

**Grand Canyon National Park
Intermountain Region**

National Park Service
U.S. Department of the Interior

A wide-angle photograph of the Grand Canyon National Park. The foreground is dominated by the dark, silhouetted branches of a pine tree against a clear blue sky. Below the branches, the vast, layered rock formations of the canyon are visible, bathed in the warm, golden light of late afternoon or early morning. The canyon's depth and the intricate patterns of its erosion are clearly visible.

Grand Canyon National Park
Fiscal Year 2009 / 2010
Accomplishment Report



Grand Canyon is a geological wonder. It is a place of great biological diversity and serves as an ecological refuge. Grand Canyon has internationally recognized scenic vistas, qualities, and values. With an ever-changing landscape and colorful scenery of vast proportions, it is widely considered one of the world's most beautiful natural areas. The inspirational and spiritual values of the canyon project a sense of timelessness. Present and future generations need to know that the National Park Service will continue to protect the canyon, as well as the heritage, the places and the events of America's past, present and future.

Grand Canyon National Park

2009 / 2010 key accomplishments

CONTENTS

Message From the Superintendent	1
Park Highlights	2
Verkamp's Visitor Center	2
Trail of Time exhibit plan	3
Protecting and improving the canyon for future generations	4
Presidential and Vice Presidential visits to Grand Canyon National Park	5
Rehabilitation of Inner Canyon corridor trails	6
Hermits Road Trail.....	6
Pavement preservation project for all park roads	7
Rehabilitation of remote and historic Inner Canyon ranger stations.....	7
Employee housing	8
Supai Camp housing	9
Visitor Center and Mather Point improvements.....	10
South Rim entrance station.....	11
New Science and Resource Management building	11
Shrine of the Ages and headquarters upgrades.....	12
Watchtower rehabilitation	13
New park office space in Flagstaff.....	13
Division of Interpretation and Resource Education	14
Greening the Canyon: Photovoltaic panels at Grand Canyon Visitor Center.....	14
Artist-in-Residence program	15
Design for new visitor center exhibits	16
Summer youth camp program.....	17
International programs	18
Division of Science and Resource Education	19
Resource stewardship.....	19
Outreach activities	20
Volunteerism	21
Science and monitoring programs	22
Division of Visitor and Resource Protection	23
Preventative search and rescue.....	23
Search and rescue.....	23
Emergency medical services.....	23
Fire and aviation	24
Fee collection	24

2009 / 2010 key accomplishments (continued)

Division of Facility Management	25
Remodeling of Verkamp’s Curio Shop	25
Pasture Wash Road rehabilitation	25
Water and wastewater systems	26
American Recovery and Reinvestment Act funding	26
Automation of Indian Garden Pumping Station	27
Energy audit for all Grand Canyon facilities	27
Greenway V Trail.....	27
Project Management Team	28
Narrow Band radio conversion	28
New dispatch center.....	28
Parkwide restroom improvements, Phase 2	29
Desert View Visitor Contact Station.....	29
Water bottle filling stations	30
Boat house improvements	30
Division of Concessions Management	31
Division of Administration	32
Division of Partnerships and Employee Programs	33
Generating Organizational Advancement and Leadership (GOAL) program	33
Diversity	34
Park-wide volunteer program	34
Partnerships	35
Fundraising goals with the Grand Canyon Association	35
Grand Canyon river heritage museum.....	36
Grand Canyon art museum	36



The Trail of Time is an interpretive walking timeline trail that focuses on Grand Canyon vistas and rocks to guide visitors to ponder, explore, and understand the magnitude of geologic time and the stories encoded by Grand Canyon rock layers and landscapes. NPS photo

Message from the Superintendent



Steve P. Martin
Superintendent

This report provides a summary of key accomplishments by the staff of Grand Canyon National Park in the last two years. The genesis of these accomplishments starts in 2007 with a series of goals set for the park by the Washington and Intermountain Region offices, and the Grand Canyon management team. Over the last 35 years, I have been involved in the management of parks from many different perspectives. The accomplishments by the staff at Grand Canyon, however, surpass anything I have seen from the many incredible management teams I have worked with.

At the start of 2007, Grand Canyon had several major management challenges, including:

- A dysfunctional transportation system with two-hour waits at the entrance station and chaotic parking along the South Rim
- A visitor center that was virtually inaccessible to visitors
- A partnership with key fund-raising partner that had disintegrated and no longer functioned
- An administration division in shambles over contracting and accounting missteps that led to the Pacific General, Inc. (PGI) contracting predicament and a backlog of unfinished projects
- Employee morale and housing issues
- Concession concerns, including the accounting and tracking of millions of dollars in leasehold surrender interests
- Problems with basic infrastructure, including office space, housing for the Havasupai Tribe, and roads and trails
- Key planning projects that needed to move ahead, including the restoration of natural quiet to the park, the park's fire management plan, and key visitor use needs
- The lack of a central visitor center at Desert View and on the South Rim and lack of key interpretive opportunities such as a park film
- Continued impairment of canyon resources by Glen Canyon Dam operations that did not recognize the National Park Service role in managing the park
- A lack of any "greening" projects for key infrastructure, which could serve as examples for sustainability

These are just a few of the major challenges the staff took on. They also continued to provide for the safety, care and rescue of visitors, implemented innovative programs in all of their fields and worked to be proud stewards for the NPS. This summary highlights the work of the Grand Canyon staff and is a tribute to their professionalism.

Park Highlights

Verkamp's Visitor Center

In November 2009, the park opened the Verkamp's Visitor Center in Grand Canyon Village. This facility had served as a family-run concessions operation for over 100 years. Through innovative management strategies, it was purchased by the National Park Service (NPS) to be converted to the first visitor center on the South Rim. Prior to the opening of this facility, the park had no permanent presence in the Village area

and was not able to serve the large number of visitors who, arriving in the park by train, had limited opportunities to interact with park staff. In addition, park staff designed and oversaw the installation of new exhibits on the history of Grand Canyon National Park -- an opportunity to tell a little-known story of the park's history. Through an excellent partnership these exhibits were funded by the Grand Canyon Association.



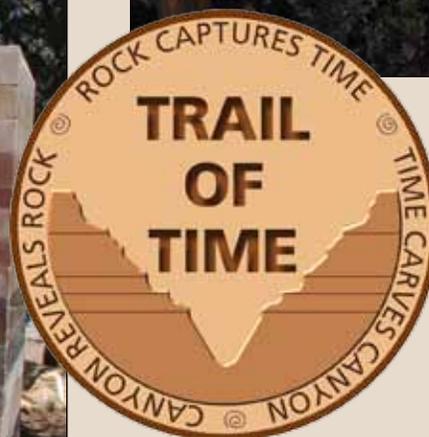
Verkamp's Visitor Center. NPS photo

This rim-side visitor center occupies one of the oldest buildings in Grand Canyon Village. Operated as a curio shop for more than 100 years by the Verkamp family, the building now features displays on the history of the South Rim and houses a Grand Canyon Association bookstore.

Trail of Time exhibit plan

How do you bring geology and geologic time to life? The park partnered with the University of New Mexico to design the Trail of Time (TOT), an interpretive walking trail along the South Rim. It focuses on Grand Canyon vistas and rocks to guide visitors to ponder, explore, and understand the magnitude of geologic time and the stories encoded in Grand Canyon rock layers and landscapes. Exhibit plans for the TOT were finalized in the late summer of 2009 and the trail opened in the fall of 2010. Funded by a National Science Foundation grant, the TOT includes introductory portals, wayside exhibits,

rock samples, and viewing tubes. These allow park visitors to see and touch rocks from each geologic layer within the canyon – rocks otherwise only accessible to those able to hike into the depths of the canyon or to raft the Colorado River.



The Trail of Time is an interpretive walking trail that focuses on Grand Canyon's vistas and rocks, encouraging visitors to ponder, explore, and understand the magnitude of geologic time and the stories told by the canyon's rock layers and landscapes. Walking the trail gives park visitors a visceral appreciation for the magnitude of geologic time. NPS photos

Protecting and improving the Canyon for future generations

Park staff worked with other Department of Interior (DOI) agencies on the need to limit mining within the Grand Canyon watershed. After Secretary of the Interior Ken Salazar announced an exclusion of public lands around the park from minerals development, staff cooperated with the Bureau of Land Management (BLM), U.S. Geological Survey (USGS), U.S. Fish and Wildlife Service (USFWS) and the U.S. Forest Service (USFS) on technical baseline studies of resource conditions in the greater Grand Canyon region. As part of the DOI uranium mining effects effort, park staff undertook studies of seeps and springs, aquatic invertebrates, amphibians, vegetation, wildlife, natural sounds, and ethnographic resources. Water releases from Glen Canyon Dam continue to affect park resources and preservation efforts. The park has played a leadership role in working

with other DOI bureaus to develop “desired future conditions” for park resources affected by dam operations.

They also continued to collaborate with the DOI “family” in the Glen Canyon Dam Adaptive Management Program, working to restore high flow protocols and on other key science and management programs. The staff at Grand Canyon was instrumental in advocating for the successful 2008 high-flow event. As a result, the park provided DOI with solutions to problems created by dam operations. These solutions do not affect water allocations to Colorado River states. They will have only minor effects on power generation and will not increase costs significantly for rate payers. These changes, based on science, will help resortation efforts in Grand Canyon.



Water release from Glen Canyon Dam during a high-flow experiment. NPS photo

Presidential and Vice Presidential visits to Grand Canyon National Park

The Division of Visitor and Resource Protection led and supported the presidential family visit in August 2009 and the vice presidential visit in July 2010.

For these important occasions, the division prepared a comprehensive protection program for visitors and park resources that focused on service and continuous improvement. This included radio dispatch and 911 emergency services, law enforcement, wildland and structural fire protection, search and rescue, and emergency medical services throughout the park.

These services support park management all year long by protecting resources, 4.5 million annual park visitors, and a permanent park population of more than 3,000 residents.



Visitor and Resource Protection staff. NPS photo



Right: Presidential family visit, August 2009.
Below: Vice Presidential visit, July 2010. NPS photos



The Presidential Grand Canyon vacation was much like those of other families: They came, they saw, they left. But along the way, they thrilled visitors from all over the globe who lined the streets of Tusayan and Grand Canyon Village to get a glimpse of the park's most distinguished visitors.

Rehabilitation of Inner Canyon Corridor trails

Rehabilitation work continues on the main corridor trails in Grand Canyon. The improvements have made the trails more sustainable and usable for both human foot traffic and park livestock for years to come. The repairs give the trails the necessary structure – good walking surfaces and stable retaining walls – to endure both the harsh environment and varied trail uses.

Hermits Road Trail

The new portion of the accessible Hermits Road Trail, which is used as a combination hike/bike trail, has new benches in various locations and new signs for wayside information and visitor directions. Also along the Hermit Road Trails, rehabilitation of Maricopa Point viewing area and trail now provides handicapped accessibility. Work included gradient corrections and paving of the trail and its associated viewing area. Safety rails were modified and rebuilt to allow viewing of the canyon from a wheelchair height. Stone curbing also was installed along the trail near the canyon rim to increase safety. The result: A safe access point for all visitors to the area.



The rehabilitation of the South Kaibab Trail significantly improved conditions for both hikers and stock users. NPS photo



The new portion of the accessible Hermits Road Trail, which is used as a combination hike/bike trail. NPS photo

Pavement preservation project for all park roads

Pavement preservation, or “chip seal” work, took place on all roads on both rims in spring and summer of 2010. The work will help preserve roads built in recent years and extend the life of older roads.



This pavement preservation project involved crack sealing, chip sealing, and restriping most of the paved roads on the North and South Rims of Grand Canyon National Park. This seal coat will provide seven or more years of service without the need to rebuild the sub base and resurface the asphalt.

Rehabilitation of remote and historic Inner Canyon ranger stations

The Tuweep Ranger Station and residence is in a remote area on the northwestern side of Grand Canyon. Far from public utilities, it had been ignored in recent years. It was remodeled

to meet building and safety codes and improve living conditions for staff stationed there. Utility upgrades improved the station’s water catchment and treatment system and its off-grid electrical power system, which uses solar and wind generators.



Improvements to the utility systems at Tuweep residence. NPS photo



Water catchment system at Tuweep that provides potable water for residence. NPS photo

In the Inner Canyon, both the River Ranger Station and the Phantom Ranch Ranger Station were rehabilitated. Work included new electrical, plumbing and HVAC systems. New bathrooms and energy-efficient windows were installed. Cabinets and “ENERGY-STAR” appliances were added to the kitchens. At Phantom Ranch, improvements included spaces for the clinic area and the visitor contact station to separate them from the living quarters.

Employee housing

The park completed the design and started construction of 64 new units of employee housing (eight, 8-plex apartments). The park-led design was sustainable and is expected to achieve Gold or Platinum LEED (Leadership in Energy and Environmental Design) ratings. (The modifications were approved by the Development Advisory Board.) The apartments should be ready for staff in late summer 2011.

On the North Rim, five historic, external-frame cabins have been renovated and upgraded, for a total of 15 cabins available for seasonal employee housing. These replace dilapidated trailers, which will be removed from the North Rim.



We are very excited to be able to provide these new units for our employees. It is a huge step in reducing our housing deficit and improving living conditions in the park. The current deficit affects the park's ability to meet critical mission needs, is often a detriment to staff morale, and severely impacts our ability to recruit and retain employees.

Steve Martin, superintendent



This renovation project includes replacing windows, exterior doors, and roofs; upgrading electrical systems and plumbing; refinishing or replacing floors; repairing foundations; rodent-proofing; and installing fire sprinkler systems.

Supai Camp housing

One of the highlights of the park's partnership initiative was the work done with the Havasupai Tribe to improve homes at a small housing area on the South Rim known as Supai Camp. American Recovery and Reinvestment Act (ARRA) funds were obligated and a construction contract was awarded for the construction of six new handicap-accessible housing units (three duplexes). This housing area was established by the NPS in the 1930s for tribe members who were relocated from other areas in the park. Upgrades to water and sewage utilities

were completed and on Aug. 5, 2010, the new duplexes were presented to the tribe. Rehabilitation is now underway on the old cabins in Supai Camp. This project fulfills past promises to the tribe and addresses NPS concerns about living conditions and infrastructure at the camp.

The park finished upgrading water and sewage systems at Supai Camp housing area. These dwellings have been provided to the Havasupai Tribe since the 1930s by a long-standing agreement.

Through our partnership with the Havasupai Tribe, we were able to provide adequate housing for tribal elders and families who live and work on the South Rim. Funds allocated to the park through the American Recovery and Reinvestment Act gave us the opportunity to complete this long standing and necessary project.

Steve Martin, superintendent



Supai Camp ribbon-cutting ceremony, Aug. 5, 2010

Visitor Center and Mather Point improvements

The park completed Phase 1 of the visitor center improvement project. The work included re-routing the road away from the Mather Point overlook, adding 600 spaces of private vehicle parking and 40 commercial bus spaces. This removes vehicles from unsafe parking along the road shoulders and allows for resource restoration in the area. It provides vastly improved access to the visitor center and improves access and use of park buses.

Design for a new 250-seat park theater was completed in FY 2009 and sent to the Development Advisory Board for approval. Construction began on the theater during the summer of 2010.

Work began on a new accessibility ramp at Mather Point in the summer of 2010. Also, a new amphitheatre on the rim was completed in time for use by the Interpretive Division over Labor Day weekend.



The new amphitheater allows park visitors to view the canyon's famous vistas from a beautiful location, while seated on native limestone. The amphitheater's location next to the rim seats approximately 50 – 80 people providing space for ranger talks or viewing the canyon's sunrises and sunsets in a peaceful setting.

The Landmark Feature (a gathering spot) was completed in consultation with 11 affiliated tribes and dedicated on Oct. 25, 2010 (photo below).



South Rim entrance

The park solved one of the greatest problems for park visitors when it changed the configuration of the south entrance station. This has reduced the average wait for a visitor from 1.5 hours in the summer to less than 15 minutes.



Grand Canyon's South Rim entrance station.
NPS photo

New Science and Resource Management building

The Science and Resource Management staff now occupies offices in facilities abandoned by park maintenance years ago. These offices are completely inadequate, with leaking roofs, little or no insulation, and workspaces and heating systems designed for maintenance shops and vehicle bays. A new, LEED-rated facility will provide modern offices and laboratory space. There also will be room for volunteer work-crew training and interaction with park donors and partners. Construction is scheduled to begin in 2011.

For six years, Science and Resource Management staff have had to work in three substandard buildings, including a former warehouse and a former maintenance shop. One needs extensive roof repair or replacement and a new heating system and boiler. Neither building is suitable for the staff's office and operations needs.



Current working conditions for Science and Resource Management Staff. NPS photo

Shrine of the Ages and park headquarters upgrades

These buildings, seen daily by numerous visitors, needed rehabilitation and improvements badly. Window-mounted air conditioners in the Mission 66-era office building will be replaced with central air conditioning. Energy-efficient windows and doors will replace the buildings' existing windows and doors. This work will save energy, lower costs and vastly improve the buildings' appearance.



The interior of the Shrine of the Ages, a visitor interpretation center on the South Rim, is in need of rehabilitation. This project will create a clean and comfortable environment for all visitors and park residents. It also will comply with handicap-accessibility laws and will improve safety where visitors approach the shrine. NPS photos

The idea for an interfaith chapel at Grand Canyon dates back to 1917. It was not until 1952 that the Shrine of the Ages Chapel Corp. was formed, design plans were drafted, and fundraising was begun. The corporation included representatives of Catholic, Jewish and Protestant denominations. Its goal was to build a permanent structure on the South Rim of the canyon, near a site already used for religious rites, including a very popular Easter sunrise service.

Watchtower rehabilitation

The division completed design engineering and compliance and began rehabilitation construction on the Desert View Watchtower. This work will restore many of the tower's external elements and resolve long-standing deterioration that threatened the building's future. Work is almost completed so that the park can continue to use and protect this National Historic Landmark building.

Repair and restoration have rescued the four-story Desert View Watchtower from deterioration. This historic structure, built in 1932, evokes the ancestral Puebloan culture and architecture of the Grand Canyon region. NPS photo



New park office space in Flagstaff

In December 2009, Grand Canyon administrative staff moved into newly acquired space in Flagstaff, consolidating several offices and providing work areas for about 65 employees, including Grand

Canyon Association staff. These employees share space with the U.S. Forest Service under the Service First doctrine to serve the public and cooperators better. The move to Flagstaff has helped the park deal with its housing shortage. The move also adheres to the park's General Management Plan, which seeks to remove such facilities and infrastructure from within the park.



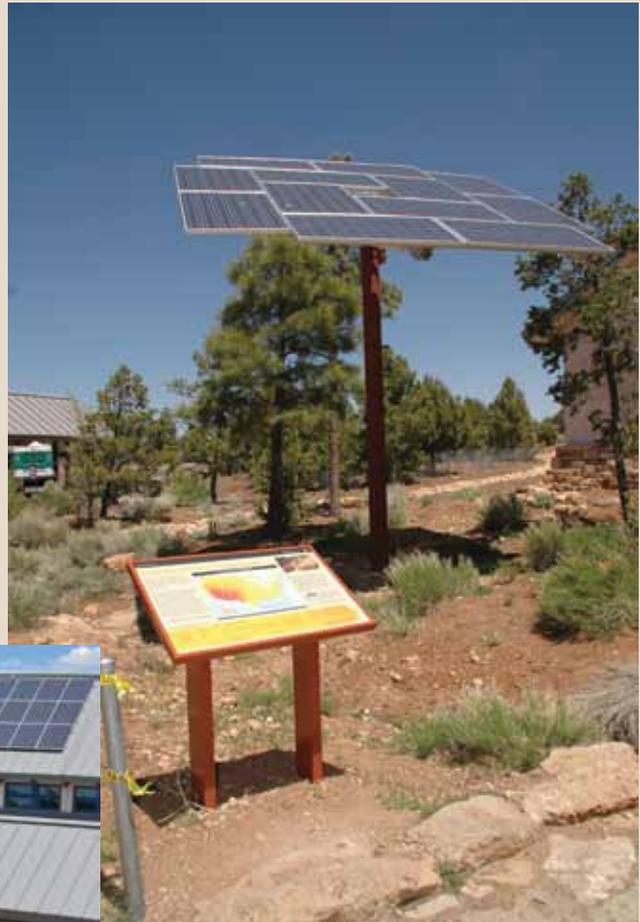
In 2009, Grand Canyon administration moved into new office space in Flagstaff, consolidating several offices and providing work areas for about 65 employees, including Grand Canyon Association staff. NPS photo

Division of Interpretation and Resource Education

Greening the Canyon: Photovoltaic panels at Grand Canyon Visitor Center

In partnership with Arizona Public Service (APS), the local power company, a cutting edge interpretive and green energy project was completed. Seven photovoltaic panels were donated to the park for installation at Grand Canyon Visitor Center. These panels, which were activated in May 2009, produce up to 18 kilowatts of power. This will offset the electrical needs of the visitor center by approximately 30 percent.

Wayside exhibits outside the building and an interactive exhibit inside explain how the system works. This gives visitors an understanding of the park's and APS's commitment to renewable energy. Project funding was provided by APS.



The Grand Canyon Visitor Center (South Rim), with the photovoltaic solar panels in place. The photovoltaic system is producing about 30 percent of the power used by the visitor center. NPS photos

Artist-in-Residence program

The history of the national parks and Grand Canyon is tied directly to connecting people to conservation through art. Using space in the recently acquired Verkamp's building, the park has begun a year-round Artist-in-Residence program for the South Rim. Given the ability to provide newly focused time and professionalism on the program, the park has

rewritten the criteria for both the North Rim and South Rim programs to meet higher artistic and professional standards. These new standards focus on representing and interpreting the conservation, preservation, and inspirational missions of NPS in the selection of artists-in-residence and their work.



"Imminent Depth" (2007, acrylic and oil pen on canvas), by Susan Klein, Artist-in-Residence, summer 2007 (North Rim) and September 2009 (South Rim). NPS photo



"Down a Few Thousand" (acrylic painting on canvas), by British Columbia artist David Alexander; Artist-in-Residence, June 2010 (South Rim). NPS photo

Few places have inspired as much wonder and creativity as Grand Canyon. The park hosts two Artist-in-Residence programs: A seasonal program on the North Rim and a year-round program on the South Rim. Artists of all genres, selected by a formal jury, are awarded three-week residencies. During their time at the canyon, artists and collaborative groups present programs for visitors and receive focused studio time to pursue their projects.

Design for new visitor center exhibits

Filling a void of orientation and resolving an eight-year stalemate, the park is designing new interpretive and orientation exhibits for the Grand Canyon Visitor Center (formally known as Canyon View Visitor Center). Like the park orientation film, they will focus on introducing visitors to Grand Canyon's six main interpretive themes. Kiosks outside the visitor center, accessible 24 hours a day, will provide additional orientation information.

The aim is to foster better visitor understanding and appreciation of the park and its resources and to forge emotional and intellectual connections with Grand Canyon and the rest of America's national parks. Final plans were completed during summer 2010. The new exhibits will be built and installed in 2011. Federal Lands Recreation Enhancement Act fund revenues are paying for this project.



*The Grand Canyon National Park Visitor Center (South Rim).
NPS Photo*



The Grand Canyon visitor center in use. NPS photos

Summer Youth Camp program

Grand Canyon is doing its part to inspire the next generation of environmental stewards. Summer 2009 and 2010 marked the first full seasons of youth service and learning summer camps at the park. The Branch of Environmental Education offered five camps each season, provided ranger programs for four non-profit camps, and led one service/career weekend for Native American students from Flagstaff High School. Each camp had a different theme, but the overall goals were the same: To facilitate personal connections to park resources, close the growing divide between youth and the outdoors by enhancing their comfort and skills in the outdoors, and connect the

preservation of Grand Canyon to conservation in their own back yards. Each camp included service projects and educational activities led by both rangers and youth. Service projects inspired in camp participants a sense of stewardship and gave them a context for learning about park resources.

The campers completed nearly 200 service hours, contributing to more than six different Science and Resource Management projects. In addition to helping manage resources, the camps promoted strong personal connections to both Grand Canyon and the outdoors.



Youth program at the South Rim. NPS photo

The Environmental Education Branch of Grand Canyon National Park seeks to inspire stewardship and enthusiasm for the outdoors among youth by providing programs that link the preservation of the park to conservation in their back yards and communities.

International programs

Grand Canyon works with parks in other nations to advance relations, share knowledge and improve resource protection. The park is working with WASO to re-establish a relationship with the Peace Corps and on potential personnel-exchange opportunities with other World Heritage sites.

In 2010, the park was host to park staff from Chile, China, the Seychelles and Australia. Work also

continues with Yuntaishan World Geopark, Grand Canyon's sister park in central China's Henan Province. The park is developing a similar relationship with Sierra de San Pedro Martir National Park in Mexico. All international relationships include exchange of professional and technical personnel.

In April 2007, a Chinese delegation of representatives from Yuntaishan World Geopark, Henan Province government officials, and representatives of Beijing Normal University visited Grand Canyon National Park. During the visit, officials of both national parks began discussions to establish a sister-park arrangement for mutually beneficial cooperation between the parks and their countries. NPS photo



Division of Science and Resource Management

Resource stewardship

Resource stewardship in 2009-10 included collaborative efforts with the Museum of Northern Arizona, Utah State University, and park-affiliated tribes on archeology projects related to the operation of Glen Canyon Dam. Six archeological sites received excavation/stabilization work. In addition, condition assessments were completed at 52 other sites along the Colorado River. Vanishing Treasures program staff assessed preservation needs for 32 structures at Desert View, including 14 granaries and 18 multi-room surface structures with standing architecture.

In addition to ongoing management and maintenance of the museum collection, staff cataloged 123,278 aquatic invertebrates from the first intensive analysis of macroinvertebrates collected from the Colorado River and its tributaries more than 20 years ago.

A major component of endangered species work was the translocation of 302 juvenile humpback chub to Shinumo Creek. Post-translocation monitoring has shown high growth rates in the fish, with approximately 70 percent of them staying in the creek.



Archeological site work on the Colorado River. NPS photo

External threats continue to be a concern for preservation of park resources. Staff provided support to the Environmental Protection Agency (EPA) for its determination of impacts from heavy-metals byproducts of power generation at both the Four Corners and Navajo power plants. This support helped EPA seek greater environmental protections at both locations.



In June 2010, more than 300 juvenile humpback chub were translocated to Shinumo Creek as part of a multi-year conservation experiment to establish a second spawning population of this endangered fish in Grand Canyon National Park. NPS photos



Outreach activities

Science and Resource Management (S&RM) staff developed a dynamic and comprehensive science and education outreach program. One of the highlights was the establishment of the Conversations on the Edge lecture series. Division specialists presented four lectures at Northern Arizona University's Cline Library in Flagstaff in partnership with Grand Canyon Association (GCA). This lecture series featured talks on both natural and socio-cultural resources, with a total of 428 attendees.

Division staff also participated in a variety of park and GCA events including Archeology Day, Celebrate Wildlife Day, Interpretive Spring Training and GCA Members' Weekend. S&RM staff spearheaded planning for the park's first observance of Earth Science Week, in October 2009. S&RM specialists also presented sessions at the Grand Canyon Field Institute's and Grand Canyon River Guides' training seminars and at a number of other symposiums, conferences, training sessions, and special events. S&RM staff wrote articles in a variety of publications including *Park Science* (special edition on soundscapes), *Canyon Views*, *The Guide*, *Boatman's Quarterly Review*, and *RMS Journal*. These articles reached audiences both technical and general, and national and local. Nine *Canyon Sketches*



eMagazine features, which highlighted S&RM staff accomplishments, were posted on the park website. Four of the features also were highlighted as homepage features at the park service's "nps.gov" website. Two features included multi-media content.

The *Canyon Sketches* homepage received more than 7,000 visits in 2009. In addition, staff created a "River Stewardship Action Guide" in partnership with river guides and non-commercial river users to improve stewardship in the river corridor. Tours of the museum collection are ongoing, with 32 formal tours conducted for diverse groups of researchers, school groups, park staff and news media. All outreach and education activities contribute to the overall goal of making resource management and park resources accessible to general audiences.

Grand Canyon National Park is an ideal place to celebrate Earth Science Week, as the park is a natural classroom and laboratory for the earth sciences, and is one of the most well-known and scenic geologic landscapes on the planet. NPS photo



Volunteerism

In 2009, staff and volunteers removed 3,283,984 individual invasive plants from more than 1,340 infested acres. This amounted to the physical removal of more than 110 acres of invasive plant ground cover. This work was extremely beneficial for the protection and restoration of the park's native ecosystems and the restoration of healthy and intact wildlife habitat. It amounted to more than 37,000 hours of labor removing invasive plants, restoring ecosystems, monitoring cultural and natural resources (including 805 hours in the Condor Nest Watch Program), and closing a dangerous abandoned mine.

Partnering with Bat Conservation International, staff and volunteers successfully installed bat-friendly closures to prevent human access to three mine openings at the Last Chance Mine site on Horseshoe Mesa below Grandview Point.



Installation of bat gates on Horseshoe Mesa in 2009. The NPS has undertaken several projects at abandoned mines throughout Grand Canyon to seal them for the safety of park visitors. Funds from the American Recovery and Reinvestment Act of 2009 (ARRA) are being used to secure numerous mine openings at the defunct mines. Teams are installing bat gates and posting warning signs where appropriate. NPS photo



Staff and volunteers removed nearly 3.3 million individual invasive plants from more than 1,340 infested acres. NPS photo



Exotic plant removal. NPS photo

Science and monitoring programs

Staff completed key data collection to support the park’s Colorado River Management Plan commitments to monitor and mitigate visitor use impacts and monitor visitor experience at destination sites.

Staff worked with members of the Hualapai Tribe to develop and implement companion resource monitoring programs in the lower Colorado River gorge. In addition to baseline work along the river, the soundscapes program worked on developing interactive software. They assessed the noise model used for overflights planning and completed acoustic data collection near Mexican spotted owl nests under air-tour routes.

On the ground, nine radio-collared mountain lions were monitored in 2009. Home ranges were delineated and foraging activities were described. Lions continue to use habitat near Grand Canyon Village but avoid entering the developed area.

For the first time since 2004, the endangered southwestern willow flycatcher (SWWFL) was found by survey crews on the Colorado River at historical



Grand Canyon National Park wildlife/human interactions biologist Brandon Holton measures a mountain lion’s teeth. NPS photo

nesting territories between Lees Ferry and Phantom Ranch. Suitable patches of habitat were found along the river between Phantom Ranch and Diamond Creek.



Willow flycatcher. NPS photo

Park staff, working with the U.S. Fish and Wildlife Service and the Arboretum at Flagstaff, AZ, continued to implement recovery plan actions for the park’s only endangered plant species—the sentry milk-vetch. Monitoring data suggest an 11 percent increase in the population at Maricopa Point. New individual plants also were found at the other known population sites in the park.



Listed as endangered in 1990, sentry milk-vetch is at risk of extinction because the plant exists in just three separate populations in very small numbers. NPS photo

Park staff worked with the Tamarisk Coalition, based in Grand Junction, CO, to implement tamarisk beetle surveying and monitoring in August within the park. During monitoring, small numbers of beetle larvae were found on tamarisk trees along both sides of the river beneath Navajo Bridge and in an area 12 miles downstream from Lees Ferry. Staff also found adult beetles six miles downstream from Lees Ferry in September.

Division of Visitor and Resource Protection

The Grand Canyon Peer Support Team was re-established with 14 members who work on both the North and South Rims and in the Inner Canyon. Team members assisted approximately 116 people (both employees and family members involved in incidents in the role of family liaison) through the Critical Incident Stress Management program. The park's team also supported Glen Canyon and Lake Mead National Recreation Areas, Petrified Forest National Park and Navajo National Monument.

Preventative Search and Rescue

This program provides information on hiking safety with an emphasis on eliminating unsafe hiking practices. These activities have led to a direct decrease in the number of heat-related injuries and have demonstrated the capacity to save human life on the park trails. This program is the division's largest participant in the Volunteers-in-Parks program.



Preventative Search-and-Rescue (PSAR) was started in 1997, in an effort to reduce the hundreds of heat-related illnesses among park visitors every summer. Some of those illnesses resulted in deaths that could have been avoided with better preparation and planning. PSAR rangers patrol the upper portions of the main park trails, including Bright Angel and South Kaibab, questioning hikers and offering heat safety tips and information. NPS photo



Search and rescue training. NPS photos

Search and Rescue

Grand Canyon's program is one of the most highly recognized search-and-rescue programs in the NPS. The park experiences an average of 300 minor and 150 major search-and-rescue events each year. The program is supported through multiple park-wide rescue caches and one dedicated rescue apparatus.

Emergency Medical Services (EMS)

Grand Canyon National Park's EMS response and transport program provides advanced life-support services using 79 permanent/seasonal paramedics and emergency medical technicians. The program manages four medical transport ambulances and uses the Park's year-round helicopter. The EMS program is supported in part by an extensive ambulance transport billing system which included 985 transports in 2009. The total EMS workload for an average year is more than 1,300 calls for service.

Fire and Aviation

In January, 2010, a Record of Decision for the park's Fire Management Plan was signed by regional director of the Intermountain Region (IMR) of NPS. Grand Canyon began to implement this plan in the 2010 fire season.

On Feb. 23, 2009, Grand Canyon's helitack and search-and-rescue crews were recognized at the Helicopter Association International Heli-Expo Awards Banquet for a dramatic Colorado River rescue the previous summer. They received the Igor I. Sikorsky Award for Humanitarian Service for their short-haul rescue of 16 stranded boaters on Aug. 17, 2008 after a flash flood in Havasu Canyon. The award is named for the founder of Sikorsky Aircraft and goes to those who best demonstrate the value of civil rotorcraft to society by saving lives, protecting property, and helping those in distress. In the award presentation, the association cited "precision flying under difficult conditions due to the tight canyon and the need to hover for prolonged periods in close proximity to the canyon wall." Jay Lusher, the park's helicopter program manager, said working and landing next to rushing water only increases the challenge of such a rescue. Michael Ebersole, Interagency Unit aviation officer, said the honor was "the most prestigious award



NPS helicopter, Grand Canyon National Park. NPS photo

received in the 36-plus-year history of Grand Canyon National Park's aviation program."

During the Aspen Fire in July and August 2009, Grand Canyon served as a pioneer park in implementing revised national fire policies for large wildfires (4,200 acres or more) over long duration (eight weeks or more). The park did this by using the Wildfire Decision Support System that it had been field testing at the time for national use. The same system was used for the Game Reserve Fire / Ruby Complex in June 2009, the first interagency wildfire nationally that was managed under this policy revision.

Grand Canyon's fixed-wing flight program was re-established in 2009, after a five-year absence, using a DOI fleet Cessna 206. The park also operates the busiest land management helicopter program in the country. With two exclusive-use helicopters and numerous other craft on call, the program averages about 650 flight hours a year.

Fee collection

The Fee Collection Division operated the largest fee program in the Park Service, as allowed under the Federal Lands Recreation Enhancement Act (FLREA). More than \$19 million was collected in the program in 2009 and 2010.



Helitack Squad Leader John Yurcik, Helicopter Pilot Bryce Barnett, Helicopter Program Manager Jay Lusher and seasonal Helitack Crew Member Sean Naylor accept the 2009 Igor I. Sikorsky Award for Humanitarian Service on behalf of the park and Papillon Helicopter Company. NPS photo

Division of Facility Management

Remodeling of Verkamp's Curio Shop

The historic Verkamp's Curio Shop, acquired by the NPS in 2000, required a complete facelift before it could reopen as the only NPS-operated visitor center in the South Rim hotel area. After extensive work to bring the structure up to building and safety codes and additional cosmetic upgrades, the project was completed at a minimal expense with the cooperation and aid of the park's Interpretation Division, the Grand Canyon Association (GCA) and others.

The first curio shop opened at the Grand Canyon in 1898. It was a rented tent on the grounds of Bright Angel Hotel where John G. Verkamp sold Indian crafts and curios for Babbitt Brothers' Trading Company. Visitation to the Grand Canyon was not brisk enough to support the business and he closed down after a few weeks, selling his remaining stock to the Bright Angel Hotel. In 1905 he returned to the Grand Canyon to build Verkamp's Curios at its present location next to the Hopi House.
NPS photo



Pasture Wash Road rehabilitation

The unsurfaced Pasture Wash Road provides access to a remote and beautiful area on the south side of Grand Canyon. The road, which passes through a portion of the Havasupai Indian Reservation, was in extremely poor condition, with many potholes, rocky outcrops and overgrown vegetation. Park crews spent many hours grading the driving surface, covering rock areas with road base and trimming vegetation to improve access for the many visitors to this portion of the park. The road work also improved access for residents of the Havasupai Reservation.



The view looking west across Grand Canyon at sunset from Desert View Point.
NPS photo

Water and wastewater systems

Grand Canyon's water and wastewater systems had no violations of federal or Arizona state health and environmental quality regulations in 2009. Park residents and the public had safe drinking water and were not exposed to health hazards from wastewater treatment. With more than 4.5 million annual park visitors, the integrity of these systems is critical.

American Recovery and Reinvestment Act (ARRA) funding

Grand Canyon successfully competed for more than \$18 million in ARRA funds for projects in the park. It successfully completed projects including energy-efficiency improvements for houses and public buildings; trail reconstruction; road improvements; alternative-fuel buses; natural resource protection; roof replacement; partnership projects with the Havasupai Tribe, and water system improvements.



Shinumo Creek, Grand Canyon National Park. NPS photo

Grand Canyon National Park has received approximately \$18 million in ARRA funds for 15 park projects. These projects address critical park needs, use sustainable technologies and improve experiences for park visitors.



Automation of Indian Garden Pumping Station

Indian Garden Pumping Station is the final station on the trans-canyon water line to push water up the South Rim canyon wall to supply Grand Canyon Village. In the past, this operation required an on-site employee to monitor and adjust operations. New automated controls have been installed for remote-control operation from the South Rim. These include a Supervisory Control and Data Acquisition system, or SCADA, remote-control cameras, and automated controls on valves and pumps. The result is significant savings in staff salary and overtime.



Hikers take a break in the shade of a cottonwood at Indian Garden on the Bright Angel Trail. NPS photo

Energy audit for all Grand Canyon facilities

Working with both NPS and Department of Energy (DOE) programs, the division conducted two in-depth energy audits of all park facilities in 2010. The results will be used for a proposal to join DOE in an Energy Savings Performance Contract (ESPC). The pact would seek alternative ways to finance and accomplish long-term reductions in park energy use in both residential and public buildings.



U.S. DEPARTMENT OF
ENERGY

Greenway V Trail

This one-mile addition to the Rim Trail System linked the existing trail (which ended at Pipe Creek Overlook) to the South Kaibab Trail trailhead area. The addition is a paved, 9-foot-wide bicycle and walking trail along the South Rim, with canyon views for almost its entire length. Barriers were installed at corners and other points to eliminate safety concerns for hikers and bikers. Benches and picnic tables will be installed at designated rest stops along the route. The project also included reconstruction of the Kaibab Trailhead area. It added a viewing area at the top of the trails so that visitors can view the canyon and watch for hikers coming up the trail. This realignment also directs hikers away from mule corrals and work areas to improve safety.



The Grand Canyon Greenway project was launched in 1999 as a part of the Millennium Trails Initiative. Trail crews recently completed work on Phase V of the Greenway V Trail, which is now open for public enjoyment. NPS photo

Project Management Team

Narrow Band Radio conversion

In 2009, the park completed the core of a new Narrow Band Radio system. The work allows for conversion from a conventional, wide-band system to digital narrow-band technology. With no additional funds available for the project, Grand Canyon paid for it with park funds. The first phase includes the system's four main towers. It is expected to improve communication down into the canyon.

New dispatch center

The park's existing public-safety dispatch center was not large enough to accommodate the new Narrow Band Radio equipment. So a new center was built next to the Emergency Services building. The project was designed and construction contracts were awarded in FY 2009. Construction was finished in the spring of 2010. The park's emergency 911 system also is being upgraded in the move to the new center.



In April 2010, park staff moved its regional communications center from headquarters to the park's emergency services complex and began to use the first phase of a narrowband digital radio system.

The planning, construction and implementation for both projects were many years in the making. These projects required a \$3.2 million contract with Motorola and a \$1.6 million contract with Whiteriver Construction of Lakeside, AZ. The state of Arizona supplied \$180,000 in 911 equipment upgrades.

Park-wide restroom improvements, Phase 2

Grand Canyon built four new composting toilets in the Inner Canyon and added five vault toilets along the South Rim. It also renovated the restrooms at Desert View. Past visitor complaints often focused on restroom conditions and inadequacies. The project was finished in the spring of 2010.



*Above: New restroom facilities at Vercamp.
At left: Renovated restrooms at Desert View. NPS photos*

Desert View visitor contact station

The park designed and renovated an existing historic building for use as a visitor-contact station at Desert View, an area with no formal contact point for the 15 to 20 percent of visitors who enter the park from the east. A historic preservation crew from Bandelier National Monument in New Mexico did most of the work, with some portions under small contracts to keep the project moving quickly and affordably. Renovation was completed in April 2010.



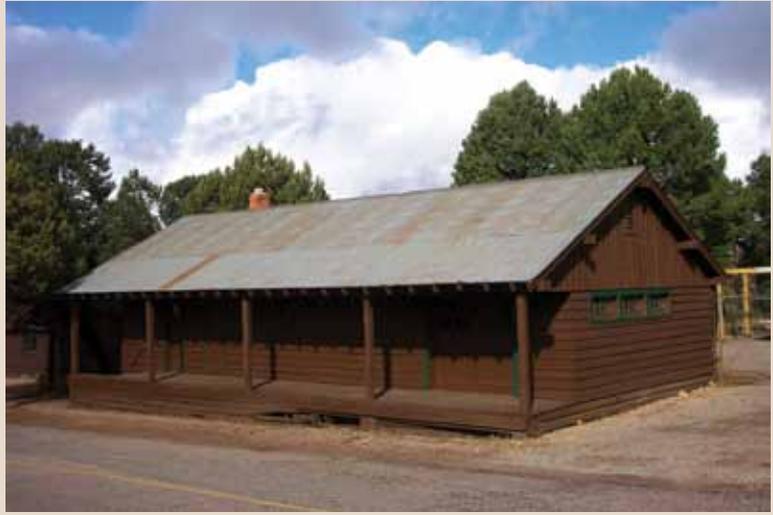
The Desert View Information Center and Bookstore, at Desert View Point near the park's east entrance, offers a passport stamp cancellation station, and a large selection of publications. NPS photo

Water bottle filling stations

Nine new filling stations for water bottles will be built at trailheads and heavily visited areas of the park so that the sale of plastic-bottled water can be discontinued by Jan. 1, 2011. The Grand Canyon Green Team is deeply involved in this project to promote sustainable practices and reduce waste

Boat house improvements

Grand Canyon's boat operations are housed in historic park maintenance buildings that were not designed for such use. An improvement project was approved, but available funds are not enough to build a new facility. The park has prepared a plan to upgrade parts of the park warehouse and equipment bays so boats can be housed there more efficiently. This renovation will accomplish the work for one-quarter of the cost of building a new one. A construction contract was to be awarded in late FY 2010.



Above, the park's current river operations facility. Below, the derigging of a river patrol trip. NPS photos



Division of Concessions Management

The division issued a prospectus in 2010 for a trail ride concession on the North Rim. Offers were accepted and the concessioner selected after issues on possessory interest were resolved. The division also began to develop prospectuses for the park's general stores concession and South Rim hospitality operations, as well as for the Grand Canyon Railway.

A new shuttle-service contract was prepared and subsequently awarded to Paul Revere Transportation LLC. The shuttle operates year-round and carries approximately 1 million of the park's 4.5 million annual visitors during some point in their stay. Six new visitor shuttle buses were bought and put into use beginning in 2009. For the past three years, the shuttle system also has provided access to the town of Tusayan. North Country Health Care was awarded a new five-year service contract for urgent care services to park visitors and employees.

Planning and compliance for renovation of Bright Angel Lodge are complete. Construction began



New energy-efficient shuttle buses were purchased and put into service in 2009. A new shuttle-service contract was subsequently awarded. NPS photo

March 1, 2010, with substantial completion expected by mid-December.

Authorization and construction of bike rental and snack bar facilities are planned for the Grand Canyon Visitor Center. In the interim, a Commercial Use Authorization (CUA) was issued to Bright Angel Bicycles for bike rentals during summer of 2010. The operation was highly successful and the CUA was renewed for another year.

All rate reviews, evaluations and Annual Overall Ratings were completed as required and on time. Effective concessions management results in higher quality visitor service at Grand Canyon.

Special permits and CUAs were switched to the "pay.gov" system, which reduced check processing and streamlined payment. In 2009, the division also took over film permit operations for the park.

The division will continue to implement asset management tools, such as the Concession Park Asset Management Plan, to reduce deferred maintenance and improve concessioner-operated facilities.



Today, the Bright Angel Lodge is its own bit of history preserved for visitors to admire and enjoy. NPS photo

Division of Administration

The division successfully negotiated an agreement to provide Information Technology (IT) support services to neighboring NPS units, including Sunset Crater, Walnut Canyon, Wupatki and Navajo national monuments, the Horace Albright Training Center, and NPS Flagstaff offices. This agreement adds an IT support specialist and offers the resources of the park's entire IT Branch to all of these NPS units. In the first eight months of the agreement, the park completed long overdue security requirements, including certification and accreditation reports, infrastructure diagrams, spending plans and the like. The division also significantly upgraded network and telephone systems and standardized procurement procedures. The superintendents of the monuments have noted improved response times and resolution of problems since the agreement took effect.

Grand Canyon was instrumental in establishing a Servicing Human Resources Office and a Major Acquisition Buying Office, both in Flagstaff. They provide contracting and human resource services for all parks in Arizona. In 2009, the park also acquired the former Verkamp's concession park housing

assets. This increased Grand Canyon's park housing inventory by nine units, three of them provided to GCA. The Division's Property Branch coordinated and managed the ARRA Vehicle Replacement Program in 2009. It also helped park division chiefs and IMR and Washington Office (WASO) property managers to replace 14 older fleet vehicles with fuel-efficient 2010 models. Grand Canyon acquired four Chevrolet Impalas and 10 Chevrolet HHR's, which produced a \$301,550 savings for the park.

Grand Canyon staff completed a basic-needs assessment, "Ensuring Sustainable Funding for Park Operations and Asset Protection into the 21st Century." The report highlights critical park issues that have far-reaching implications if not addressed.

FY 2010 ARRA funding of \$18.3 million for 14 projects was contracted on time with 90 percent of the projects contracted to local vendors, including a youth program. FLREA funds were spent according to IMR and WASO policy, with 72 percent going to deferred maintenance work. Carry-over funds remain below 35 percent of revenue.



Division of Partnerships and Employee Programs

Generating Organizational Advancement and Leadership (GOAL)

GOAL Academy

The Goal Academy is a program created at Grand Canyon National Park for its employees and those of other parks in the Intermountain Region. It trains employees to develop career and leadership goals, intentionally and strategically, that help them achieve success. The academy focuses on competencies that create effective leaders who can sustain the National Park Service well into the future.

The GOAL Academy trained and successfully graduated 15 employees in 2009, 14 from Grand Canyon and one from Navajo National Monument. In 2010, there were 20 GOAL participants, 10 from Grand Canyon and 10 from surrounding parks.



In 2010, there were 20 GOAL participants, 10 from Grand Canyon and 10 from surrounding parks. NPS photo

Most people want and strive to be excellent. They just need an environment that fosters their desire for excellence and allows them to be their best.

Raquel Romero
GOAL program manager

In collaboration with the Horace Albright Training Center, GOAL held a three-day seminar with organizational learning expert Peter Senge on leading and learning sustainability. GOAL also held two all-employee sessions in the park on resiliency and intergenerational diversity, and had an open community session featuring Senge. It also held two coaching sessions for supervisors, taught by Sarah Conlon, employee development officer from the IMR Office.

Small motivational grants

Starting in 2009, the park has made small grants available to employees to accomplish small projects for which funds were not otherwise available. Projects are required to be small and manageable within reasonable time frames. Employees can apply for projects of \$5,000 or less. In support of the park's goal to "maintain a workforce to lead Grand Canyon into the 21st century," proposals of \$2,500 or less are accepted for workshops and training to further employee education and job knowledge and understanding. In 2009, more than \$90,000 was awarded to employees. In 2010, \$106,000 was distributed.

Diversity

In July 2009, Grand Canyon hired a full-time diversity coordinator to manage the park's program. The coordinator has developed an FY 2011 action plan focused on recruitment and retention of diversity employees. The plan emphasizes two- to three-year internships under the Student Temporary Employment Program (STEP) and Student Career Experience Program (SCEP), which allow employees to develop and grow through mentoring.



Park-wide volunteer program

The program purchased and supplied a volunteer trailer for the North Rim, increased volunteer hours by 28.4 percent over 2008 (to 63,051 hours total) and made significant improvements in the volunteer page on Grand Canyon's Intranet site.



Volunteers gain the experience of a lifetime by contributing to the preservation of an internationally renowned park, receive an education about the park's vegetative communities, and may gain valuable training that can lead to future employment. NPS photos



Partnerships

Off-grid power system for Inner Canyon facilities

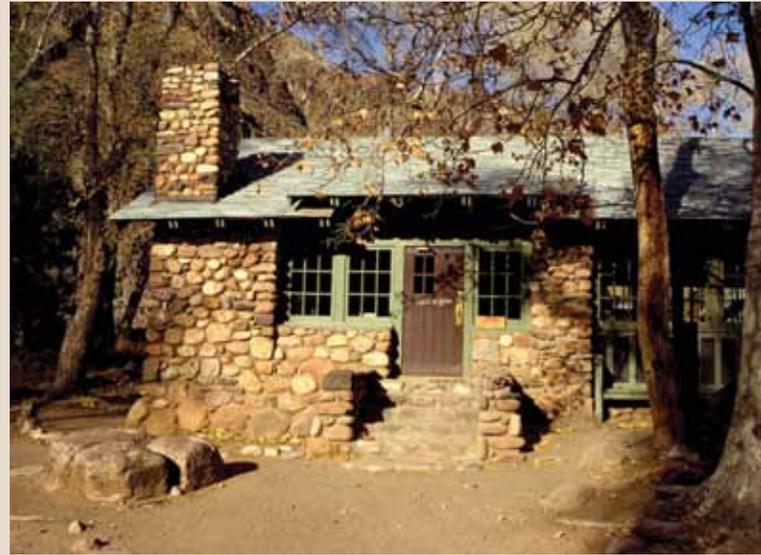
The Facility Management Division is working with a consortium of partners on feasibility, funding and installation of a micro-hydropower plant on the trans-canyon water line at Phantom Ranch, Cottonwood and Roaring Springs. This project will provide “green energy” for both NPS and concessioner facilities and save about \$18 million. It will replace an antiquated power line from Indian Garden to Phantom Ranch and the rest of the inner canyon, saving utility costs for years to come.

Fundraising goals with the Grand Canyon Association

In 2009, the Grand Canyon Association (GCA) became the official fundraising entity for the park. Since accepting this new aspect in its mission, GCA has made great progress in developing a vision for fundraising activities. Park staff participated in the association’s strategic planning process for building fundraising into the GCA program. One of GCA’s strategic objectives is to increase substantially its financial support for the National Park Service to enhance visitor experience and protect Grand Canyons cultural and natural resources.

Key Priorities

- Develop and implement a fundraising program with ambitious goals



Designed by Mary Colter and constructed in 1922, Phantom Ranch provided food, lodging, and comfort against an austere backdrop. NPS photo

- Complete fundraising projects as requested by the park and approved by the GCA Board
- Build on an endowment to provide long-term support
- Increase total revenues from GCA retail operations and programs, and continually improve the margins from all of the association’s revenue-generating activities

Park staff worked throughout 2010 with the GCA Development Committee to develop a process for submitting potential fundraising projects. That process, later adopted by the board, was used for approval of fundraising projects for 2011.



**GRAND
CANYON
ASSOCIATION**
INSPIRE. EDUCATE. PROTECT.

Grand Canyon river heritage museum

In conjunction with GCA, the park did a feasibility study for conversion of the park's old Laundry Building into the Grand Canyon River Heritage Museum. Park staff met with GCA, boating community representatives and the Grand Canyon River Heritage Museum Coalition to develop and accomplish the next steps to make the museum a reality. GCA plans to begin raising funds for the museum project in 2012.

Grand Canyon art museum

Grand Canyon has major artworks in permanent museum collections that are never seen by visitors except in special exhibits, usually outside the park. GCA aims to raise funds for a permanent art museum in Grand Canyon Village to preserve and display this spectacular, but seldom-seen collection of historic and contemporary paintings owned by the park and GCA. Such a museum will ensure that future park visitors can experience Grand Canyon art at its finest. In 2010, GCA and the NPS studied three different park buildings as potential locations for a museum.

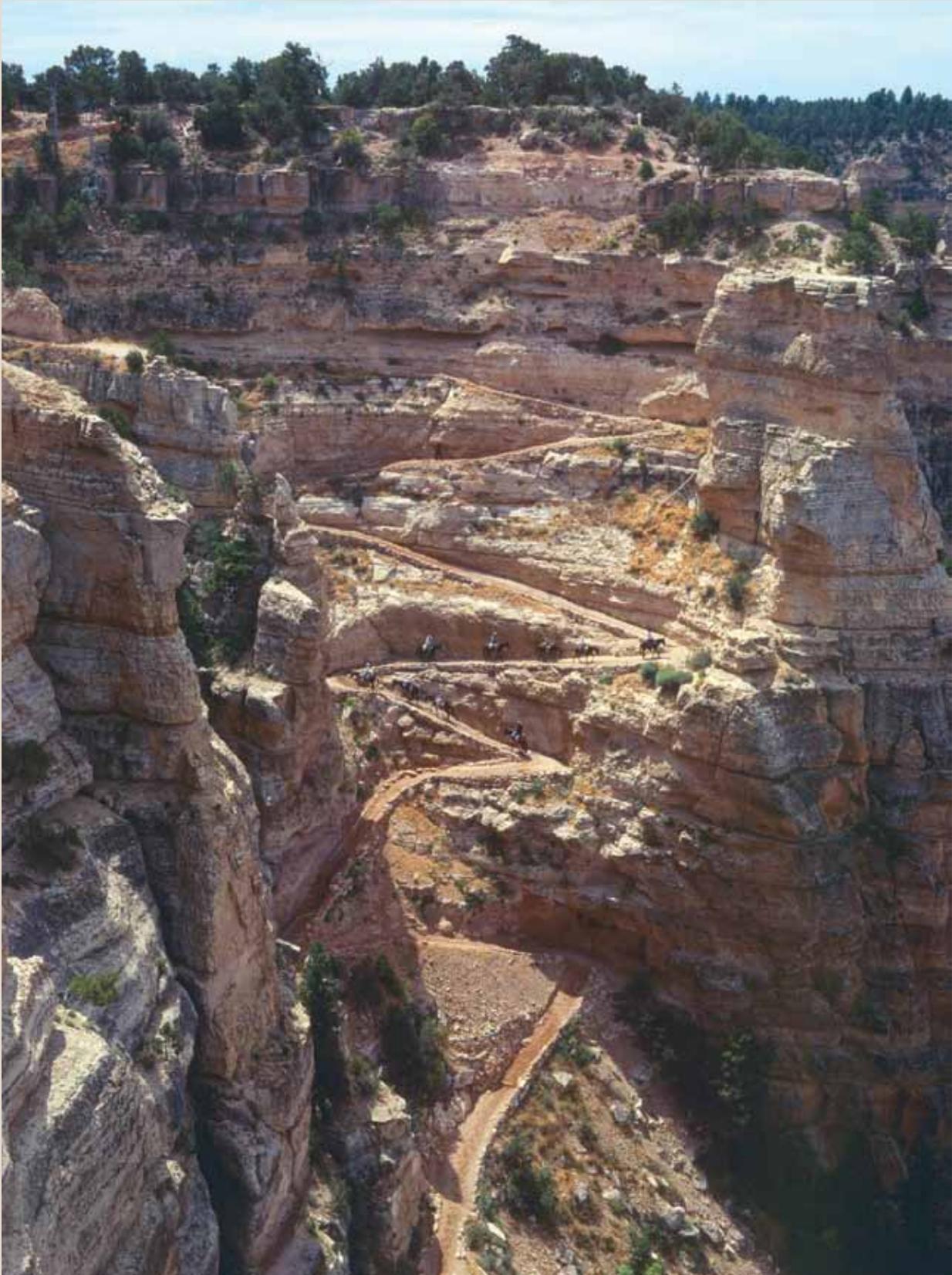
In 2009, GCA put on the first Grand Canyon Celebration of Art, a week-long series of art-related activities meant to become an annual event. Visitors viewed and purchased works of prominent artists who sought to capture the beauty of the canyon's timeless landscape. The second annual celebration, in 2010, improved on its success. Proceeds go toward the future, permanent museum.



*Possible venue for future art museum.
NPS photo*



*A powerful and inspiring landscape, the Grand Canyon overwhelms our senses through its immense size; 277 river miles long, up to 18 miles wide, and a mile deep.
NPS photo*



A mule party climbs the steep switchbacks through the Kaibab limestone on the South Kaibab Trail. NPS photo



The National Park Service cares for special places saved by the American people so that all may experience our heritage.

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