areas that included replacement of vault toilets, picnic tables, and fire grills.

Natural Resource Protection — \$391,000

Mitigation of the impacts on wildlife and vegetation was a high priority in the Highway 12 project. Joshua trees and other vegetation were removed before construction and replanted afterwards. Monitoring of desert tortoises and archeological artifacts was also performed.

Vault Toilets — \$184,000

The park is implementing a multi-year plan to replace its fiberglass pit toilets. In addition to the replacements around Highway 12, eight new concrete vault toilets were installed in day-use areas throughout the park.

Interpretive Exhibits — \$121,000

The park began a three-year program to upgrade interpretive exhibits in FY 2001. During this year, the park planned, designed, and developed visitor center, wayside, trailside, and traveling exhibits.

Photovoltaic Energy Systems — \$61,000

In FY 2001, the park installed two new solar power systems. These systems are tied to the local power grid and provide the park with energy credits for the power they generate.

In addition to the above projects the park made other investments that totaled \$429,000. These projects addressed a wide range of park needs from acquisition of new park land to reconstruction of trails.



The park's new vault toilets have significantly improved the bathroom experience for Joshua Tree's visitors.

Priorities and Strategies

Operations and Maintenance Priorities



Additional law enforcement rangers could reduce vandalism such as the graffiti on the historic Ryan Ranch building.

The analysis of park conditions and resources as undertaken in this business plan shows a shortfall of \$2.6 million in ongoing operations and management needs. The consequences of this shortfall are evident in program areas where existing funding is inadequate to meet the operational standards in the park. The following represent the top five operational priorities of the park:

Cultural and Natural Resource Program — 11.67 FTEs and total cost of \$754,700

The park's base funding allocation can no longer support the hiring of approved positions in natural and cultural resources. Key positions in resources management are needed to complete basic functions associated with the preservation, restoration, monitoring, and curation of the park's cultural and natural resources. Funding would permit hiring of existing vacant and lapsed positions for a restoration ecologist, archeologist, wildlife biologist, and field technicians. Funding would also allow the park to create new positions for a monitoring specialist, fire GIS specialist, museum curator, and database manager. These positions are essential to complete key resource management functions. Funding would also support monitoring and program management for sensitive and threatened plant and animal species, reduce the backlog of cultural objects to catalog, restore 10 acres of disturbed land per year, and provide an accounting of park archeological sites.

Safe Public Access — 8.22 FTEs and total cost of \$595,100

The park is currently unable to meet visitors' access and protection needs. Funding is needed for additional law enforcement and interpretive rangers to enhance public access to resources, provide visitor safety services, provide special park use services, staff visitor centers, conduct a range of interpretive services, and meet parkwide safety standards. In addition, funding is needed to maintain trails for visitor use.

Public Health and Environmental Standards — 6.90 FTEs and total cost of \$662,800

The park's facilities and maintenance operations are experiencing increased demands associated with growth in park visitation and with maintaining park facilities. The park's visitor centers, campgrounds, picnic and day-use areas are used by visitors seven days a week year-round. This level of use requires daily cleaning, repair, and maintenance coverage to ensure a safe and hygienic environment. Currently, the park cleans, sanitizes, and inspects high-use facilities once a day and all other facilities once every three days. The proposed staff and funding increases would allow the park to provide cleaning, repair and maintenance of all facilities daily and twice daily where needed. Additionally, over the next few years, deteriorated park facilities will need to be replaced with new buildings for staff and visitor use. To ensure that environmental standards and planning requirements are met in these facilities, the park will need to add an environmental technician, a landscape architect and maintenance workers to its staff.

Ollas and baskets produced by Desert Indians are among the artifacts stored in the park's cultural resources facility.



External Challenges — 4.28 FTEs and total cost of \$278,100

The park needs additional staff to address external legal, regulatory, and planning challenges pertaining to urban encroachment, development of groundwater storage projects, development of mega-landfills, hydroelectric- and gas-fired power plants, and mining operations adjacent to the park. These development proposals have created new operational issues of concern for the long-term protection and preservation of park resources. The magnitude, scale, and urgency of these development initiatives require staff expertise to engage in planning. Staff must review and respond to proposals, and initiate long-term monitoring programs. Funding would be used to secure additional staff expertise and train existing staff in urban planning, NEPA and CEQA environmental compliance, biological resources, Federal Energy Regulatory standards and procedures, and public information.

A funding deficit currently limits the park's ability to take advantage of educational outreach opportunities. The park's education program is unable to meet the program requests of schools in the area, and additional funding would allow the park to expand its outreach and education programs into regional urban communities, schools, and neighborhoods that the park is unable to currently serve due to staffing constraints. The park is located within a two-hour drive of 18 million people—increased funding of the education staff would result in increased public appreciation and support of national parks. This funding would also allow the park to move forward in establishing a nature center that would serve as a science camp for regional school districts, as outlined in the General Management Plan.

Staff Productivity and Safety — 2.23 FTEs and total cost of \$240,500

The responsibilities borne by the staff at Joshua Tree National Park are constantly increasing. Whether it is providing quality visitor services seven days a week



Park staff are being trained to identify safety hazards in their work environment in order to reduce accidents and injuries.

or ensuring visitor safety, the National Park Service is demanding more and more of its staff members. As a result, the park is obligated to provide staff members with high-quality technology, administrative and human resources support that will assist them with their jobs and maximize their productivity. The required funding would cover the costs associated with information technology (IT), radio communications, and mobile and landline telephone services. The staff increases would allow the park to meet essential administrative, human resource management, and staff development duties.

Investment Priorities



The Lost Horse Mill site, listed on the National Register, is the only ten-stamp mill within the park.

The park has a large number of unfunded investment needs necessary to bring it into compliance with all applicable laws and standards and to preserve natural and cultural resources. Investments are one-time expenditures of funds such as reconstruction of roads, purchase of equipment, or conducting a baseline natural resource inventory. Investment needs have been entered into the National Park Service's Project Management Information System (PMIS), a database that tracks and quantifies individual project needs. Currently, Joshua Tree National Park's database includes 257 projects with a projected backlog total cost of \$58.4 million.

The following list comprises the park's top eight investment priorities, totaling \$19.9 million:

Work Facilities — \$752,000

Providing efficient and permanent work facilities will improve employees' work environment, improve employee morale, public service, and help reduce utility costs. The park should replace the 26-year-old resource management office trailer in the park headquarters complex. The modular trailer would be removed and a 2,400 sq.-foot office would be constructed (\$398,300). The current maintenance facility management office complex is inadequate for program and employee needs, as employees must use furnace rooms and outdoor picnic tables for workstations. This investment will include the construction of a 2100 sq. ft. office complex within the park headquarters complex (\$353,700).

Abandoned Mine Sites — \$392,400

Abandoned mine sites are safety hazards for visitors and staff. Funding is needed to make thirty sites safe, and where appropriate, reclaim them. Each site must be evaluated for historic significance, wildlife habitat, and suitability for reclamation. Some mine sites will be fitted with 'bat gates,' to permit the free movement of bats yet prevent entry by the public, while other sites will be sealed with polyurethane foam (\$176,000). Borrow pits are mine sites

where soil for roadwork has been removed. This project involves refilling borrow pits and replanting native species in the rehabilitated area (\$216,400). Hazard minimization, ecological restoration, and improved wilderness quality will result from this investment.

Campground Roads and Parking Lots — \$344,960

Many of the park's campground and picnic area roadways are no longer functional for meeting today's park needs. Improved roads will enhance access to campgrounds for recreational vehicles and will reduce soil erosion and other resource deterioration. This project involves the reconstruction of roads for nine campgrounds and five picnic areas. The eroded surfaces will be removed, proper road alignments established, and new road surfaces placed for adequate drainage.

Natural Resources — \$227,400

Investment funds for natural resource management are needed to advance the recovery of the threatened desert tortoise and restore degraded ecological sites. The park will monitor desert tortoises in the field, map habitat zones along park boundaries, and model for density and distribution using geographic information systems (GIS). These activities will provide critical baseline data about desert tortoise population range and densities (\$150,000). Old road scars and areas impacted by past public use should be restored. Needed work includes the scarification of soil surface material to encourage the germination of native plants, recontouring of compacted landscapes, and propagation of native plants in the park's nursery for planting and reclaiming disturbed areas (\$77,400).

Park Trails — \$361,140

Trail investments will enhance visitors' ability to safely use, navigate, and enjoy park trails and will protect the park's natural resources. A number of trails are in need of repairs such as reconstruction of trailheads, establishment of new trail tread, installation of water drainage devices, and improved signage. Some of the most popular trails

in the park are in need of rehabilitation, including the 3.7-mile Lost Palms Oasis Trail (\$135,740); the 1.5-mile 49 Palms Oasis Trail (\$65,500); and a 4.6-mile segment of the California Riding and Hiking Trail, part of a statewide regional trail network (\$159,900).

Historic Structures — \$129,000

The park's goal is to preserve, protect and provide for public access to important historic sites. The Pinto Wye Arrastra, one of only two wagon-wheel arrastras within the park, is an excellent example of the ingenuity of early miners to crush gold-bearing ore. Needed work involves disassembly of the arrastra, replacement of rotted wood components, and stabilization of the stone grinding surface (\$38,000). The Wall Street Mill, listed on the National Register of Historic Places, is in need of preservation work. To remedy water drainage problems, this stabilization



Abandoned mine sites pose a threat to visitor safety.

project would include the construction of a stone-lined ditch for drainage and the building of a stone retaining wall to help fill in an eroded bank cut (\$41,000). The Lost Horse Mill site, listed on the National Register, is the only ten-stamp mill within the park. Stabilization of the site is needed as time and exposure to the elements have taken their toll on the mill support timbers and surrounding retaining walls (\$50,000).

Park Roads — \$17,580,000

Roadwork would properly align unsafe curves, reinforce wash crossings, establish a stable road base, provide for safe ingress and egress to and from parking areas, and protect park resources with the placement of curbing to control off-road parking. Overall, road investment funds are essential to meet heavy traffic demands and to provide safe driving conditions within the park. The existing 5.6-mile Keys View road is in need of total reconstruction (\$3,780,000). The existing Pinto Basin Road, the park's primary access road to Cottonwood and Interstate 10, is in need of rehabilitation from Cottonwood to Gold Point, a distance of 22.5 miles (\$12,500,000). The existing Indian Cove Road, the only access to the Indian Cove Family Campground, Group Campground and Picnic Area, is in need of reconstruction (\$1,300,000). Overall, an improved transportation system will enhance visitor and employee safety and enjoyment of the park.

Paleontological Resources — \$100,000

Paleontological resources of Joshua Tree National Park are unexplored and should be studied. Exposed paleontological resources are subject to theft, vandalism, or decomposition due to exposure. This project would include a detailed on-site inventory of the Pinto Wash and the excavation of select locations to uncover and identify fossil remains. Funding is essential for the documentation of these unique and significant remnants of a past era.

Strategies for Reducing Costs

The management team at Joshua Tree National Park has identified a number of strategies that could improve the overall financial situation of the organization through a reduction of existing costs. Successful strategies will minimize expenses where possible and encourage efficiency.

The management team and staff have already worked to minimize some costs and improve the bottom line at the park. The following are strategies the park has or will adopt to minimize costs and reduce the park's funding shortfall:

Reduction in fleet size through vehicle sharing would provide an estimated net benefit to the park of \$12,000.

The park already shares vehicles across its divisions and with other parks to reduce the overhead costs of maintaining a large fleet. Coordinating vehicle use and reducing the number of vehicle trips can reduce the maintenance and operational costs associated with excess vehicles in the park. In addition, the park will reassess vehicle needs on an ongoing basis and will use sedans rather than trucks whenever possible.

Introduction of business and human resource training would provide an estimated net benefit to the park of \$5,000.

As part of the effort to become a more efficient organization, Joshua Tree National Park needs to look at its operations from a more of a business-oriented perspective. Division chiefs, the superintendent, and other managers should attend business training to learn private sector financial, human resources, and management theories and practices. The park would benefit from a reduction in employee injuries and downtime, as well as from enhanced financial management and planning, and more effective decision-making.

Expansion of cost-sharing among parks would provide

an estimated net benefit to the park of \$140,000.

The park already shares equipment and personnel with other parks in the region. Cost-sharing among parks allows Joshua Tree National Park to benefit from essential staff positions, as well as equipment, without bearing the entire burden of the cost. In the future, the park intends to share its fire GIS specialist, exhibit specialist, and other positions with parks such as Mojave National Preserve and Death Valley National Park.

Improvement of visitor use planning and marketing would provide an estimated net benefit to the park of \$20,000.

Joshua Tree National Park currently relies on a 1991 Visitor Use Survey for its information on visitor demographics. The park plans to undertake a comprehensive use planning process to improve its demographic knowledge of the park's visitor populations. This information would support improvements in the planning and design of annual interpretive operations and services since programs are tailored to address changing visitor trends and expectations. This data will also guide the development of the park's interpretive services. A marketing campaign would improve public awareness of interpretive programs and services and help the park better predict consumer demand for its services. Marketing efforts would lead to more effective communication of the park's mission and would enhance public support of park goals and objectives.

The park will continue to evaluate maintenance functions that are extremely costly to perform in-house. For example, the park has already reduced costs by outsourcing functions such as vehicle maintenance and trash collection.

Expansion of the fee collection program will provide an estimated net benefit to the park of \$300,000.

The park would benefit from increased fee collection and a larger permitting staff. Additional personnel would provide

a greater presence in the park and deter more visitors from engaging in inappropriate activities such as vandalism, theft, and disruptive partying. Additional fee collectors would help educate visitors about the health and safety risks associated with visiting the park. The park would benefit from additional fee revenue as well as from lowered costs associated with search and rescue, emergency medical services (EMS), and resource damage mitigation.

Utilization of solar power would provide an estimated net benefit to the park of \$60,000.

The desert environment is an ideal setting in which to generate power from solar energy. The park is replacing diesel generators with solar power systems, which saves the park money in diesel fuel costs and also utilizes a clean, sustainable energy source. The Cottonwood Visitor Center now runs entirely on solar power; the park is currently expanding solar opportunities within the park. The park has developed agreements with local power companies to earn credit for the solar power it generates. These agreements allow the park's electricity meter to run backwards, saving the park money on its electricity bills.

Use of energy-efficient materials and construction practices would provide an estimated net benefit to the park of \$5,000.

The park has been making efforts to reduce energy costs associated with air conditioning and heating. The park has replaced wood and metal roofs with tile, resurfacing buildings with stucco, and installing energy-efficient doors and windows to provide better insulation. In addition to the energy cost savings, the park benefits from the lowered maintenance costs associated with the increased durability of these materials.



Resurfacing park buildings with stucco reduces heating and cooling costs.



Small electric vehicles save money, are quiet, and fit in small spaces.

Strategies for Increasing Non-Appropriated Funding



The park would like to increase staff hours at entrance stations to assist visitors and increase fee-based revenue.

The business plan has identified over \$2.6 million in unmet needs in Joshua Tree National Park's operational budget and about \$20 million in investment priorities. In order to meet these needs and fulfill its mission, management at Joshua Tree National Park must expand its sources of revenue beyond the base appropriation. The management team at the park has discussed a number of possibilities for expanding the range of available resources. The following strategies all offer promise for increasing the funds available to meet the required resources outlined in this plan:

Establishment of a friends group and execution of a capital campaign is estimated to provide a net benefit to the park of \$200,000.

The park will work with two other parks, Death Valley and Mojave, to initiate an improvement fund for desert parks. The funds raised will go towards specific improvement projects at the different parks. Joshua Tree will also reevaluate and redesign its donation system for park visitors and website users. In the long run, the park will work with partners to create additional funding sources for park operations and special projects, such as the new cooperative visitor center with the City of Twentynine Palms.

Expansion of the fee collection program is estimated to provide a net benefit to the park of \$60,000.

The park will evaluate the current fee collection program to look for ways to increase fee-based revenue within the park. One strategy that the park will move forward on is to collect fees at additional campgrounds. The park will explore the effectiveness of collecting large group permit fees, increasing the rates for special use permits, especially for for-profit park uses, and offering premium interpretive services at a charge for special groups.

Proactive recruitment of volunteers is estimated to provide a net benefit to the park of \$153,000.

Volunteers are a source of revenue enhancement for the park. They provide labor to the park for essential functions such as interpretation programs and maintenance work. However, the volunteer analysis indicates significant costs associated with the supervision of volunteers. To maximize the benefits from the volunteer program, the park will focus its efforts on building long-term relationships with volunteer staff and groups to minimize supervision costs and improve volunteer service to the park. The park will also proactively recruit volunteers with needed skills and abilities, such as ecological expertise or past national park experience.

Solicitation of private funding for infrastructure development is estimated to provide a net benefit to the park of \$420,000.

The park has already begun to seek out private donations for specific infrastructure projects. For example, the park is collaborating with the Morongo Basin Transit Authority to build a compressed natural gas fast-fill station. The park will provide the land and will use the station to meet its natural gas needs, thereby helping convert its fleet to clean-burning fuel. In addition, the park is working with non-profit conservation groups to acquire park in-holdings of land from willing sellers. The park will explore additional ways to secure private funding for infrastructure development.

Expansion of relationships with neighboring agencies and other national parks is estimated to provide a net benefit to the park of \$92,000.

Joshua Tree National Park has relationships with a number of governmental agencies and other national parks. The park intends to continue building on these relationships in the future. The park obtains reimbursable funds through native plant nursery contracts and trail crew projects at other parks. These arrangements contribute to resource-sharing and community relationships. The park is currently

working to acquire state funding to improve its bicycle pathways, which would not only help improve the park's recreational infrastructure, but would also promote alternative transportation within the park while decreasing the negative impact on vegetation from illegal bicycle traffic.

Effective Utilization of National Park Foundation endowments is estimated to provide a net benefit to the park of \$9,200.

The Assistant United States Attorneys (AUSAs) support national park sites in the Central District of California with funds from corporate environmental crime settlements. Money from settlements goes into two endowment funds that are managed by the National Park Foundation. One endowment fund supports environmental and wildlife protection, while the other supports the study, assessment, protection, and preservation of natural resources within the park. The park currently has \$230,000 total in these endowment funds and expects to receive an additional \$100,000 every year. Assuming a 4% interest rate and current funding levels, the park will receive \$9,200 per year from this endowment.

Acquisition of Science Funding through the Learning Center is estimated to provide a net benefit to the park of \$80,000.

The park is working with other desert parks to establish a Desert Science and Heritage Center. This Center would attract scientists to the park and would create two new positions with appropriated funding. The Center's new staff will be responsible for securing grant funding for future activities that promote science inside the parks. The information gathered through the Center's activities would benefit the parks as well as the public.



The park nursery grows native plants for revegetating disturbed lands in Joshua Tree and other national parks and agencies.

Engaging the Community

The education program works to integrate the National Park Service mission and Joshua Tree National Park themes and resources while addressing National and State Education Standards and local school curricula.

Joshua Tree National Park is one of the largest National Park Service sites located near a major urban population. The Los Angeles metropolitan area is the fastest-growing urban area in the United States, and the park's location just a few hours to the east creates a unique set of issues for the management staff. The park is continually looking for ways to engage the surrounding communities and to build lasting relationships with them through various partnerships and programs. The park successfully attracts diverse groups and also takes the Joshua Tree National Park experience to surrounding communities through off-site education programs. This final section of the business plan highlights some of the distinctive ways in which the park connects with those communities. By engaging a wide range of community groups, the park is not only serving the public but is also building a broad constituency base for long-term support of, and interaction with, the park.

One of the most important partnerships for the park is with the Joshua Tree National Park Association (JTNPA), the park's cooperating association. JTNPA supports the park in many ways, providing crucial support of park activities. The park staff works closely with JTNPA to develop and offer adult-education courses through the Desert Institute, a fee-based educational component of JTNPA's operations. The Desert Institute offers outdoor classes in science, history, and the arts, both in the park and in surrounding areas. The park works closely with JTNPA to review each season's slate of courses, suggest new courses and instructors, and to arrange logistics for on-site course offerings. Community members can take some of the Desert Institute's courses for credit through the University of California, Riverside's UCR Extension. A broad range of course offerings at the Desert Institute allows the park to engage a wide range of people.

Artists are another constituency group that the park interacts with through an innovative partnership. Park Stewardship Through the Arts (PASTA) is an initiative that promotes the creation of works of art that draw their

inspiration from Joshua Tree National Park. This venture hopes to foster improved stewardship and protection of park resources. Painters, photographers, poets, and other artists participate in this partnership. The Artist-In-Residence program provides artists the opportunity to spend time in the park so that they may create a collection of work which the park then shares with the general public.

Natural resource management and conservation are fundamental aspects of the park's operations. Through the Center for Arid Lands Restoration, the park is able to expand its conservation efforts beyond its boundaries. The Center for Arid Lands Restoration operates an on-site nursery and greenhouse facility that grows about 8,000 native plants annually. In addition to providing plants for park restoration projects, the Center also provides plants to other agencies and parks such as Ft. Irwin National Training Center, Mojave National Preserve, and Death Valley National Park. The nursery facility hosts public education programs and provides instruction in desert plant conservation. The nursery is an important means by which the park teaches community members about conservation and increases their environmental awareness.

With the expanding urbanization in areas surrounding the park, park staff recognize that the youth are critical to the park's future. The youth are the future visitors, staff, donors, and friends of the park. There are several ways in which the park targets youth communities in Southern California. The park hosts a Youth Conservation Corps (YCC) program during the summer months. This internship program targets high school students from the local Morongo Basin area and provides them with work experience in the maintenance division during their summer vacation. In FY 2001, participants in the YCC program were involved in the trail rehabilitation project at Cap Rock as well as other maintenance projects. The YCC program also offers youth an outdoor camping experience. Joshua Tree National Park's 2001 YCC staff worked on trails and camped at Pinnacles National Monument for 10 days.

The park has also initiated a partnership program with the California Conservation Corps (CCC). The CCC program brings about five at-risk youths between 18 and 23 years old to the park to work with the trails crew for a year. These two youth partnership programs provide essential services to the park. They also help introduce the youth to natural resource management and environmental conservation issues.

The education program is another important way in which the park works with the changing demographics of the youth population surrounding it. The park's education program serves an ethnically diverse range of students, from urban to rural areas, and from preschool to twelfth grade. The education program works to integrate the National Park Service mission and Joshua Tree National Park themes and resources while addressing National and State Education Standards and local school curricula. The education staff builds on students' interests and experiences and connects the park experience to local community issues. The goal of the program is to link knowledge of Joshua Tree National Park to a deeper understanding of the vital connection among the past, present, and future. By taking the park into classrooms, the education program is not only helping educate young people but is also building community support for the park's future.

This business plan highlights the numerous ways in which the park serves members of the public who visit it. As this section of the plan has demonstrated, the park is also actively serving its surrounding communities through partnerships and initiatives.

Some of these efforts have been described above—many more exist. With the increasing urbanization and industrialization of Southern California, the park is facing new challenges such as boundary encroachment, ecosystem fragmentation, air pollution, exotic grass invasion, and groundwater depletion. Joshua Tree National



Sunset over Joshua Tree National Park.

Park recognizes the many challenges associated with being an urban park, so it is working with communities to engage them in numerous ways and to make them long-term partners and supporters for the future.

Closing Thoughts

It is clear that Joshua Tree National Park should continue to explore and employ innovative solutions to achieve maximal operational efficiency. In today's climate both the park and the public expect this. The larger issue is this: At what level of operational service do we expect our parks to function? In addition to outlining the park's current operational conditions the business plan provides a full spectrum of available economic operational possibilities. Whether the park continues with the status quo or moves on to more optimal operational conditions, the decision and power to effect change ultimately rests with the public.

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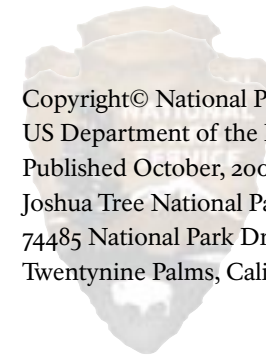
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