

# Our nation has before it a remarkable opportunity to save the heart of America's largest remaining wildland east of the Rockies—by creating a new Maine Woods National Park & Preserve, larger than Yellowstone and Yosemite combined.

These irreplaceable lands in northern Maine, like much of the U.S., are threatened as never before by development and fragmentation. This landscape is literally on the chopping block - its rugged mountains and sparkling lakes, deep forests and wild rivers, are more vulnerable with each passing day. Working together, we can permanently protect this vast wildlife habitat, ensure continued public access for world-class wilderness recreation, and contribute to a diverse, sustainable economy in hard-pressed northern Maine.

I o help create this legacy, you are invited to join forces with some of our nation's - and the world's - most respected leaders, Americans for a Maine Woods National Park. These scientists and journalists, performing and visual artists, writers and poets, policy makers and spiritual leaders, business people and conservationists, athletes and educators, would welcome you into their partnership.

In the coming years we can, together, assemble this national jewel, piece by piece, on a willing-seller basis, an important next step being a feasibility study to assess fairly and objectively its environmental and economic impacts. But we must act NOW!

Please support the Maine Woods National Park Campaign. Future generations will thank us for having the wisdom and the will to protect the heart of the Maine Woods as America's next great National Park. May they never look back and marvel that we did not!

## mericans for a Maine Woods National Park



Shaded area is proposed Maine Woods National Park surrounding Baxter State Park (not part of MWNP)

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\*a nonprofit 501(c)(3) organization

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# National Vol. 77, No. 5-6 May/June 2003 Parks

## The Magazine of the National Parks Conservation Association

## FEATURES

A Mountain's Majesty
Thousands of people are drawn
to Mount Rainier as a recreational destination and as a place to
live near. That attraction may be
placing both the mountain and
the people in harm's way.

By David Williams

## Desert Protection: Reality or Mirage?

It has been ten years since legislation was passed to protect millions of acres of California desert. Although the legislation has helped to protect these lands, they are increasingly challenged by two of the fastest-growing metropolitan areas in the country: Los Angeles and Las Vegas. By Helen Wagenvord

The Keepers of the Keys
Amid the natural riches of
Biscayne National Park, the forgotten story of the AfricanAmerican family that helped protect it is finally coming to light.
By Kim A. O'Connell



**COVER:** At 14,411 feet, Mount Rainier's peak dwarfs any mountain in the lower 48 states. *Photo by Art Wolfe.* 



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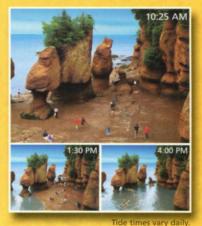
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## Just the Beginning of the Wonder Next Door in New Brunswick, Canada!

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## Tour Two Spectacular National Parks!

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seaside cliffs, it's 206 square kilometres (80 square miles) of wonder! Hike nearly 125 kilometres (78 miles) of incredible trails past hidden waterfalls, through deep river valleys and along awesome coastal vistas. Relax in a heated saltwater pool, take in a round of golf and learn the mysteries of the Bay at the interpretation centre. And stay the night in first-class camping facilities.

One of the wonders of the Acadian coast is **Kouchibouguac National Park!** Endless stretches of sand dunes, fragile grasslands, and incredibly warm water are the hallmarks of this park. Kayak past a herd of seals sunning on a sandbar. Follow a series of boardwalks to some of the warmest salt water north of Virginia! The water is so warm that the lagoon here has been known to reach up to a high of 26°C (78.8°F)! A birdwatcher's delight of pristine forests, sprawling nesting grounds for hundreds of species of birds, in a near-perfectly preserved ecosystem.

## Provincial Parks, Natural Sites and Endless Trails...

From touring the oldest mountain range in North America to canoeing the mighty Miramichi, New Brunswick has nine provincial parks, countless natural sites, incredible inland rivers and waterways, plus a vast network of trails to take you to each and every wonder! Experience one of the last

remaining sand dunes on the northeastern coast of North America at the Irving Eco-Centre, La Dune de Bouctouche. Explore the sandy coast of Miscou Island, where the oldest wooden lighthouse in the Maritimes is still in operation. And there's more! Stroll down historic city streets. Enjoy fabulous lobster dinners,



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## The Value of Parks

The nation's parks are more valuable to the country left untouched than exploited for the minerals to be found there.

The desert gives the illusion of lifelessness. Even some of the names, such as Devil's Cornfield, Badwater, and Funeral Peak, suggest a forbidding, inhospitable landscape.

Yet on a recent visit to Death Valley National

Park for an NPCA board meeting, I happened on a small oasis not far from where we were staying and was reminded of how much life is contained in this seemingly barren landscape. Foxes, bighorn sheep, desert tortoises, and a variety of plants call the desert home. Nearly ten years ago, more than 6 million acres of desert lands were set aside as part of the California Desert Protection Act. Although much of the land is protected in parks such as Death Valley, Joshua Tree National Park, and Mojave National Preserve, challenges remain. Protections, as we know, can be weakened and sometimes taken away (see story, page 26).

Among the recent challenges is the growing indication that the Bush administration tends to view public lands as a resource in a much different way than we do. The nation's parks are not reserved for the sake of industry. The nation needs oil, coal, and lumber to feed industry, but I would argue that the national parks are more valuable to the nation as they are. Their resources should not be seen merely in terms of usefulness. Ken Olson makes a valid point in *Forum* (page 34) that, per acre, Acadia makes more of an economic contribution to Maine than any acre of its



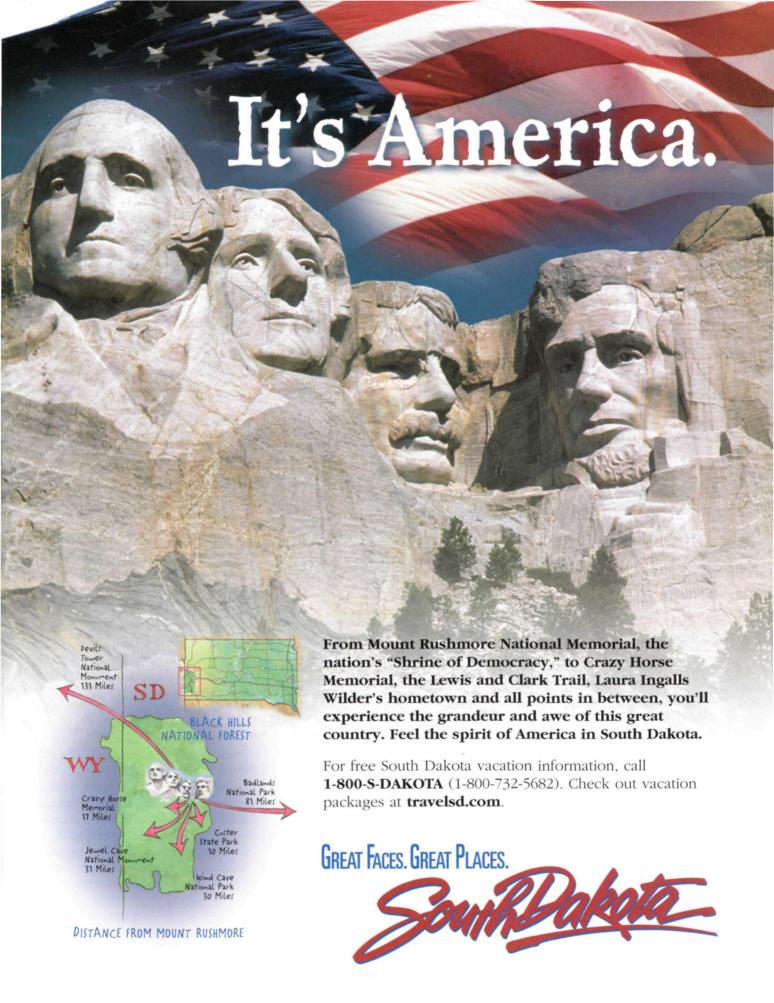
commercial forests.

In the interest of protecting our national parks from an onslaught of regulations and policies that encourage development and mineral extraction, NPCA has launched a Park Defense Campaign.

The Bush administration has proven its willingness time and again to see the industry point of view at the expense of the environment and the parks: the reversal of a ban on snowmobiles in Yellowstone, the weakening of the Clean Air Act, and most recently, its support of a lenient reading of an antiquated statute drafted more than 150 years ago that may allow more than 2,500 miles of roadways in Mojave alone. The statute was adopted shortly after the Civil War to encourage development in the West, something that no longer needs encouragement. Both Los Angeles and Las Vegas are the fastest-growing metropolitan areas in the country, and Mojave is smack in between.

We recognize that Homeland Security, economic issues, and war in the Middle East are diverting the president's attention and the nation's financial resources, but protection of the national parks should not be any less of a priority. Even during World War II, when the United States was strapped for steel, lumber, oil, and coal, the nation did not lose sight of the fact that the national parks were to be left untouched.

Thomas C. Kiernan President





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## **About NPCA**

## WHO WE ARE

Established in 1919, the National Parks Conservation Association is America's only private, nonprofit advocacy organization dedicated solely to protecting, preserving, and enhancing the U.S. National Park System.

## WHAT WE DO

NPCA protects national parks by identifying problems and generating support to resolve them.

## WHAT WE STAND FOR

The mission of NPCA is to protect and enhance America's National Park System for present and future generations.

### **EDITORIAL MISSION**

The magazine is the only national publication focusing solely on national parks. The magazine creates an awareness of the need to protect and properly manage park resources, encourages an appreciation for the natural and historic treasures found in the parks, and informs and inspires individuals to help preserve them.

### **MAKE A DIFFERENCE**

Members can help defend America's natural and cultural heritage. Activists alert Congress and the administration to park threats; comment on park planning and adjacent land-use decisions; assist NPCA in developing partnerships; and educate the public and the media. For more information, contact our grassroots coordinator, extension

## **HOW TO DONATE**

For more information on Partners for the Parks, contact our Membership Department, extension 213. For information about Trustees for the Parks, bequests, planned gifts, and matching gifts, call our Development Department, extension 145 or 146. You can also donate by shopping online at www. npca.org, where 5 percent of your purchases is donated to NPCA at no extra cost to

### QUESTIONS?

If you have any questions about your membership, call Member Services at 1-800-628-7275. National Parks magazine is among a member's chief benefits. Of the \$25 membership dues, \$6 covers a one-year subscription to the magazine.

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## EDITOR'S

## Mountains

ountains project Magical and mysterious qualities as well as strength and aweinspiring beauty. They



beckon us to climb to the summit to gain wisdom, rejuvenate our spirits, or satisfy our curiosity.

More than 100 years ago, Nathaniel Hawthorne wrote: "Mountains are Earth's undecaying monuments."

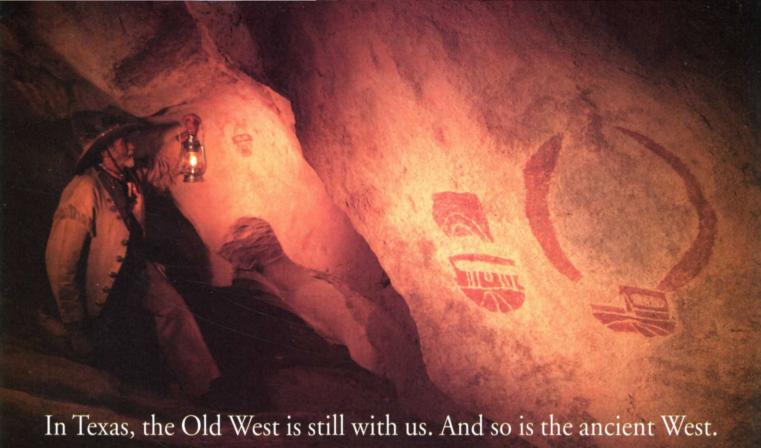
We know today that mountains do decay. Hawthorne, a New Englander, may not have realized the mountains of the East were ancient landforms that had been slowly diminishing for millions of years. He also could not have known that a mountain's very essence can decay.

Mount Rainier, the subject of our cover story, has the greatest single-peak glacial system in the United States radiating from its summit, the tallest in the lower 48. Lurking beneath the ice is an active volcano that last erupted in 1894. Although geologists predict the volcano will again erupt, the real threat to the image that we see today is the mountain's own popularity.

Its beauty lures thousands of visitors each weekend. The population of the Seattle/Tacoma area has increased by more than a third in the last 20 years, and on a clear day more than 2.5 million people can see the mountain from homes, schools, and freeways.

Although we cannot stop natural processes, nor would we want to, we can work to ensure that the mountain is not overwhelmed by its admirers. Conservation groups, including NPCA, are devising plans to alleviate the crowds and expand the park's boundary. We are working to ensure that this mountain remains, as Hawthorne said, one of Earth's undecaying monuments.

> Linda M. Rancourt Editor-in-Chief



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## Kemp's Ridley, Friends, Hot Springs



## The Riddle of Ridleys

Your fine article on Kemp's ridley sea turtles [March/April 2003] contains an error. America does import natural gas, and imports are expected to rise in coming years. Approximately 17 percent of the gas used in this country is from foreign sources, with small quantities arriving from Mexico and other countries via pipeline and liquefied gas tankers.

The rising demand for imported gas spotlights an overriding issue: America's priceless natural heritage, including Kemp's ridley sea turtles, is in peril because of our nation's growing appetite for energy. Pressure is building to drill on the nation's most sensitive lands because demand is rising for electricity generated by gas-fired power plants.

Greater efficiency and clean, carbonfree energy technologies are the answers. Every American can help save our lands and wildlife by installing compact fluorescent lights, buying Energy Star appliances, replacing leaky windows, and upgrading motors. The federal government can help by buying out the mineral leases on Padre Island and initiating a new Manhattan Project to commercialize clean, efficient, carbon-free alternative energy technologies.

If we lose Kemp's ridleys to industrial energy extraction, the tragedy would not reflect a tradeoff for economic health, but an unforgivable failure of vision and a surrender to narrow agendas. America is enriched by the miraculous creatures in our midst. We are their guardians, and

we must hold our leaders accountable for their well-being.

Jim DiPeso Policy Director Republicans for the Environment Kent, WA

## **Gotta Have Friends**

Thank you for the special report on the members of Congress who supported legislative initiatives to maintain and improve our national parks [March/April 2002].

Your report vividly shows a lack of Republican support, with only 17 out of 215 receiving recognition for supporting national parks. I was pleased that my senators, Sander Levin and Carl Stabenow, both Democrats, voted in favor of the national parks. I was very disappointed that my Republican representative, Mike Rogers, did not.

It is obvious that the Republican agenda is in favor of letting special interest groups, whose goal is personal and/or financial gain, influence the use of national parks. They don't seem to understand the long-term environmental benefits associated with preserving these parks in their natural state.

I urge all voters to put the pressure on members of Congress, especially Republicans, to fully recognize the importance of national parks, as they affect our environment, our quality of life, and the lives of creatures that live in them.

> Bob Sovis Fenton, MI

## **Journey to Hot Springs**

We certainly appreciate the article on Hot Springs National Park in your January/February 2003 issue. Although Hot Springs may not be the largest national park, it is the oldest of the 388 areas of the National Park System and has offerings that visitors truly enjoy. The park's history and its interesting application of bathing are unlike any

other park unit. It is most likely the only national park where a visitor can be asked if he/she has had a bath today, and the person posing the questions will not be considered intruding into his/her personal hygiene.

Thank you again for your coverage. Roger Giddings, Superintendent Hot Springs National Park, AR

## **Drilling in Grand Canyon**

I was astonished to find that a coal company was proposing a pipeline in the Grand Canyon to remove water from the Colorado River [March/April 2003]. How on Earth can anyone or any group be this shortsighted and greedy? To attempt to build the conduit into the depths of this national treasure and to drain even more of the Colorado River's precious water is ludicrous. It's analogous to drilling an oil well through the Lincoln Memorial. Rather than destroy our wilderness, we should maintain, restore, and enjoy these gifts. Preservation of these natural areas may indeed be the salvation of mankind.

Francis E. Cuppage, M.D. Shawnee, KS

To see more letters on these and other topics, please visit our web site at www.npca.org.

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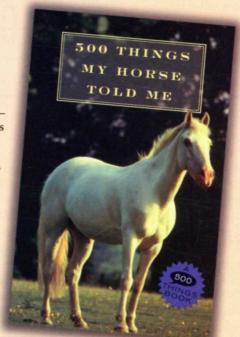
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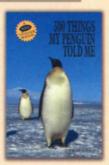
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- · To err is human, to forgive is canine.

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## NPCA

## ParkScope

News and Notes

## BY RYAN DOUGHERTY

RESOURCE THREATS

## Invasive Fern Smothers Plants

Old World climbing fern spreads through Florida parklands.

EVERGLADES N.P., FLA.—On a recent flight over the Everglades, Tony Pernas looked down and saw the encroaching enemy, the deadly Old World climbing fern, smothering native species and appearing poised to destroy an ecosystem.

"It kind of looked like a lime-green cancer spreading across the vegetation," said Pernas, an exotic plant management specialist for the National Park Service (NPS). "This thing scares everyone to death."

South Florida has a long history of success with invasive plant species, but the Old World climbing fern (*lygodium*) is different—and deadlier, officials say. It casts an impenetrable blanket on vegetation, under which no native species can regenerate. Its stems, as long as 80 feet, wrap up and around native trees, building a ladder for fires.

"It starts at the base and climbs up the canopy, forming a dense mass up to two or three feet thick," said Pernas. "Once fire gets into the area, it climbs the canopy and goes high-intensity, killing a lot of native trees."

The climbing fern spreads easily and quickly on wind-blown spores that can travel up to 40 miles. Water managers in South Florida first began noticing the

invasive species in the 1960s and 1970s, in areas such as Jupiter and West Palm Beach. The fern is an innocuous plant in its home countries of Asia, Africa, and Australia, but Florida lacks the natural enemies to fight its spread. The plant flourishes in nearly any habitat, from hardwood hammocks to swamps and roadside ditches.

According to aerial surveying done by the South Florida Water Management District, the fern covered about 30,000 acres of South Florida in 1993. Ten years later, it has crept across 150,000. At its current rate of spread, *lygodium* could entrench itself in every plant community south of Lake Okeechobee by 2009.

"We are concerned because of its spread into national parks," said Mary Munson, NPCA's Sun Coast regional director. "Everglades has some heavy concentrations, and it is bound to become a problem at Big Cypress.

"Invasive species compete with our native vegetation and often replace them," she added. "They can displace entire diverse plant communities."

Of serious concern to water managers is the effect the fern could have on the \$8.4 billion Everglades restoration efforts, designed to improve water flow. One fear is that the area could become dotted with islands of *lygodium*, not the healthy hardwood hammocks birds rely on for habitat.



The lime-green climbing fern has spread across the Everglades. One way to fight it may be the use of an exotic moth (below).



"We assume that when you restore the natural water flows you will get habitat back," said Munson. "But the introduction of this invasive species has brought a new factor into play. As you get the water back, you hope to get the birds back. But if their natural habitat is choked off by an invasive species, you aren't going to see them."

"The fern has the potential to derail the whole restoration," agreed Pernas. "While everyone worries about main-

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taining water levels to save tree islands, without anyone noticing, the climbing fern is sneaking up and eliminating plant communities. It has just been nasty."

Fighting the invasive fern will not be easy, particularly on a shoe-string budget already strapped by efforts to stop other invasive plants, including the melaleuca and Brazilian pepper. Removing the fern from Loxahatchee National Wildlife Refuge, where it is now most prevalent, "would cost millions," Pernas said, "and that's just one park."

Officials at Big Cypress recently celebrated the end of a 25-year battle with the melaleuca tree that dried thousands of acres of wetlands. The Park Service spent close to \$3.5 million to eliminate the Australian native from the park. The annual exotic plant control budget provided by Everglades National Park, for comparison, is just \$35,000.

"Because there has not been enough money directed to it, *lygodium* has continued to expand," said Pernas. "It will be incredibly difficult to control."

Scientists are studying the ecosystems of the fern's native countries to find its natural enemies. Sawflies and pyralid moths have shown promise, but the focus has been on an Australian moth (cataclysta camptozonale) that could be used in Florida once scientists determine whether it can control lygodium without harming native plants.

"We are trying to somehow get the [moth's introduction] expedited so that they get released and onto the vines," said Pernas. "That may not be the answer, but we certainly hope that we can attack [*lygodium*] with it."

Scientists believe that releasing another species to control the fern is probably the best long-term solution, because spraying herbicides can be costly, ineffective, and harmful to native plants.

The National Park Service, working with several other local agencies, has met with experts to discuss the invasive fern and how to best control it. They will do so again this spring in Gainesville.

"We know that *lygodium* is here already, but we must stop its spread," said Pernas. "This is a deadly problem for these ecosystems, and we will continue to search for the solution."

PARK SCIENCE

## New Species Found at Great Smokies

Survey uncovers more than 2,000 species new to the park.

GREAT SMOKY MOUNTAINS N.P.— Scientists have long said that 90 percent of the estimated 100,000 species in Great Smoky Mountains National Park remain unknown. But thanks to the All Taxa Biodiversity Inventory (ATBI), that percentage is dropping.

Since the study began in 1998, scientists, park staff, and volunteers have combed the park's half-million acres to find previously unknown life formsmostly insects, spiders, worms, fungi, and slime molds, but also a mammal new to the park: the evening bat. Through March 2003, they have collected 334 species new to science and another 2,192 new to the park. The program's "Bio Blitzes," during which participants search for as many possible species from a particular group of organisms in a short amount of time, have yielded more than 130 new records of moths and butterflies, 21 soil series (similar to species), and two new slime mold records.

"There's always a flurry of new discoveries when you're looking at any family or group of organisms that hasn't received much study," said Jeanie Hilten of Discover Life in America, a nonprofit that oversees the study.

The ATBI, considered the most ambitious scientific study ever conducted, is expected to last between ten and 15 years and provide a comprehensive checklist of species in the park. Data collected will help park officials protect the park from threats such as exotic species, development, and pollution. Future discoveries also may reveal a new medicine or pest control method.

Of course, the ATBI and its potential benefits carry a price tag; the program's current budget is about \$300,000 annually. Officials say the ATBI is nearing a crossroads, badly in need of new funding sources to pay for much-needed special-

ists and to enhance its database and web site. The Friends of the Smokies and the Great Smoky Mountains Association have provided most funding to date.

"The difficulty is getting all the work done without a lot of money," said Hilten. "We're always seeking corporate and private support. So, right now, we are trying to expand the public's knowledge of what the project is and explain its importance."

At this year's ATBI conference, researchers discussed the project's discoveries, and photographers showed spectacular slides and scanned images of life forms never before or rarely seen, officials said. Photo exhibits of the findings have been displayed at public places such as art galleries and libraries.

A driving force behind the ATBI is its corps of dedicated volunteers, ranging from students and teachers to retirees, who logged about 7,000 hours of work last year. "We have a great assortment of volunteers giving us a tremendous amount of time," said Hilten. "We've even had park staff coming in on Saturdays to train some of the volunteers. That has been an exciting part of this. The human resource dedication is wonderful, and hopefully the financial aspect will follow eventually."

## NPCA Notes

## **New Visitor Center**

A new visitor center and art gallery is set to open in Seattle's popular Pioneer Square historic district this month. NPCA's Parks Information Center (PIC) encourages the protection and enjoyment of Olympic, Mt. Rainier, and other Northwest national parks. The center will provide park activism and volunteer opportunities and host park-related photographic and art exhibits. PIC, one block from Klondike Gold Rush National Historical Park, will be open year-round with extended hours May through September.

—Jenell Talley

AIR QUALITY

## Clear Night Sky Threatened at Chaco

A proposed power plant would blur skies crucial to the park.

CHACO CULTURE N.H.P., N.MEX.—At few places on Earth is the clear night sky as crucial as at Chaco Culture National Historical Park. Ancient American Indian tribes built structures at what is now the park site in relation to the stars, moon, planets, and sun. Today, the park's interpretive programs center on clear skies.

On a clear night, visitors can look up and see essentially the same views that ancient Chacoans relished—but perhaps not for long. The sacred skies could soon be blurred by pollution from a coal-fired power plant that, if approved, would be 24 miles south of the park.

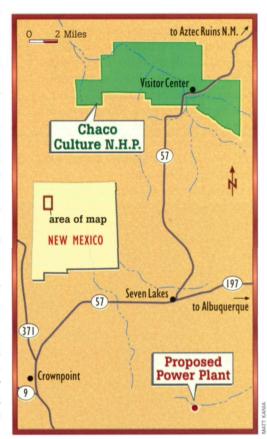
"The proposed plant is a really scary

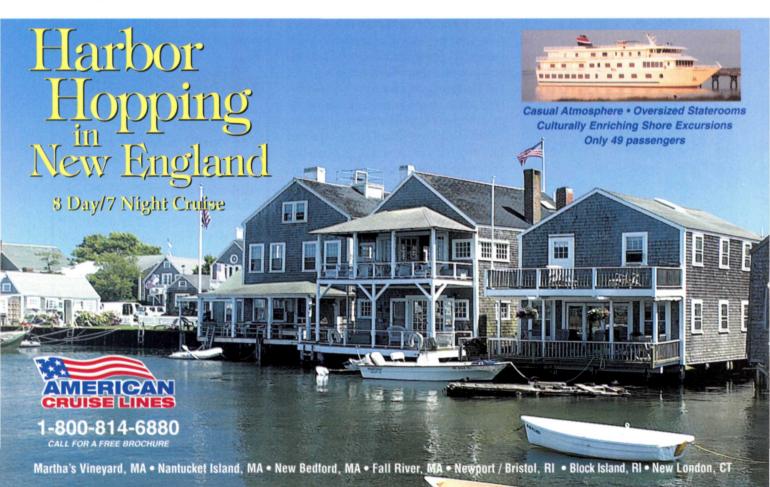
thing for us," said Julianne Fletcher of the New Mexico Heritage Preservation Alliance (NMHPA).

"A lot of what you see at Chaco is dependent on a clear sky," she said. "To block or blur it in any way would be a terrible impact."

Chaco Culture is a World Heritage Site, sacred to the cultures and history of the Hopi, Navajo, and Pueblo Indians, and is listed on the National Register of Historic Places. It draws about 90,000 visitors each year just for its educational programs and is recognized for its extraordinary architecture and rich archaeological record.

The concerns of park staff over the proposed plant are scientific in nature: that it could affect groundwater, produce excessive groundlevel ozone harmful to people and plants, produce mercury deposition, reduce visibility, increase sulfur concentrations, and weaken rock art and mud mortar that holds up the walls of historic structures.





"The power plant's potential impacts could be tremendous across the ecosystem, depending on the technology used," said Brad Shattuck, the site's natural resources program manager.

The Mustang Energy Project would be a 300-megawatt electricity-generating plant that would export energy from the area. The world's largest private coal company, Peabody Energy, proposed the project and applied for an air permit from the state's Air Quality Bureau that was under review at press time.

The National Park Service and U.S. Forest Service voiced concerns that the plant could affect visibility at Chaco, Pecos National Historical Park, and other nearby wilderness areas. The Air Quality Bureau recently requested more information on anticipated levels of plant emissions, which Peabody had yet to supply as of late March.

The plant is proposed for private land about 11 miles east of the Kin Ya'a, a Chacoan Outlier, and about a mile from Navajo land. Since it would be on private land, the plant would not need to

have premium technology for limiting pollution, nor would Peabody be held to federal environmental laws.

Park officials fear that Chaco may also face other threats as the demand increases for the extractable natural resources, mainly gas and oil, plentiful in the San Juan Basin. Some say the San Juan Generating Station, about 90 miles north of the park in the state's Four Corners region, has already degraded the area's air quality.

For these and other reasons, NPCA supported Chaco Culture's inclusion on the Ten Most Endangered Places list released by NMHPA, stating that pollution from the power plant "would further destroy the site's fragile cultural resources, petroglyphs, and prehistoric architecture, as well as endanger natural plant and animal life cycles."

According to NMHPA, "the power plant's plume of pollution could blot the horizon, screen the sunrise from view, and diminish the clear night sky—severing the ancient connection between Chaco and the universe."

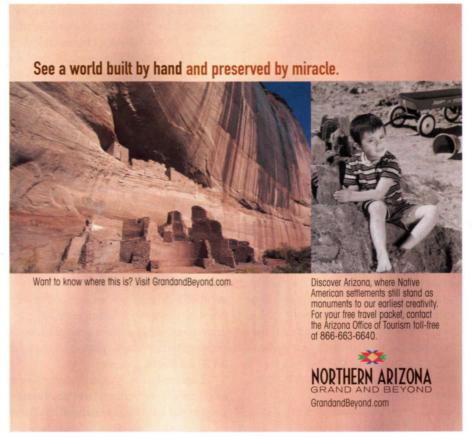


## **Students Lift Their Voices**

In January, students from across the country participated in Frederick Douglass National Historic Site's annual oratorical competition. The event familiarizes elementary, junior, and senior high school students with Frederick Douglass, one of the country's most prominent abolitionists, orators, and civil rights activists. The contest requires students to memorize and recite an excerpt of any of Douglass' speeches within a specified amount of time. The park, NPCA, and the Frederick Douglass Memorial & Historical Association, founded in 1903 by Douglass' second wife, Helen, organized this year's program. NPCA donated monetary prizes for first-, second-, and thirdplace winners in each age group.

-Jenell Talley





FUNDING

## Proposed Budget Falls Short for Parks

Budget proposal does not reflect Bush's promise to protect parks.

WASHINGTON, D.C.—The Bush administration's recently released fiscal year 2004 budget proposal for the National Park Service would boost funding by \$117 million, but analysts say it falls well short of the president's repeated pledge to protect the parks.

"The administration is walking away from its commitment to the public and to our parks," said NPCA President Thomas C. Kiernan. "The president promised the American public that he would 'restore and renew' America's national parks, but this budget makes it clear that the administration does not intend to keep that promise."

During his presidential campaign,



The volcano Kilauea has now been continuously erupting for 20 years. Part of Hawaii Volcanoes National Park and the world's most active volcano, Kilauea offers visitors views of a dramatic landscape. The oozing volcano draws several thousand visitors each day and has become a cottage industry in the small village of Volcano. Kilauea's eruptions have added 544 acres of lava and black sand to the island's southeastern shore, buried 43 square miles of land and eight miles of highway, and destroyed 189 homes and other structures. The current eruption is the heaviest outpouring of lava on the volcano's rift zone in the past six centuries. Officials are not certain when the eruption will end.



Bush announced a National Parks Legacy Project, which promised \$4.9 billion over five years for national park upkeep. While recognizing the importance of funding park operations and the accumulated backlog of maintenance needs, the administration proposed only slightly better than a flat budget, NPCA officials said.

The operating budget of the National Park Service (NPS) would rise \$66 million, to \$1.63 billion. The overall proposal of \$2.36 billion would pay for everything from the acquisition of new parkland to the expansion of a program placing volunteers in parks.

Individual budget proposal highlights, comparing enacted 2003 figures to the 2004 proposal, include:

- ▲ A \$13 million decrease for national recreation and preservation.
- ▲ A \$2 million decrease for the Historic Preservation Fund.
- ▲ A flat budget of \$300,000 for the Urban Parks and Recreation Fund (which received \$30 million in the enacted 2002 budget).
- ▲ A \$8.5 million increase for the Natural Resource Challenge, a key program to expand the Park Service's science programs (last year's proposal called for an \$18 million increase).

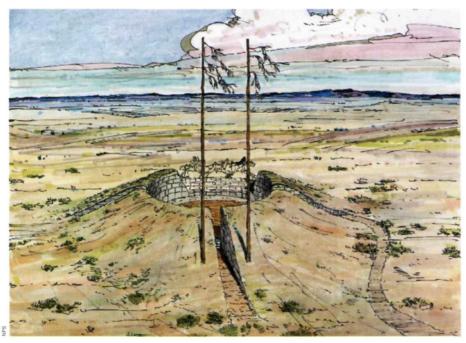
"This budget is a solid demonstration of [Bush's] commitment to preserve and protect the cultural and natural resources protected in these treasured places," said NPS Director Fran Mainella.

Some aspects of the budget proposal could prove inflated, NPCA officials said. For example, the attempt to launch a Cooperative Conservation Initiative, expanding opportunities for partner participation in natural resource protection, does little to boost park funding since Congress is unlikely to adopt it.

"The longer we make our national parks wait for critical operating funds, the greater the need becomes," Kiernan said. "Congress and the administration must work together to find the funds necessary to create a national parks legacy for future generations."

Extensive research in more than 50 parks demonstrates that, on average, parks operate with only two-thirds of the needed funding. As a result, they have fewer park rangers, plant and wildlife species are dwindling, important archaeological sites are not being protected, public education programs are being reduced, and irreplaceable historic structures are crumbling.

Americans for National Parks, a 320-member coalition led by NPCA, is working to increase the Park Service's operating budget by \$600 million annually to protect park resources and the experiences of nearly 300 million visitors. For further information, visit www.americansfornationalparks.org.



An artist's rendering of what Little Bighorn's new Indian Memorial will look like.

EXPANDING THE STORY

## Indian Memorial to Add to Little Bighorn

Memorial is expected to enhance education efforts at the site.

LITTLE BIGHORN N.M., MONT.—
For years, park staff at Little Bighorn Battlefield National Monument have tried to tell the story of the site's name-sake battle in a balanced and culturally sensitive way. Still, a glaring disparity remained: Although headstones and a granite hilltop memorial honored men from Lt. Col. George Custer's 7th Cavalry, formal recognition of the American Indian tribes who triumphed did not exist.

That is about to change. On June 25, the 127th anniversary of the battle, the park will unveil a new memorial honoring Indians as battle participants.

"The Indian people may now feel much more welcome here," said site Superintendent Darrell Cook. "Before this memorial was built, there was little recognizing the Indian participation in the battle, which took place to protect their families and way of life. In that sense, the Indian memorial will be a huge success."

The memorial will feature bronze spirit sculptures honoring three warriors of the Lakota, Cheyenne, and Arapaho tribes. A spirit gate, meant to welcome the cavalry dead, will be about 100 yards from the soldiers' monument. Inside the memorial, visitors will glean information from features such as story panels, pictograph art, and writings from Indian leaders.

"It is certainly going to expand upon the way the story of the battle is told," said Barbara Sutteer, a Northern/Ute Cherokee and the monument's Indian Memorial liaison. "First and foremost, the United States will formally recognize the Indian warriors."

Sutteer recently visited the nearly constructed memorial and liked what she saw. "The thing that pleased me is that it won't be intrusive on the landscape," she said. "It could be very conspicuous. They have preserved the landscape well."

The Battle of Little Bighorn erupted in 1876 when Custer's cavalry attacked the large Indian encampment on the banks of the Little Bighorn River. About 1,500 Lakota, Arapaho, and Cheyenne warriors counterattacked, killing 263 soldiers, Indian scouts, and attached personnel of the 7th cavalry, including Custer. Fewer than 100 warriors died.

Although the park offers a balanced account of the story through its lectures and education programs, many visitors to the monument do not participate, said Cook. The memorial, however, will be hard to miss.

"Until there's something actually on the ground that recognizes the Indians, you can't tell the story to as large a number of people," said Cook. "This memorial will do that, and it should generate a lot more questions from visitors.

"Once the memorial becomes more visible," he added, "I think people of all races will revisit the battlefield, or come for their first time."

The National Park Service and representatives from the Lakota Sioux, Cheyenne, Arapaho, Crow, and Arikara tribes developed the dedication ceremonies, with the theme of "Peace Through Unity." They will feature prayer, singing, storytelling, and an open microphone session during which the tribes and visitors can speak freely, followed by a formal program.

Congress authorized the Indian Memorial in 1991 but took another decade to appropriate the money, more than \$2 million, for its construction. The memorial's design arose from a national design competition that generated 554 entries.

In its soon-to-be released State of the Parks® assessment, NPCA describes the memorial's creation as "a beautiful example of collaboration between the tribes and National Park Service staff," adding that park staff "have come a long way in the way they manage and interpret the monument's precious resources over the past 30 years."

NPCA noted that Little Bighorn is now the only battlefield with markers for both warriors and fallen soldiers, providing for a more balanced account. The full assessment, detailing the park's needs, will be available online in July at www.npca.org/stateoftheparks.

## RESOURCE THREATS

## Marshes Vanishing at Jamaica Bay

At current rate of loss, salt marsh islands could vanish by 2025.

GATEWAY N.R.A., N.Y.—The theories are diverse and scientific, but the reality is simple and stark: The salt marsh islands of New York City's Jamaica Bay have been disappearing rapidly, about 40 acres per year. Left alone, the marshes could vanish by 2025, destroying wildlife habitat and threatening the bay's shorelines.

"The marsh grass is literally drowning," said Dave Avrin, assistant superintendent of Gateway National Recreation Area, which contains most of Jamaica Bay in its boundaries. "This is an issue of very serious concern to the park. Our goal is to prevent additional loss, but we would also like to bring back some of what's already been lost. It will be quite a challenge."

During the past 80 years, Jamaica Bay's island wetlands have decreased from about 2,300 acres to a little more than 1,000. Their disappearance into the bay, a recent National Park Service report stated, "is transforming grassy green meadows into submerged mud flats." Salt marsh is a richly productive and crucial part of an ecosystem, offering nurseries for fish, counterbalancing global warming and urban pollution by trapping carbon and chemicals, and buffering homes from storm and wave damage.

Theories advanced by specialists for the salt marsh losses include rising sea levels, erosion, plant mortality, contaminants from landfills, and a decades-old decision to dredge channels and pits in the marshes. "The causes all appear to be things that are very difficult to deal with," said Avrin, "and could be resulting from a number of factors."

As primary steward of Jamaica Bay, the National Park Service has developed a three-prong approach to remedy marsh losses and preserve the site's biodiversity: protection, investigation/restoration, and education. The Jamaica Bay Learning Center has also been created to facilitate research and inform the public and decision-makers of the project.

"We first need to collect information so that we have a good idea of how we can stem the marsh loss," said Avrin. "Then we will look for ways of physically restoring the marshes." Plans for future action include spraying a thin layer of sediment onto the marshes to elevate them, adding sediment backfill to halt erosion, and examining the effect contaminants have on the ecosystem.

Because of funding shortages, however, the park must attack the problem in small steps. The Park Service's current three-year budget of about \$800,000 for restoration is a small fraction of what is needed to thoroughly analyze the bay's problems, officials said.

"It is unfortunate that the park does

not have sufficient funding, because we're in sort of a race for time here," said Eileen Woodford, NPCA's Northeast regional director. "But the park is doing the right thing: They are looking at this problem piece by piece and then building upon what they're learning over time.

"They're forging new ground for habitat management," she added.

Indeed, the information gathered from Jamaica Bay's restoration efforts could also be useful to areas such as Cape Cod National Seashore and the Chesapeake Bay, areas less urbanized than Jamaica Bay experiencing similar marsh loss.

Among the park's priorities during restoration efforts will be educating the public about the seriousness of marsh losses.

"We want to be sure to let the public know of the problem, and what we're doing," said Avrin. Also crucial to the effort will be citizen groups, nonprofits, elected officials, and inter-agency partnerships such as those forged with the New York State Department of Environmental Conservation and the City of New York Department of Environmental Protection.

More than two million people visit the Jamaica Bay unit of Gateway each year, relishing its unique serenity in the shadow of New York City. It is also a haven for birdwatchers, a stopover on the Eastern Flyway that provides a resting and feeding station for thousands of waterfowl, including snow geese, pintail ducks, and blue- and green-winged teal.

"If Jamaica Bay's marshes go, the whole migration pattern for these and the other birds will be disrupted," said Woodford. "That would have a national, if not international, impact."



Jamaica Bay's salt marshes are vanishing at a rate of about 40 acres each year, and scientists are not sure why.

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## NPCA Notes

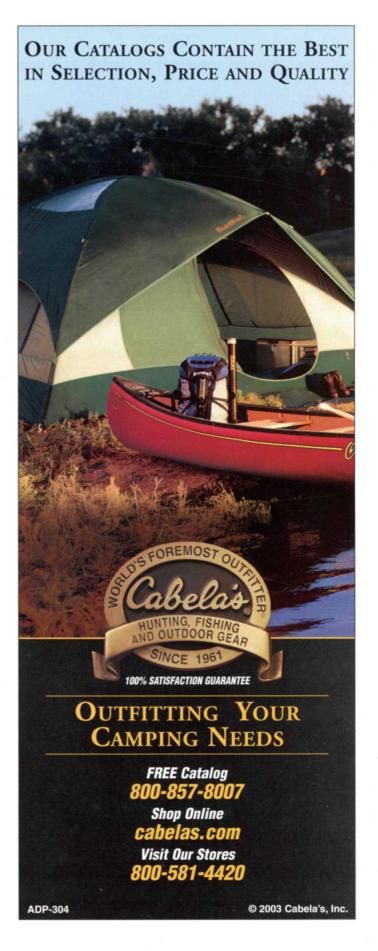
## **NPCA Works to Restore New York Parks**

Comedian Jerry Seinfeld is one of several celebrities who signed on to tape NPCA Public Service Announcements on behalf of the national parks. The PSAs are designed to create public awareness of parks throughout the country as well as the eight national parks in New York City. Legendary news anchor Walter Cronkite and New York Knicks All-Star guard Allan Houston also recorded 30-second spots. The PSAs, which feature images of various national parks, were distributed to television stations and networks in April, the same month NPCA initiated a multi-faceted program addressing the problems plaguing New York City national park sites.

NPCA is working to restore the city's under-funded parks through governmental support and public recognition. Prominent New York business leaders, including group chair Tom Secunda of Bloomberg L.P., will be providing guidance to NPCA to ensure that parks such as Castle Clinton and Hamilton Grange are preserved and protected. "The eight national parks of New York City represent a rich mosaic of natural, cultural, and recreational resources and commemorate some of the nation's most historical events," said NPCA President Tom Kiernan. "But they need help...." The four-tier plan calls for completing in-depth business analyses to identify the parks' financial needs, increasing park visibility and visitation, addressing critical preservation issues at the Statue of Liberty and Ellis Island, and advocating increased funding for the restoration of Jamaica Bay within Gateway National Recreation Area.

—Jenell Talley





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NATIONAL PARKS

## **NEWS IN BRIEF**

YELLOWSTONE N.P., Wyoming—A recent commercial touting a laxative ended up causing some heartburn. A television ad for Metamucil that showed what appeared to be a park ranger pouring a glass of the laxative down Old Faithful caused quite a stir. In it, the ranger announced that the product keeps the popular geyser "regular." Several viewers took offense to the ad and wrote letters to the park. In response, park officials wrote: "This advertisement goes against all of the National Park Service's efforts to encourage people not to put foreign objects into the thermal features." Park officials also called the ad's implication that Old Faithful is not natural but enhanced by a product "disconcerting," stressing that putting things into the park's geysers could cause irreparable harm.

CHANCELLORSVILLE, Virginia—The Spotsylvania County Board of Supervisors recently voted against the rezoning of Mullins Farm on Chancellorsville battlefield, thwarting plans for a residential and commercial development that critics said would have effectively placed a 10,000-person city at the site of one of the most legendary Civil War battles (ParkScope, November/December 2002). The Coalition to Save Chancellorsville Battlefield, to which NPCA belongs, called the vote "the most significant battlefield preservation victory in nearly a decade." Dogwood Development Group proposed to rezone about 800 acres of farmland along State Route 3, adjacent to the park's boundary. Current zoning laws allow the owner of Mullins Farm to build 225 homes and develop 55 acres for commercial use, but the Coalition said it believes a deal can be reached that protects that land.

GREAT SMOKY MOUNTAINS N.P., North Carolina—The long-standing controversy over the proposed North Shore Road in Great Smoky Mountains National Park may be nearing a historic conclusion. The Swain County Commission recently adopted a resolution supporting a cash settlement in lieu of the road, and Bryson City, where the road would originate, has passed a similar measure. NPCA supports a settlement, which would benefit the people of Swain County and protect the integrity of the park. The road would have cut through the largest, roadless tract of mountain terrain in the eastern United States. Senators John Edwards (D-N.C.), Elizabeth Dole (R-N.C.), and Lamar Alexander (R-Tenn.) have voiced support for a settlement. The Swain County resolution coincides with the start of the National Park Service's environmental compliance work on the project and a series of public meetings. For more information, visit www.npca.org/action.

DENALI N.P., Alaska—More than 600 NPCA members recently sent letters to local law-makers opposing a proposal for a second access road or railroad into Denali National Park and Preserve. NPCA considers the proposed 80-mile route to the already road-accessible Kantishna region near Wonder Lake "fiscally and environmentally irresponsible." The plan, backed by developers, is expected to cost between \$100 million and \$200 million—enough money to pay for all of the high-priority construction projects in Alaska's parks for ten years, said Jim Stratton, NPCA's Alaska regional director. Critics say it would harm wildlife and more than 50 miles of wild country within the park. The need for a new road has also been questioned, because current road access serves visitors well and offers far superior scenic views. The Denali borough recently received federal highway funds to study road and railroad options on the north side of Denali. Its planning has just begun, and there will be opportunities for public comment.

VISITOR EXPERIENCE

## Learning Center to Enhance Fossil Site

Multi-million dollar facility will make site more people-friendly.

JOHN DAY FOSSIL BEDS N.M., ORE.— At John Day Fossil Beds, home of one of the world's best fossil records detailing millions of years of plant and animal life, history is always changing.

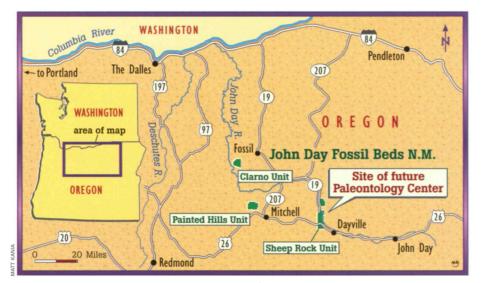
"We're digging up new stories every year," park ranger John Fiedor recently told the *Baker City Herald*, "new findings that are changing what we thought we knew."

These finds are not lost on paleontologists, for whom the site is a trove of riches. But the monument has remained largely underappreciated by the general public, attracting only 110,000 or so visitors each year, compared to the 1.9 million annual visitors to Mount Rainier National Park in Washington. With construction of the new \$8.4 million Thomas Condon Paleontology Center under way, however, park officials think that is about to change. The 11,000-square-foot visitor center and paleontology lab is already generating local buzz.

"Many of our visitors discover us accidentally while traveling along State Route 19," said Superintendent Jim Hammett. "We'll have them for a short period of time and intrigue them, perhaps. But with all the publicity the new center is getting, I believe John Day will become much more of a destination."

That optimism is based largely on the people-friendly aspects of the Condon center: its exhibits, films, and displayed fossils, its fun educational programs for children, and its glass wall separating the working lab from the main area that will provide visitors with the opportunity to watch scientists at work. These and other features of the center are designed to give visitors a better sense of connection to the site.

"The scale and the importance of the



fossil resources we have here are mostly invisible," said Hammett. "The fossils are hard to find, and it is even harder to grasp their significance. With this center, we will be able to do a much better job of displaying our large variety of fossils and explaining their importance in understanding our Earth's history."

Heather Weiner, NPCA's Northwest

regional director, said that the center should also boost the region's economy. "The eastern Oregon community is realizing there are limits on use and extraction. To survive, the community needs a new, dependable economic engine."

The Condon center will also fill a more logistical park need: storage and research space. The more than 40,000

fossil specimens found in the park are too many for the current visitor center to store—let alone display and interpret.

"The center will enable us to have all of our fossils in one location and interpret the many different things that happened here throughout time, such as climate change, the movement of land mass, evolution of species, and extinction," said Hammett. "These topics all raise interpretive themes and questions that we'll continue to try to answer.

"We're learning more and more about them all the time," he continued, "and we'll now be able to do a much better job of promoting research and facilitating it more efficiently."

Volunteers, including longtime NPCA member Phyllis Park Saarinen of Gainesville, Florida, also will help to prepare fossils for the Condon center's expected 2004 opening. Saarinen, an amateur paleontologist, is excited about both the importance and beauty of John Day. "Being able to prepare fossils for the new center, in the context of a gorgeous landcape—I will be in paradise."

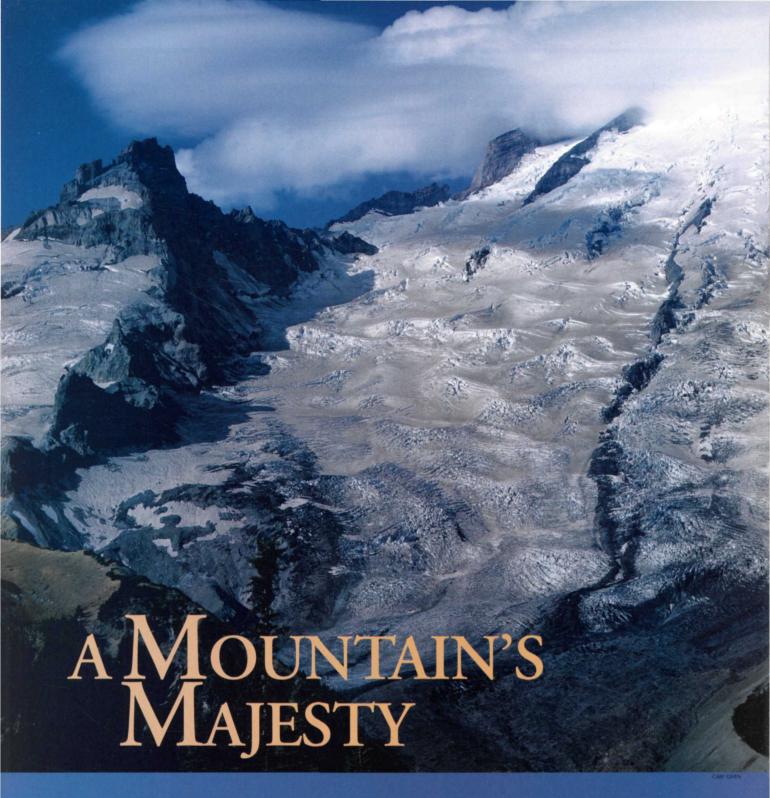


Together we can keep our national parks just as they are. We need your help nowas an NPCA Trustee for the Parks.

Please call 1-800-628-7275, ext 219, or send your tax-deductible contribution of \$1000 or more along with your name,



address, phone, and email, to NPCA, Trustees for the Parks, 1300 19th St., N.W., Washington, DC 20036.



Thousands of people are drawn to Mount Rainier as a recreational destination and as a place to live near. That attraction may be placing both the mountain and people in harm's way.

## By David Williams

ike many people who live around Puget Sound, Kim Farnes has an emotional attachment to Mount Rainier. On the day she and her family moved into their house, they discovered they could see the mountain from their living room window. "We bought the house in February when we couldn't see Rainier [because of overcast skies]. I nearly cried when we moved in and saw it. It is truly an added blessing," she says.

Farnes' next surprise came when she received a packet welcoming her to the neighborhood. "Most developments give you coupons. We got an evacuation plan telling us which way to escape town," says Farnes, who lives in Orting, Washington, a small town just 25 miles from the volcanic mountain. Orting is built atop 20 feet of mud and rock that cascaded off Mount Rainier only 600 years ago, and geologists estimate an eruption could trigger a similar type of mudflow that could reach the town in 30 minutes.

Farnes' situation exemplifies the curious irony of Mount Rainier National Park: the charismatic mountain draws people to it in an almost magical way, but that intimacy is placing both mountain and people in danger.

A description of the park is a catalogue of extremes. At 235,635 acres, it is the smallest of Washington State's three national parks, although at 14,411 feet, the peak's enormous size dwarfs any other mountain in the lower 48 states. Mount Rainier's 26 major glaciers contain more ice and water than all other Cascade volcanoes combined, and the main visitor location, Paradise, averages nearly 700 inches of snow per year. The volcano last erupted in 1894, with major events 2,300 and 1,100 years ago. It became the country's fifth national park on March 2, 1899.

Since then, Mount Rainier has been a popular park, but the last couple of decades have seen it increasingly challenged by encroaching development and high levels of visitation in small pockets of time. In the four counties surrounding the park, the population has grown

by more than a third in the past 20 years. This translates to more than 2.5 million people in the Seattle/Tacoma area being able to see Rainier on a clear day from homes, parks, freeways, and schools.

And the number of people choosing to live close to the park is still on an upward trend. One proposed development, Park Junction, a resort with a 270-

ly relates to the larger cars and more miles driven by Puget Sound residents than in the past.

In fact, those residents are often in their cars to visit the park—which creates another set of problems. Former park superintendent Jon Jarvis calls it the "when it is out they will come" mentality. Most park visitors are day-trip-



Rangers know if Rainier is visible at the end of the week, visitors will flock to the park.

room lodge, 300 condominiums, golf course, and 20,000 square feet of retail shops, would be only ten miles from the park's most popular entrance, Nisqually. (Appeals by NPCA and Tacoma Audubon have at least helped scale back the proposal.) Other projects include Cascadia Golf and Country Club, a 4,500-acre planned community on a plateau above Orting, and expansion of Crystal Mountain Resort, which could double visitor use at the resort to more than 700,000 per year.

All of these people contributing to the growing urban footprint also create another threat to the park: air pollution. A five-year study found that Paradise had nearly twice the daily mean ozone concentrations as nearby urban areas. This occurs because the Puget Sound basin traps vehicle emissions and prevailing winds funnel the noxious gases up to the park. The quantity of ozone, a byproduct of the burning of fossil fuels toxic to both plants and animals, direct-

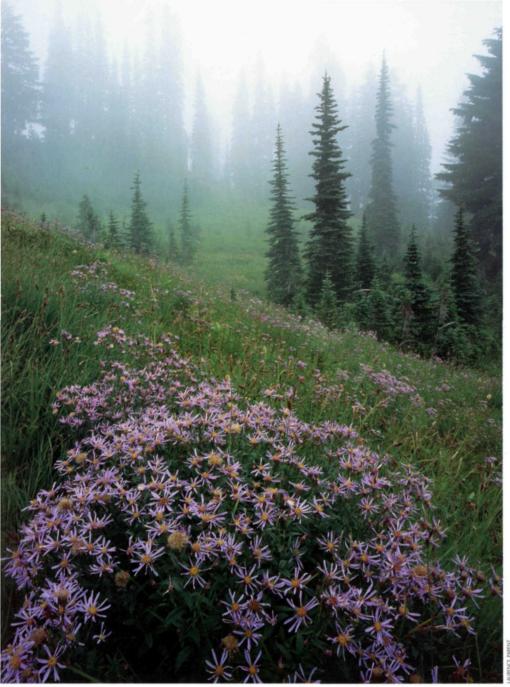
pers from the Puget Sound area, and rangers know that if Rainier is visible at the end of the week, the weekend will be crazy. People will have to wait in long lines at the entrance gate. They will park a half mile from the Paradise visitor center and walk up the road or they may not be able to park at all. In addition, many people will not be prepared for the abrupt change from a relatively benign urban environment to a landscape where they can get lost, fall in a crevasse, or freeze to death.

To seek solutions, park staff have start-

David Williams is a freelance
writer living in Seattle, Washington.

He last wrote for National Parks
about the Natural Resource
Challenge.

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Aster and other wildflowers often grow amidst a backdrop of Mount Rainier fog.

ed reaching outside its boundaries. "We recognize that we are all in this together. If planners outside the park fail, then we lose. If they succeed, we do, too," says Bryan Bowden, community planner for Mount Rainier. In that light, Bowden attends town meetings, works on advisory committees, and helps communities find outside money.

Transportation is a central issue in this external planning, and Bowden has started working with local communities to help build regional welcome centers. These regional centers would provide

pre-visit information on parking, back-country use, natural history, and lodging and would also serve as hubs for a shuttle system to carry visitors to and through the park. "If the shuttles are frequent, use clean technology, and include ranger-led interpretation, they can be one of the best ways to enhance the visitor experience," says current park superintendent Dave Uberuaga.

Shuttles would not mean the end of cars in the park. Managers recognize that many visitors, more than 60 percent of whom come from within Washington,

More than 2.5 million people in

Seattle/Tacoma can see Mount

Rainier on a clear day from

homes, parks, freeways and

schools. And the number of people choosing to live near the park

is still on the rise.

have a long tradition of family drives to the mountain. These visitors, however, may not have the same quality of experience as earlier generations because they may not find any place to park and will either have to abandon their plans or circle like vultures for a parking spot.

Transportation is also a key issue that NPCA Northwest Regional Director Heather Weiner is working on with the park. "We're developing a transportation solution that works for Mount Rainier, its millions of visitors, and the local communities," she says. "Although there's no one size that fits all, we've learned a lot from NPCA's transportation work at Yosemite, Grand Teton, and other parks."

Progress is being made on other fronts as well. NPCA is working with a coalition of groups, called the Carbon River Valley Conservation Project (CRVCP), to expand the park's boundary at the entrance closest to Tacoma and Seattle. Legislation has been introduced in Congress, and action is expected soon.

CRVCP has also helped preserve the 1,040-acre Fairfax Forest, a mixture of old-growth and younger natural-growth timber that would abut the new boundary, and is active in extending a Rails-to-Trails path from Tacoma up into the park. Each of these proposals has strong support from county officials, local citizens, and park management.

Still, some aspects of the peoplemountain relationship are simply beyond human control. Mount Rainier, after all, is a volcano and an active one. The mountain began to grow roughly 500,000 years ago and may have reached an elevation of nearly 16,000 feet before an eruption-triggered collapse 5,700 years ago. Additional lava eruptions have built the summit to its present height of more than 14,000 feet.

Lava, however, is not what makes geologists and emergency planners nervous. They focus instead on lahars, wet concrete-like slurries of water and sediment that can travel up to 60 mph. At least 60 of these flows have swept off Rainier in the past 10,000 years, with large ones ocurring on average every 500 years and the last, 600 years ago.

The largest, known as the Osceola Mudflow and caused by the 5,700-year-ago summit collapse, buried more than 210 square miles, including what would today be six towns, to an average depth of 25 feet. And this was at a time when forests, instead of homes and farmland, covered the valleys. One estimate is that a modern flow could cover 40 percent more land.

Lahars are dangerous not just because they can bury entire towns, but because they can occur without warning. Although eruptions are a primary cause of lahars and usually give ample warning through earthquakes and swelling of the mountain, earthquakes, steam eruptions, or collapse of weakened rock can also trigger lahars with no warning. This could leave residents in towns such as Orting and Puyallup with little time to evacuate.

The United States Geological Survey and Pierce County have set up a network of five geophones in the active floodplain of both the Puyallup and Carbon River valleys above Orting. If a lahar occurs, sensors that can detect vibrations produced by speeding debris flows would set off an alarm system of sirens and radio, Internet, and TV broadcasts.

The threat of lahars permeates life in the floodplains of river valleys that drain Mount Rainier. Kids learn about the mountain's hazards in school. Scientists disperse videos, give talks, and have set up a web site to disseminate information. A group of concerned citizens has started Bridge for Kids to build two foot bridges across the Carbon River, enabling students in Orting to walk to higher ground. Washington's Growth Management Act of 1990 limits growth in areas classified and designated as geologic hazards. In



A group of hikers trek along one of Rainier's many trails.

addition, Pierce County has an ordinance that bans construction such as schools, hospitals, and jails in lahar pathways. Scientists with the U.S. Geological Survey and Washington Department of Natural Resources Division of Geology have carefully studied the lahars to determine which areas were inundated in the past, how deep the lahars might be, and the likelihood of a recurrence.

Despite these concerns, the mountain's attractions remain strong. Schools have been built in hazard zones, and people continue to move into areas they may not be able to escape from.

As resident Kim Farnes puts it, "Danger is everywhere but nobody gets the view I do." For people who live around Mount Rainier National Park, it is both an icon and a part of the family. The big question for the future is how we will treat this potentially volatile family member.



An active volcano, Mount Rainier presents challenges for those who choose to live and work nearby.



A claret cup cactus blooms on talus slope in Death Valley National Park.

## By Helen Wagenvord

It has been ten years since
legislation was passed to
protect millions of acres of
California desert. Although
the legislation has helped
to protect these lands,
they are increasingly
challenged by two of the
fastest-growing
metropolitan areas in
the country: Los Angeles
and Las Vegas.

he desert is arguably California's underdog ecosystem, the last region in the state to be protected. A place sparing of water but lavish with sunlight and open space, the desert was initially dismissed by European settlers as a forbidding and hostile wasteland. "The desert is the opposite of all that we naturally find pleasing," author Joseph Smeaton Chase has said. "Yet, I believe that its hold upon those who have once fallen under

its spell is deeper and more enduring than is the charm of forest or sea or mountain."

It's a place where 500-pound rocks travel across mud floors leaving a tell-tale trail, where Native Americans left thousands of petroglyphs and pictographs chronicling hundreds of generations, and where some animals and plants have made incredible adaptations to an extreme and harsh climate, including a tortoise that can survive a year without taking a drink

and the Gambrel's quail that in very dry years knows to eat locoweed as a form of birth control.

DESERT

PROTECTION:

Reality or Mirage?

Today, the California desert's shadowy peaks, pancake-flat playas, cactus gardens, startlingly green oases, and windsculpted sand dunes, and wildlife, including the threatened desert tortoise and bighorn sheep, annually attract millions of people from all over the world.

What do they see? One part of the area, Mojave National Preserve, is rich with a wide variety of plants and animals at the intersection of three different



California's desert parks attract millions of visitors annually.

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deserts: the Sonoran, Mojave, and Great Basin. The preserve is filled with ranges of gritty space, humming sand dunes, and the world's largest Joshua tree forest. Death Valley National Park, the largest national park in the lower 48 states, is a huge basin lined with mountain ranges, containing one of the lowest and hottest places in the world—Badwater, at 282 feet below sea level. Death Valley is a geologist's candy store, revealing a diversity of colorful rockscapes that date back as much as 1.8 billion years. Joshua Tree National Park—yet another part of the desert area—is named for its abundant signature tree, dubbed by Mormon settlers who somehow saw the ungainly and acrobatic flora as resembling the biblical figure Joshua, with prickly arms beckoning them westward. Overall, the plant diversity at this park's intersection of the Colorado and Mojave deserts led some to propose that the park be named Desert Plants National Park. And beyond the plant life, the piles of huge boulders punctuating the valley are a magnet for rock climbers.

Nearly a decade ago, the public's growing affection for this arid region led to the passage of the California Desert Protection Act, the largest parks and wilderness legislation in the history of the continental United States. The culmination of a 20-year campaign, the legislation's passage was especially aided by Sen. Dianne Feinstein (D-Calif.). This 1994 protection act established more than six million acres of new wildernesses and a new national park—the 1.6millon-acre Mojave National Preserve while at the same time it fortified the protection of Death Valley and Joshua Tree by expanding these national monuments and redesignating them national parks. The act outlined protection for millions of acres of diverse landscapes, including volcanic lava flows, sweeping sand dunes, high mountain ranges, conifer forests, high desert sagebrush plateaus, and vast lowlands separated by shadowy ranges. But for all the good the act has done, these protected areas are increasingly being challenged by two of the fastest-growing metropolitan areas in the country: Los Angeles and Las Vegas. For the protection act to achieve its

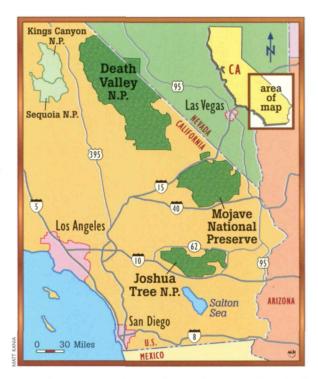


The 1994 Desert Protection Act created the 1.6-million-acre Mojave National Preserve.

Because of the variety of threats facing Joshua Tree,

NPCA has identified it as one of the country's ten most

endangered national parks for 2003.



promise as a reality and not just a mirage, new solutions are needed.

Consider Joshua Tree National Park, which is part of the Inland Empire made up of Riverside and San Bernardino counties, recently deemed the site of the country's worst example of sprawl. Right next to the park, a developer is currently promoting "Joshua Hills," 9,000 acres filled with 12 golf courses, a three-million-square-foot industrial park, 7,000 housing units, a university, three hotels, a convention center, and shopping centers. And while the public has gained a better appreciation of the intrinsic values of the desert, this region is still prey to being seen as a wasteland, literally. Next to the park's southeastern wilderness, the Mining Reclamation Company is trying to establish one of the world's largest landfills to serve seven southern California counties. The landfill would cover an area equal to 1,500 football fields a quarter mile deep, destroy critical wildlife habitat, increase air and light pollution, and throw the area's ecological balance into chaos.

Such developments are not the only threats to Joshua Tree. With metropolitan southern California's air pollution making an inland commute, the park's air on some days is among the dirtiest of all the national parks in the country. It used to be typical to see Signal Mountain in Mexico from the Key's Point overlook; now that view can be seen only 10 percent of the time. "The California desert is one of the last places where you can see a quiet land in front of you for miles and miles, and that's important. But there is a generation growing up that does not know what a truly

clear sky looks like and thinks a bad air day is just fine because that has become their status quo," reflects Judy Bartzatt, Joshua Tree's chief ranger.

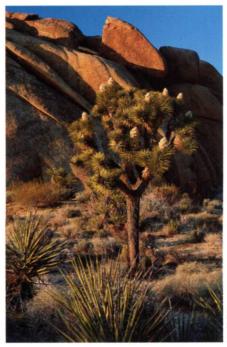
Because of the variety of threats facing Joshua Tree, NPCA has identified it as one of the country's ten most endangered national parks for 2003. NPCA has also hired a desert campaign staffer to aid in efforts to protect the region.

Joshua Tree's neighbor, Mojave National Preserve, was listed as one of the ten most endangered parks in 2002, but following a successful battle with the Cadiz groundwater mining project, the park is off the list—for now. However, a looming danger is Las Vegas' proposal to place a huge, commercial airport near the preserve. "There will be noise, light pollution, threats to wildlife, but the other problem is that this will bring Las Vegas down to the preserve. There will be such pressure to develop the private lands in and around the park," says Mary Martin, Mojave's superintendent.

"What happens in Las Vegas affects us

too as it is translating into a growing bedroom community in Pahrump," says I.T. Reynolds, superintendent of Death Valley National Park. "That combined with agricultural development in the Amargosa Valley—it's all taking its toll." In a Nevada-based satellite unit of the park, one of its natural wonders, the Devil's Hole pupfish, is already feeling the pressure. The pupfish are remnants from the last Ice Age and have adapted over time to life in a warm, solitary pool in Nevada, which is actually the exposed surface of the groundwater. Now the pupfish and the pool have started declining, and park managers fear this is a sign that regional development is draining the park's main aquifer. "Climate change is part of the mix, too," says park hydrologist Terry Fisk. "Springs and seeps, sites of the greatest biological riches in the park, depend upon a healthy aquifer. Now, the aquifer's fossil-age water, left over from the days of an earlier, wetter climate, is getting overdrafted. It's just not sustainable."

Human encroachment is not the only danger to these areas. Like so many other national parks, the desert parks are also challenged with invasive species, their spread promoted by development and travel. Invasive grasses in Joshua Tree National Park, for example, created a



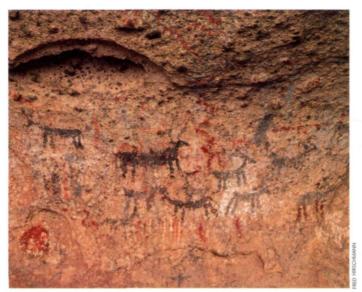
Sunlight beams on a flowering Joshua tree.

WILLARD CLAY

tinderbox that led to an uncharacteristically hot and widespread 14,000-acre fire in 1999. Consider also the native ravens, which multiply around human developments. Ravens used to be a rarity in the desert, but between 1968 and 1988, their population grew by 1,500 percent. This is not good news for the threatened desert tortoise, which is losing its young to increased raven predation when it is already besieged on all sides by grazing, mining, recreational vehicles, subdivisions, golf courses, resorts, and disease, forcing it to crawl closer and closer toward extinction.

Despite these continued challenges, the desert parks are better off than they were before the passage of the protection act. "I am faced with daily reminders that the [act] passed in the nick of time. It has made such a difference in stopping development and activities that would destroy these special resources," says Martin. When Mojave National Preserve was established, for instance, cows were clearing out swathes of vegetation and knocking over Joshua trees in their sloppy struggle for forage on 75 percent of the parklands. Over the past few years, the preserve has bought out and retired 83 percent of those grazing allotments. The park also came encumbered with 9,000 mining claims; those have been whittled down to a few hundred. Plus, simply cleaning up garbage in all the parks has been a huge accomplishment. Staff at the Mojave preserve alone have hauled out 68 abandoned vehicles and 300 tons of trash since the park's inception.

Now the question is this: What do the desert parks need to gird themselves against outside development threats and successfully protect their natural and cultural resources into the 21st century? As Aldo Leopold explained, the first step in intelligent tinkering is identifying and keeping all of the pieces. "Too often, land managers lack the biological information they need to make good deci-



Native Americans left pictographs chronicling many generations.

sions. We may be losing populations or species without even knowing it," says Jim Andre, a principal investigator for the NPS Inventorying and Monitoring Program and director of the University of California's Granite Mountains Desert Research Center, located in Mojave National Preserve. Consequently, all three desert parks have started inventorying and monitoring their plants and animals.

NPCA has been doing its own monitoring to help shape and update its campaign to protect the desert parks into the future. The association has conducted an economic analysis of Joshua Tree's fiscal management, as well as an inventory of natural and cultural resource management issues at Death Valley.

But to translate this information into effective management decisions, the parks simply need more funding. "These parks have leveraged shoestring budgets, but more is needed to truly protect the visitor experience and these fragile natural and cultural treasures," says Courtney Cuff, NPCA's Pacific regional director. "The parks need more rangers and monitoring of outside park threats. We also need to buy up the 200,000 acres of privately held lands inside the parks and make them whole while land prices are still within reach."

A major advantage is that the parks are increasingly important to the regional economy, visited by more than three million people a year. This visitation translates into \$200 million of tourismrelated revenue for the area around Joshua Tree National Park alone, according to a study conducted in the mid-1990s. As Paul Smith, president of the Morongo Basin Innkeepers Association and operator of the Twentynine Palms Inn, explains, "Our businesses are valued by the usual list of assets: cash, inventory, equipment, and land, but we are blessed with another asset of inestimable value: a national park as a neighbor. It's a reliable asset and a cornerstone for a sus-

tainable regional economy."

As the desert becomes the spillover home to southern California's rapidly growing metropolitan population, these sanctuaries for plants, animals, and harried humans will only multiply in value. For thousands of years, desert tribes based their subsistence and civilization on the desert's plants: 350 native plant species were harvested by desert tribes for food, and the southeastern Cahuilla tribe alone used more than 200 plant species for medicinal purposes. Perhaps those who flock to the desert national parks for their starlit skies, sweeps of open spaces, and tenacious plants and animals are rediscovering something Native Americans recognized for thousands of years: The desert has an unexpected capacity to nourish and heal. As the tenth anniversary of the California Desert Protection Act approaches, it's worth commemorating a dream that citizens and politicians made into a reality even as we seize the challenge of staying true to its vision for the future.

Writer living in Oakland, California.

She formerly worked for NPCA out of the California office.

## The Keepers of the Keys

Amid the natural riches of Biscayne National Park, the forgotten story of

the African-American family that helped protect it is finally coming to light.

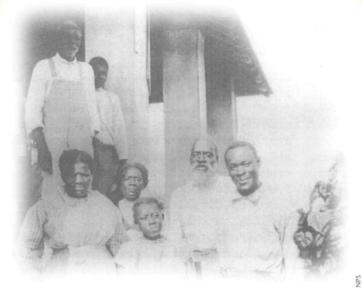
## By Kim A. O'Connell

long the coast of Porgy Key, near the southern end of Biscayne National Park, thick stands of Florida mangroves provide shelter and shade for fish and crabs too numerous to count. But here, the trees also harbor a longheld secret. For decades, unknown to most visitors, an

African-American family thrived in this wilderness, even as they helped ensure its long-term protection. Long overdue, their story is now being recognized.

The story begins with Israel Lafayette "Parson" Jones, born in North Carolina in 1859. Having lived through the abolition of slavery, Jones moved to south Florida to work as a stevedore on small boats. By 1897, Jones—then one of Miami's most successful African-American businessmen—had saved enough money to buy Porgy Key for \$300. There, with his Bahamian wife, Mozelle, and his two sons, named Arthur and Lancelot after the heroes of the Camelot legend, Jones carved out a richly varied and successful life.

Today, Biscayne National Park and community activists are working to fully understand the Jones story and nomi-



The Joneses thrived in Porgy Key wilderness and ensured its protection.

nate Porgy Key for inclusion on the National Register of Historic Places. Although Biscayne is rightly celebrated for its nearly 173,000 acres of estuarine and marine environments—which include nearly 20 threatened and endangered species such as sea turtles, crocodiles, and manatees—the park also has a rich cultural history involving Spanish exploration, pirates, American Indian life, and plantations. The Jones family provides another essential facet to this history and an important opportunity to celebrate diversity in the national parks.

The need to demonstrate the relevance of the national parks to visitors beyond the usual predominantly white audience is a major concern to Audrey Peterman, coordinator of NPCA's Miami Community Partners group and

president of Earthwise Productions, who has worked with the park to publicize the Porgy Key story. "There are large numbers of Hispanics and African-Americans who do not have a relationship to the national parks," she says. "But the parks' very survival will depend on these people's relationships to them."

"The Jones story is a per-

people of color have made to the National Park System," Peterman says. Parson Jones taught his sons how to live off the land-growing pineapples, key limes, and winter tomatoes. He ran a fishing guide service, worked on the railroad on nearby Elliott Key, and may even have helped to establish the Mount Zion Baptist Church on the mainland. The patriarch was also resourceful, building a cistern under his kitchen to capture rainwater for drinking and bathing and digging a six-foot-deep channel approximately 20 feet wide and several hundred feet long through shallow water to facilitate transport of his produce. But mostly he liked to remi-

fect example of the contributions that

After the deaths of Parson and

nisce about the old days with the visitors

who sailed into his port.

Mozelle (in 1932 and around 1924, respectively) and Arthur's departure for a life of military service (he died in 1966), Lancelot Jones inherited the mantle as the philosopher of Porgy Key. Although he lived alone, he was well known, serving as a bonefishing guide for dignitaries including presidents Lyndon Johnson and Richard Nixon. He also collected marine sponges and lectured to visitors about the island's various species, which he would often give to listeners as gifts.

All his life, Lancelot Jones was an environmentalist, living simply and using solar power for the few appliances he owned. Yet he became more active in 1970, when a local developer planned to turn Porgy Key and the surrounding islands into a second Miami Beach, with causeways, resorts, and condos. Although he could have doubled or tripled his price by selling his land to developers, Jones chose instead to sell the property to the Park Service for \$1.2 million, thus ensuring its protection in perpetuity. In return, the park allowed him to remain on the island in a small caretaker's cottage (the main house burned in 1982), until he was forced off by Hurricane Andrew in 1992. With his home in tatters, Jones remained with his goddaughter's family until his death in 1997 at age 99.

Miami

Signature

Biscayne
National Park

Biscayne
Bay

Visitor
Center

Key

Porgy
Key

Largo

4 Miles

The Jones story is a perfect example of the contributions that people of color have made to the National Park System.

The Jones family story might have stayed as fragmented and forgotten as the homestead were it not for the discovery of several artifacts, including an ax and a washtub, on a recent NPS expedition to remove exotic plants from Porgy Key. Since then, park archaeologists and interpretive rangers, elected officials, environmentalists, community activists, and other volunteers have worked to document and call attention to the family's role in the area's history.

"As we did more research, it became more mind-boggling that a black family had been able to buy an island in 1897 in Florida, 30 years after the end of slavery," Peterman says. "This is the kind of story the park is supposed to promote. One of the things we've found is that if you're going to attract a new constituen-

cy, you have to show them that they already have history there."

To that end, the park is seeking funding to commission two studies that will aid future preservation and interpretation efforts regarding Porgy Key. The first is a historical context study, which will provide the documentary evidence required for a National Register nomination. Such a study would also explore the relationship between Parson Jones as an African-American pioneer and the early development of the Miami area.

The second study is an archaeological survey of the land. The Jones family ultimately owned more than 250 acres over three islands and a lagoon. Today, evidence exists of a historic dock, key lime plantation, and at least one additional unknown structure. Only the crumbling concrete foundation remains at the site of the main house.

"We quickly realized Porgy Key would probably be significant by National Register standards, and was already significant to the park considering Biscayne's mission to conserve heritage assets for enhanced visitor experiences," says park archaeologist Brenda Lanzendorf. "We are trying through community involvement to identify historic themes relevant to Miami-Dade's ethnically diverse community members that



Biscayne hopes to facilitate future preservation and interpretation efforts for Porgy Key.

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information on the Jones family.

Life-long environmentalist Lancelot Jones,

pictured here in 1974, sits on the porch of

his home in Porgy Key giving a lesson in the

art of sponging.

of these efforts has been the ongoing work of Homestead Senior High School students, who have voluntarily performed research on Porgy Key as part of the extracurricular Social Studies Honor Society. Directed by his-Homestead Senior High students have tory teacher Susan Hopkins, urban become trained historical researchers, trolling local libraries and museums for

youngsters from diverse backgrounds have become trained historical researchers, trolling the South Florida Historical Museum and local libraries for information on Parson Jones and his family. Their finds have been significant, including an obituary of Parson Jones and a census listing identifying his brother. The park plans to continue working with the school to develop traveling exhibits and other presentations.

will more accurately

reflect the cultural

An essential aspect

history of the park."

Through its Community Partners program, NPCA will continue to provide technical assistance to activists working to uncover important cultural stories like Porgy Key.

Hopkins says that they feel a new sense of ownership about the park, which most had never before even visited. "This has brought them such a sense of self-esteem," she says. "A lot of them are Haitian-Americans. They will be going With the students' work now dis- off to college, and they have acquired played in the park's Discovery Room, skills that I know they would not have

Biscayne is celebrated for its estuarine and marine environments.

had otherwise. They feel like they've done something important."

In addition to benefiting from the students' research, park staff have also gained important insights from the project, Hopkins says. "Parks are kind of autonomous, yet they are in someone's community, and the best way to know the community you're in is through the children," she says. "[Park staff] have seen these kids and they've watched them grow, work responsibly, and have a good time out on a boat for the first time in their lives."

Yet much remains to be done. Currently, the park is developing a cultural resource management plan and a new general management plan, both of which will address the Jones project but such processes take time. Tough decisions will have to be made about the level of effort that park staff can invest in preserving the site. Currently visitor access is limited because of potential damage to natural resources. The site is surrounded by shallow water that shelters healthy seagrass beds. Conceivably the park could construct a dock that extends into deeper water near where the

> original dock used by Parson and Lancelot Jones once stood, Lanzendorf says.

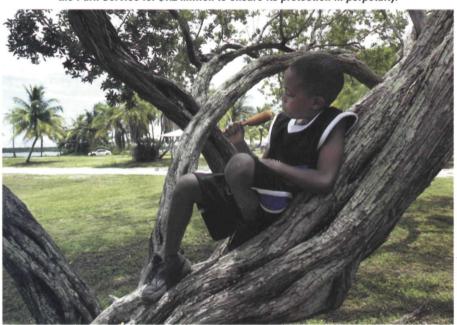
Through its Community Partners program, NPCA will continue to provide technical assistance to activists working to uncover important cultural stories like Porgy Key. The Miami Community Partners, for example, are also advocating for the inclusion of Virginia Key Beach Park, once a segregated beach in Miami, in the National Park System.

"If the true story of everyone who contributed to America were included in the national parks, the American ethos would change," Peterman says. "People would know that America is the sum total of the blood, sweat, and tears—the heroic struggle of many races and many people."

In a 1979 Miami Herald article, Lancelot Jones showed his appreciation for the national



Jones turned down a local developer's lucrative offer for his property and sold his land to the Park Service for \$1.2 million to ensure its protection in perpetuity.



NPCA is advocating once-segregated Virginia Key Beach's inclusion in the park system.

park. "It is good," he said, "to have somewhere that people can go and leave the hustle and bustle behind and get in the quietness of nature." If the history of Porgy Key gets its due, then a new generation of visitors may come to appreciate this quiet wilderness. There, amid the mangroves, they can imagine Jones out on his dock, pulling sponges and stories from the sea, and giving so much in return.

Kim A. O'Connell is based in Arlington, Virginia, and last wrote for National Parks about alternative transportation.

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## Materialism and Parks

Conservationists hurt their cause by not emphasizing the economic virtues of parks along with their spiritual, natural, and recreational values.

BY KEN OLSON

man is rich in proportion to the number of things he can afford to let alone," wrote Henry David Thoreau.

The 19th century contrarian's opinion of consumerism seems even more incisive today, when much that we value has a dollar sign conspicuously attached. Yet when it comes to some of the boldest manifestations of our collective wealth, the national parks, Americans see them almost exclusively as natural, recreational, and spiritual assets. Surely they are that, but we park conservationists hurt our cause by not emphasizing their economic virtues at the same time.

Acadia National Park, for example, is one of Maine's most important economic generators, even though it is by definition a public set-aside from the private market. The state's 19.8-million-acre land base is 89 percent commercial forest, a mother lode that has underpinned the state's economy for hundreds of years and produces \$6.5 billion annually. Although tiny Acadia, at just 45,000 acres of land and easements, can't compete on cash volume, the national park nonetheless pumps out more financial value per acre than do any of Maine's

KEN OLSON is president of Friends of Acadia, which created the first private trails endowment in national park history. He contributed the foreword to First Light: Acadia National Park and Maine's Mount Desert Island, photographs by Tom Blagden, Jr., text by Charles R. Tyson, Jr., forthcoming from Westcliffe Publishers.

harvestable woodlands—pretty good for a place where all the vegetation is left upright.

In 2000, Acadia generated \$3,400 per acre in goods and services, a figure derived from the work of Michigan State

Although tiny Acadia, at just 45,000 acres of land and easements, cannot compete on a cash volume, the national park nonetheless pumps out more financial value per acre than do any of Maine's harvestable woodlands.

University professors Daniel Stynes and Dennis Propst. (The number includes about \$1,200 in wages, which is about 4.7 percent of the income of a typical Maine worker.) According to the North East State Foresters Association, the state's timberlands produced about a

tenth of that, or \$368 an acre.

Stynes and Propst used a methodology initiated by Ken Hornback, called the "Money Generation Model," which is a pretty straightforward way to determine the economic effects of national parks. The model consists of an Excel spreadsheet into which even non-economists can insert "if/then" estimates that differ from the professors' assumptions. The model has been applied to more than 30 national parks so far, including Yosemite and Olympic national parks and Gettysburg National Military Park. It is available at www.prr.msu.edu/mgm2.

Stynes and Propst estimated that Acadia visitors spent \$130 million in nearby towns for meals, room rentals, campsites, services, etc. This sum directly underwrote 2,300 jobs, and employed another 1,000 people who supplied products or services to the primary businesses. Total value of primary and secondary sales was \$155 million, and personal income was \$55 million, totals that created significant tax revenues.

This is not to imply that just any protected 45,000-acre tract could be so productive. Or that if you stopped cutting it, a working forest would sprout cash. Rather, the idea is that special places that are set aside from the market system can themselves create and sustain markets, especially in the immediate surroundings. Capitalism, entrepreneurship, and conservation are not a strange ménage.

Even with their intrinsic economic worth, however, parklands often benefit



from value imported from nearby open space. Acadia, a seaside mountainscape, absorbs monetary value from the vast Atlantic. It works this way: The ocean, an immense plain of saltwater, is a commons, a public resource that is largely unregulated or nominally regulated. Here it functions as a buffer whose natural value is transferred in part to the core park, subsidizing Acadia's amenities. The park itself—location, location, location—is the working capital that in turn generates so much private wealth.

In the big national parks of the West, a similar transference occurs. At Yellowstone, Glacier, Grand Canyon, Olympic, and Rocky Mountain, for example, it's often the surrounding views of national forests and other regulated lands that add the subsidy.

The transference phenomenon works at the local level, too, as many Americans seek property near municipal open space, to, in effect, extend their backyards at minimal personal cost. In a survey conducted by the National Association of Home Builders and the National Association of Realtors (April 2002), home buyers ranked walking, jogging, and bike trails just below highway access in importance, and well above day care, shops within walking distance, basketball courts and soccer fields, and security guards at gates. With respect to conserved lands, a reversal is occurring—NIMBY (not in my back yard) is being replaced by YIMBY (yes, in my back yard).

I am one of thousands of YIMBYs who choose to live near Acadia National Park. My small home with its harbor view and ready park access has multiplied in value in seven years. The rise is specifically attributable to the nation-wide demand for the amenities of nature. Like so many others across the United States who are finding ways to live close to the natural scene, I count myself spiritually and recreationally privileged to live where I do—and now eco-

nomically favored as the investment has climbed, though I sought no profit in leaving the city for rural Maine.

By design, the Stynes-Propst model does not attempt to measure such benefits to park neighbors. Nor does it quantify the value of ecosystem services. For example, Mount Desert Island's drinking water is captured and largely purified by the park at little cost to residents. Think of this benefit as a "givings."

It is a hopeful sign that Americans increasingly recognize parks as repositories of history, subjects of great art, sanctuaries for species, inspiration for a literature of celebration (and of anger

and lament), places of connection to the creation, DNA sinks, ground zero for the human soul, and worthy objects of philanthropy. People today may have a greater appreciation for nature's unpriced values than Thoreau's contemporaries did.

Consumers who believe that personal enrichment cannot possibly arise from something they cannot own miss great life satisfactions. But even we who constantly rediscover the profound riches of letting things alone, and for whom the most vital harvests from our national parks are non-consumptive, may be shortchanging ourselves. Whether or not we admit it, the yields are also financial, supporting communities, states, and our material lives. For the sake of the national parks, we need to proclaim a yet rounder view of their economic productivity, to fortify arguments for preserving the intangibles. The story needs to be told. Too bad Thoreau isn't around to write it.

NATIONAL PARKS 35



## Experience History Firsthand

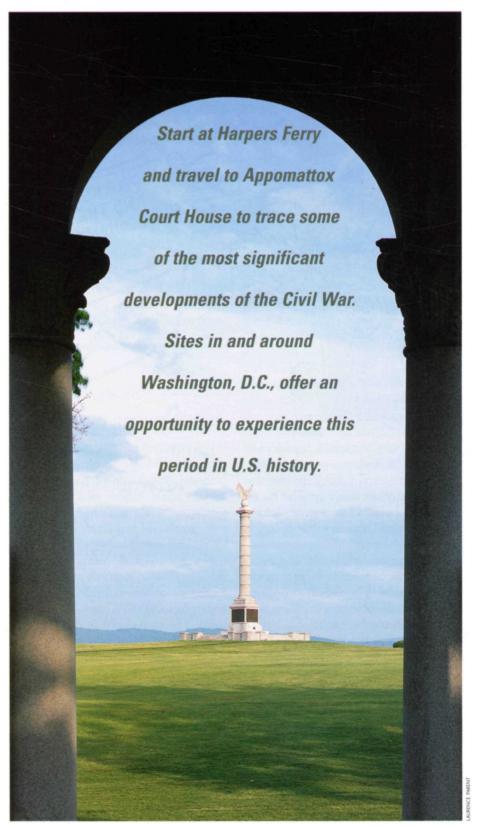
## By Chris Fordney

ust a few minutes drive from the noisy, smoky chaos of Interstate 95 in rural Virginia stands a small clapboard building on a lonely railroad siding. In one room, the only sound is the ticking of an antique clock on a mantle.

On May 10, 1863, the same clock in the same room ticked out the final moments of the life of Confederate Gen. Thomas J. "Stonewall" Jackson, wounded eight days earlier at the Battle of Chancellorsville. Standing in the room today, you can all but hear Jackson's final words: "Let us cross over the river and rest under the shade of the trees."

Now known as the Stonewall Jackson Shrine, the building and its small patch of land are part of the Fredericksburg and Spotsylvania National Military Park—symbolizing, in a way, the larger effort by the National Park Service to preserve islands of Civil War history in the vast tide of development sweeping across the countryside of Virginia and Maryland.

Most affected by that growth have been Manassas National Battlefield in Prince William County, Virginia, and the Fredericksburg park halfway between Washington, D.C., and Richmond, Virginia. But these parks have withstood the test, still holding untouched preserves of some of the most haunting battlefield land in the nation. Farther out, at Antietam National Battlefield in Maryland and Harpers Ferry



Antietam National Battlefield, the site of the "single bloodiest day" in American history.

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National Historical Park in West Virginia, managers have worked to protect the historical landscapes from sprawl, expanding their parks with key land acquisitions. And at Appomattox Court House National Historical Park, visitors can see parts of the region that still resemble the landscape of the most important theater of the war.

Taking a tour through the historic sites—striding across the battlefields, entering the buildings, viewing the remarkable array of artifacts-offers an unparalleled opportunity to experience firsthand this critical period in U.S. history.

## Manassas **National Battlefield Park**

Encompassing about 5,000 acres less than 30 miles southwest of the White House, this park preserves the site of two crucial battles of the war on the doorstep of the northern capital during the summers of 1861 and 1862. The First Battle of Manassas, on July 21, 1861, was the first large-scale action of the war, and the

PENNSYLVANIA Antietam N.B. MARYLAND **Harpers Ferry** N.H.P. WEST VIRGINIA Washington, D.C. Manassas N.B.P. Fredericksburg and Charlottesville Spotsylvania N.M.P. Richmond 60 **Appomattox Court** Lynchburg House N.H.P.

second battle was fought just to the west of Henry Hill on August 28-30, 1862. Both resulted in Confederate victories.

The park's main visitor center was refurbished in 1999, and a new, 45minute film shown on the hour debuted in the summer of 2001. Also included in the updated exhibits are a new fiberoptic electric map describing the First Battle of Manassas and artifacts recovered from two homes present during the battle. One was the home of Iim Robinson, a prominent free black in the Manassas area. The other was the home of Judith Henry, a bedridden widow who refused to leave during the battle. A shell destroyed the original house and killed Mrs. Henry. Another building-called the Henry House-now stands where her home once did. A one-mile walking trail carries visitors to the house and provides an impressive view of the broad, rolling meadows and meandering Bull Run creek and its branches, which host 151 bird species, 26 mammal, 21 reptile, and

17 amphibian species. Two longer hiking loops, of five and six miles, cover points of interest in both battles. On the summer weekend closest to the dates of the battles, living history displays and other commemorations take place.

Motel lodging is abundant at the Interstate 66 exit just south of the battle-



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The Stone House at Manassas served as a field hospital during the battles there.

field. For more information about the park, go to www.nps.gov/mana.

## **Antietam National Battlefield**

Over the past few years, there has been growing recognition that the true turning point of the war was the Union victory at the Battle of Antietam. The victory produced the political climate for Abraham Lincoln to issue the Emancipation Proclamation and convinced Great Britain and France to stay out of the war. At the same time, aggressive land protection has made the 11,000acre countryside around Antietam the largest Civil War preserve in the nation. The battlefield itself covers 3,255 acres of rolling fields of corn, thick stands of woods, and rich stream bottoms. This setting of peace belies the vast tableau of suffering that occurred September 17, 1862—the single bloodiest day in American history.

Because of its light traffic, Antietam is particularly suited to tour by bicycle, although it has some steep hills. Rangers lead occasional bicycle tours, but the most popular ranger tour is a caravanstyle circuit by car that begins at the visitor center and stops at three key battle sites: the Cornfield, Bloody Lane, and

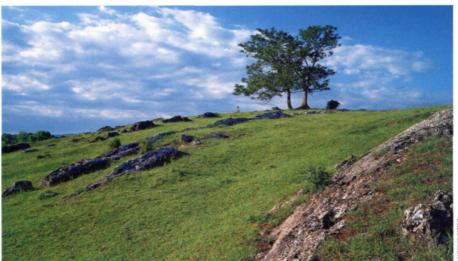
the Burnside Bridge. Also open for exploration is the 160-acre Roulette Farm that Superintendent John Howard describes as an addition as crucial as the "donation of Old Faithful to Yellowstone." Union troops advanced over the Roulette Farm land toward Bloody Lane during the peak of the battle.

Visitors to Antietam can stay on the battlefield at the Piper House, which served as Confederate Gen. James Longstreet's headquarters during the war and is now a privately operated bed and breakfast. Proprietors Lou and Regina Clark can be reached at 301-797-1862. Motel lodging is also available in nearby Hagerstown, Maryland. For more information about the battlefield, go to www.nps.gov/anti.

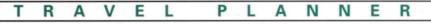
## Fredericksburg and Spotsylvania National Military Park

After Antietam, Confederate Gen. Robert E. Lee moved his army to Fredericksburg and, on December 13, 1862, inflicted a sound defeat on Union forces trying to advance against a stone wall along another sunken road at the base of the heights outside the town. The road and a portion of the stone wall are still preserved in this park, although houses now occupy the open plain on which several thousand Union soldiers fell. Just outside the town, bullet-pocked Salem Church is a lonely outpost in a carpet of sprawl and has become as much an icon of the battlefield preservation movement as an artifact of the war. It shows just how much commercial development can obscure hallowed ground.

But this 8,000-acre park still has pristine retreats. The sites of the battles of Chancellorsville in May 1863 and Wilderness and Spotsylvania Courthouse the following May offer quiet walks through areas that experienced horrendous fighting. At Spotsylvania's Bloody Angle, a 22-inch oak tree was cut down by bullets during some of the most intense combat of the war. A sign



At 11,000 acres, Antietam is the largest Civil War preserve in the nation.





Cannons at Chancellorsville.

marks the site of the oak, whose splintered trunk is now on display at the Smithsonian Institution.

Another highlight of the park is the Ellwood, an antebellum farmhouse where Stonewall Jackson's amputated left arm was buried following its removal at a nearby field hospital. Ellwood offers a wonderful view of the surrounding countryside, and the grave of the arm has become a must-see for many Civil War buffs. Directions and passes for the house are available at the Chancellors-ville Battlefield visitor center.

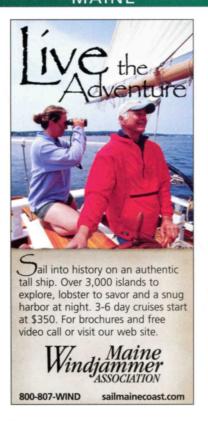
Fredericksburg's many motels are convenient to all the units of this military park. For more information, go to www.nps.gov/frsp.

## Harpers Ferry National Historical Park

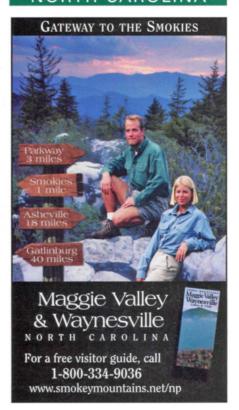
As a 2,500-acre national historical park, Harpers Ferry preserves a picturesque 19th century village and its surroundings, where famed abolitionist John Brown led a raid on the federal arsenal. He was subsequently captured and hanged in Charles Town. At one time or another during the Civil War, both the North and the South occupied this strategic locale where the Shenandoah and Potomac rivers meet and cut a rugged notch through the mountains.

Today, a shuttle bus carries visitors to the old town, where several buildings host exhibits about life in the village when it was an important armory and foundry. A new exhibit this year will describe Harpers Ferry's role in the outfitting of the Lewis and Clark expedition, and trails have been cut for hikes

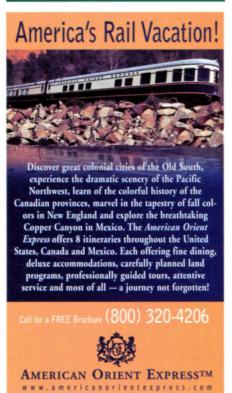
## MAINE



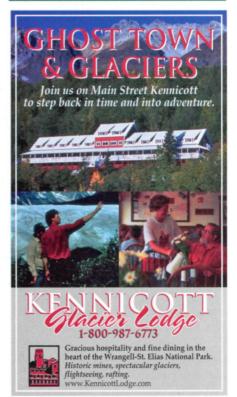
## NORTH CAROLINA



## RAIL VACATIONS

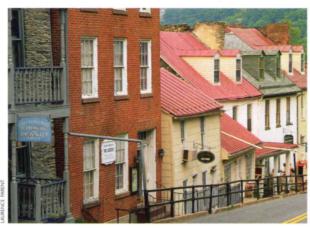


## ALASKA



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continued



Harpers Ferry encompasses a 19th century village.

along an area known as the Union skirmish line. "There's always something new," park spokeswoman Marsha Starkey said.

More adventurous visitors can make the 4.2-mile round-trip climb to the cliffs of Maryland Heights, with its panoramic view of the town and surrounding valley and mountains. Those who go another couple of miles can hike north along the spine of South Mountain through an area of Civil War camps that still have the remains of fortifications and gun emplacements.

Lodging is plentiful around Harpers Ferry, with both motels and bed-and-breakfasts. Information is available by calling 800-848-TOUR (8687). Local outfitters offer tubing and canoeing on the rivers as well. For more information about the park, go to www.nps.gov/hafe and click on inDepth.

## Appomattox Court House National Historical Park

In April 1865, Lee's exhausted Confederate army abandoned its Petersburg and Richmond trenches and marched west, pursued by Union forces under Gen. Ulysses S. Grant. With his line of retreat blocked and his army virtually surrounded, Lee surrendered to Grant in the village of Appomattox Court House, today preserved in the park of the same name. The McLean House contains period pieces to recreate the scene of the

surrender in Wilmer Mc-Lean's parlor. The 1,700-acre park has about a dozen buildings, including the actual courthouse that serves as the visitor center and a tavern where the parole passes for the Confederate soldiers were printed, and a six-mile trail that takes visitors through open fields and past markers and a Confederate cemetery.

One of the best things about the park is the his-

toric route to get there. "Lee's Retreat" is one of several Civil War driving tours put together by the state of Virginia to highlight the villages, battlefields, and other, lesser-known Civil War sites, little changed since the war. A detailed map of the tour is available by calling 1-800-6-RETREAT. The 20-stop tour begins in Petersburg and follows the route of Lee's final march through six counties. Information about lodging along the route is available at the same number. For more information about the park, go to www.nps.gov/apco.



Lee surrendered at Appomattox Court House.

Freelance writer **Chris Fordney** is based in Winchester, Virginia.

He last wrote about the Popham

Colony for *National Parks*.

## Other Sights to See in Washington, D.C.

Today's Washington, D.C., hardly resembles its Civil War ancestor, a swampy, chaotic seat of a national government fighting desperately for its survival, crowded with soldiers, and ringed by forts with sentries on the lookout for approaching Confederate troops.

But among its memorials and residential neighborhoods, the city holds remnants of that conflict. The most important, perhaps, is Ford's Theatre, the site of the assassination of President Abraham Lincoln just days after his generals had suppressed the rebellion that rent the nation for four years. Ford's Theatre National Historic Site is located at 10th and E streets in northwest Washington. Talks are given 15 minutes after every hour that it's open. Across the street from this still active theater, visitors can tour the Petersen Boarding House, where Lincoln was taken after being mortally wounded by John Wilkes Booth. Parking can be difficult, and school field trips create long lines in the spring.

Visitors can also view the African American Civil War Memorial and tour the Civil War to Civil Rights Downtown Heritage Trail. The African American Civil War Memorial at 10th Street and Vermont Avenue, N.W., contains the names of 235,000 black soldiers who served in the war. The memorial includes a sculpture, "The Spirit of Freedom," and a museum at 1200 U Street, N.W. Call 202-667-2667 for information.

The heritage trail is organized along three loops convenient to subway stops and features such sites as the building where American Red Cross founder Clara Barton organized relief efforts, the hospital where poet Walt Whitman nursed wounded soldiers, and the hotel where Martin Luther King, Jr., put the finishing touches on his "I Have a Dream" speech. A good place to start is the trail's center loop across from the National Archives. Information is available at www.dcheritage.org, and most downtown bookstores have a guidebook for \$4.95.

Many of the city's wartime forts can be visited. Information is available at www.nps.gov/cwdw.



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## Hard Corps

The military's dilemma over how to carry supplies across the arid Southwest desert in the mid-19th century gave rise to the U.S. Camel Corps.

BY RYAN DOUGHERTY

dorning Inscription Rock at El Morro National Monument in New Mexico are two simple etchings, obscured by the hundreds of others: Beale and Breckinridge. The story behind these inscriptions is little known but remarkable, a bold experiment by the U.S. Army to use camels for its grueling treks through the Southwest desert.

The story began in the mid-19th century. The United States military had a problem: It needed pack animals that could travel across the arid Southwest to carry supplies needed for battles with American Indians. Mules were too ornery, and horses could not bear the

intense heat.

Several years earlier, conservationist George Perkins Marsh and Army Lt. George H. Crosman had suggested using camels, which they considered better suited to a desert environment. The idea intrigued Jefferson Davis, then Secretary of War (later president of the Confederacy). He pitched it to Congress in 1853.

Congress and the press debated the idea—which some considered crazy—until 1855, when the government gave \$30,000 to Army Maj. Henry C. Wayne and charged him with finding camels for the military. Wayne traveled to Europe and Africa and studied captive camels. In Egypt and Turkey, he obtained 33 camels and hired several Arab handlers.



Reenactors retrace routes traveled by the U.S. Camel Corps in Texas' Big Bend area.

The U.S. Camel Corps was born. It sailed back to Texas to begin training.

The corps settled at Camp Verde, where residents showered the animals with attention. One woman sent to President Franklin Pierce a pair of socks knitted, she said, "from the pile of one of our camels." The camels' strong odor and strange appearance, however, frightened other animals. And soldiers soon grumbled about the camels' aggressiveness and tendency to spit up.

Still, observers hailed the camels' speed, endurance, strength, and adaptability. The animals could trek under a hot sun for days with little or no water while carrying 350 pounds, and they ate cactus and other readily available desert plants. Forty-one camels were added to the corps in 1857.

Led by Col. Edward F. Beale, the caravan headed from El Paso, Texas, west to Los Angeles and Fort Tejon, California. It traveled through several areas that are now national park units, including Big Bend National Park, El Malpais National Monument, Lake Mead National Recreation Area, and El Morro. There, Beale and P. Gilmer Breckinridge etched their names onto Inscription Rock, leaving behind a link to the Camel Corps.

"The Camels Are Coming!" proclaimed a newspaper headline when the beasts reached Los Angeles in 1857. "Their approach made quite a stir among the native population, most of whom had never seen the like," one reporter

wrote, adding that the camels could "pull a load over a mountain" and "live well where domestic animals would die."

Once the Civil War began, however, Congress mostly forgot about the camels. The experiment came to an abrupt end early on in the war, when Camp Verde fell into Confederate hands. By 1866, most of the camels were sold for about \$30 apiece. They sometimes ended up in zoos or circuses. Others wandered off into the desert and were shot by prospectors. Some escaped. As late as the turn of the 20th century, wild camels were reported from Mexico to Arkansas.

Although the last known captive offspring of the camels died in a Los Angeles zoo in 1934, some believe wild descendants of Uncle Sam's Camel Corps still roam in remote parts of Texas, Arizona, and California.

RYAN DOUGHERTY is news editor.



## A Sticky Situation

Poaching, habitat degradation, and exotic plant invasion threaten the Chisos Mountain hedgehog cactus, found at Big Bend National Park.

BY JENELL TALLEY

acti are hot commodities. The demand for the prickly plants is high, especially the rare populations. Poaching has become common, occurring at an alarming rate. Cacti, consequently, are widely considered the most vulnerable of all plant families, with approximately 26 percent of the species threatened or endangered. The Chisos Mountain hedgehog cactus is one such example.

Joe Sirotnak, a botanist/ecologist at Big Bend National Park in Texas, says about 1,000 individuals of the Chisos Mountain

cactus remain. The populations are all found in Big Bend, most within a 30-square mile area. "It's a small population concentrated in one location," Sirotnak says. "If this one population disappears, the taxon will be extinct."

The species, *Echinocereus chisoensis*, first collected in 1939 around the Chisos Mountains of Texas, occurs in an arid, subtropical climate where the average annual rainfall is between eight and nine inches. Despite the plants' 325-day growing season, numbers remain low.

Illegal collecting, loss of viability, and the inability of present habitat to support reproduction and regeneration all have led to the plant's decline, according to the U.S. Fish and Wildlife Service. Exotic plants, such as African buffelgrass, are invading the cactus' core habi-



The hedgehog cactus' luminous pinkish flowers are its most prominent feature.

tat, are also cause for concern.

As its name implies, the hedgehog cactus is round, spiny, and short, typically growing between ten and 12 inches. The plant is reddish-maroon and becomes greener in the summer. The young areoles near the top of the plant bear cottony, wool tufts. Despite its height, the cactus may have as many as ten stems protruding from it. These stems are often singular, although with age or injury, they sometimes form clumps composed of multiple stems. The cactus' spines are relatively sparse and do not completely cover its stem.

The outer spines are usually a whitish color, or an ashy to pinkish-gray with brown to maroon tips. They are slender and irregular in length. Large, showy flowers bloom on the cactus in March and remain through July. The tri-colored flowers have pinkish to magenta point-

ed-tip petals, white throats, and a dark crimson base. Greenishred, club-shaped fruits with wooly areoles and bristly spines adorn the flowers. As the fruits ripen, they split open, exposing warty, oval seeds. The flowers and their fruit are an important food source for pollinators and other insects in Big Bend.

Rodents and jackrabbits have been known to feed on the hedgehog cactus, particularly during extended dry periods. Habitat degradation also contributes to the species' decline, as livestock grazing has eroded the landscape and allowed the inva-

sion of desert shrubs.

A recovery plan was implemented in 1993. Big Bend staff and other cooperating scientists are researching the species' population genetics, breeding systems, pollination biology, and habitat requirements. Park staff monitor two populations of the cactus and are working to establish an experimental population in Big Bend. Sirotnak says the cactus can be de-listed, but that it won't happen any time soon. "In order to de-list the cactus, we need to establish and maintain, for a ten-year period, 50 distinct populations of at least 100 reproductive individuals."

Although poaching may contribute to keeping the plant on the threatened list for some time to come, Sirotnak says he understands people's fascination with them. "They're popular because they're rare and beautiful." But, he says, "I prefer to see them in the wild.

JENELL TALLEY is publications coordinator.

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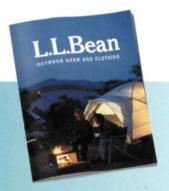
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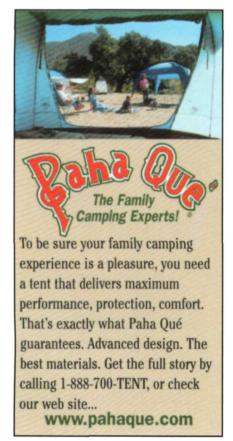


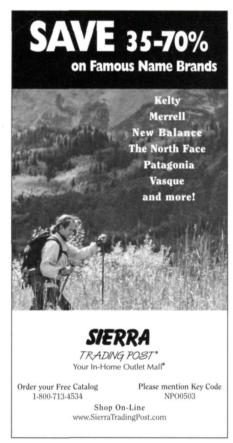
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## A Blast from the Past

Created to preserve the land's natural settings, this park serves as a link to its past and as a refuge for native plants and animals.



stablished in 1916, this park displays the results of 70 million years of volcanic activity—processes that clad this once-barren land with rare ecosystems and a discrete human society that introduced an influx of alien species that have threatened native plants and animals. The park's diverse environments range from sea level to the summit of a massive volcano, which stands a dizzying 13,677 feet high. More than half the park's 218,000 acres have been designated wilderness. Have you visited this park? Do you know which one it is? [Answer on page 10.]

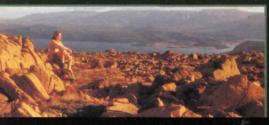
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Here the history of the earth's creation is written in stone. Carved by time and glaciers. And still fjords held close by ancient rock walls. It is a story revealed in the challenge of the 40km Long Range Traverse in Gros Morne National Park. Walk among wildlife and some of the most diverse plant life in North America. Or take an easy stride along a few kilometers of the East Coast Trail where you can feel the ocean's spray as you rest at the edge of our spectacular coastline. It is a story about adventure and natural beauty, best enjoyed one step at a time. Discover our true nature.

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