

National parks

The Magazine of
The National Parks
Conservation
Association

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National parks

Vol 76, No. 9-10
November/December 2002

The Magazine of the National Parks
Conservation Association

FEATURES

18 Losing the Forest and the Trees

Bugs, blister rust, and fungi are attacking and killing off Fraser firs, native dogwoods, and white-bark pine from the eastern seaboard to the California coast. The losses could be as landscape-changing as the blight that nearly wiped out America's chestnut trees more than 50 years ago and Dutch elm disease.

By Todd Wilkinson

23 Parks Under Siege

Woefully understaffed parks along the U.S. southern border have become the special targets of drug and people smugglers. They have left behind a trail of trash, destruction, and in some cases, death. Nowhere else is the situation more pressing than at Organ Pipe Cactus National Monument, where this summer a park ranger was gunned down by a Mexican outlaw.

By Tim Vanderpool

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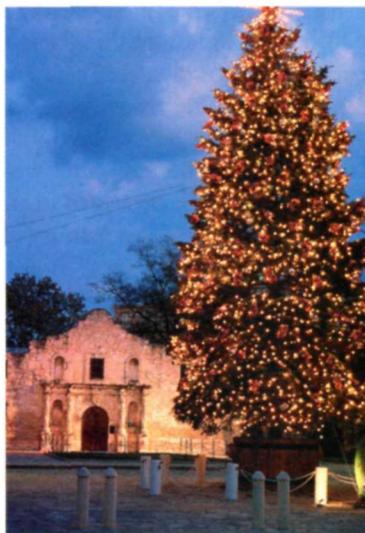
Private owners sell artifacts on the commercial market at prices well beyond the reach of the National Park Service. How can the agency realistically compete in today's market?

By Phyllis McIntosh



COVER: Immature whitebark pine cones atop a log of a fallen whitebark tree in Yellowstone Gallatin Mountain Range.

Photo by Jeff Henry.



JAMES RANDKLEV

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OUTLOOK

Filling the Glass

We can celebrate the beauty of the parks, while recognizing that more needs to be done to protect them.

Recently, I was invited to Zion National Park in Utah by Sen. Bob Graham (D-Fla.) to talk about the park's future as well as its exemplary alternative transportation system. Among the other invitees was the Park Service's director, Fran Mainella.

Zion, as Fran and I agreed, is a spectacular place. Yet, if we looked beyond the awe-inspiring scenery that nature sculptured in the park, some of us can see that there are problems ahead. Zion, like so many other parks, receives fewer dollars than it needs.

Probably feeling a bit exasperated with me, Fran wondered why, being surrounded by all this beauty, I had to see the glass as half empty. In reflecting on her comment, I thought that the national parks' glass should never be half full or half empty. It should always be full to the rim. And funding is not the only issue besetting our parks. These lands were set aside years ago to be preserved in perpetuity, to serve as the 20th century's legacy to generations to come. Not only should the glass be full—but it also should be treated like a precious 86-year-old family heirloom.

Most people do not realize that the parks are not completely protected.

A recent celebration at Wolf Trap Farm Park for the Performing Arts, a national park unit near Washington, D.C., brought this point home for me. Wolf Trap presented the world premier of Face of America 2002, modern dance,



CHAD EVANS WYATT

music, multi-media, and poetry inspired by Mammoth Cave National Park in Kentucky.

Wolf Trap's multi-year artistic adventure series celebrates the natural resources of America's national parks by using per-

forming arts as a bridge between unique landscapes and the American people. Even as people in the Washington, D.C., area marveled at the film showing dancers 300 feet below the surface in a variety of passages, the air outside of Mammoth Cave was drawing attention for a different reason.

Mammoth Cave is among the top five most polluted parks in the country. The air outside the cave is as unhealthy as the air in some of our most polluted cities, including Atlanta and Los Angeles. As Sen. James M. Jeffords (I-Vt.) writes in this issue of the magazine: "I want everyone's grandchildren to be able to say to their kids, 'Go outside and get some fresh air,' or 'Let's take a trip to the park,' and not worry about the health consequences or advisories."

We should continue to celebrate the beauty of the parks and understand their spiritual importance to us as a people, but we also must recognize that work needs to be done. If we are to preserve the glass and keep it full, we must be just as aware of the parks' needs as we are of their beauty.

Thomas C. Kiernan
President



EDITOR'S NOTE

Forests and Trees

Maple syrup comes from trees; so do pecans, apples, and almonds. Trees provide us with food and shade; they filter out pollutants and noise and cool the air. The North American continent boasts thousands of species of trees, everything from the ancient bristlecone pines to towering sequoias.



CHAD EVANS WYANT

Trees provide shelter and food for other species as well. Woodpeckers and bluebirds nest in their cavities, and animals, from grizzlies to squirrels, feed on their acorns and pinecones.

But many of the species of trees that fill our forests are in danger, primarily from introduced pests, as Todd Wilkinson reveals in our cover story beginning on page 18. A variety of bugs, fungi, and diseases are attacking trees across the country. Fraser firs are dying in Great Smoky Mountains National Park; flowering dogwoods are dying along the Eastern seaboard; and white-bark pine has all but disappeared from Glacier National Park. The losses may be as landscape-changing as the blight that nearly wiped out the American chestnut more than 50 years ago.

National parks have always been a repository for species. Some have described these invaluable places as Noah's Arks, offering the last best hope for a species' survival.

And there is some hope. Concerted efforts are under way to combat the pests and to find disease-resistant strains of trees. But these efforts take time and money and the realization that it's not enough to draw a line around a park and call it protected. We must continue our vigilance and ensure that the parks remain the best idea America ever had.

Linda M. Rancourt
Editor-in-Chief

National Parks

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PRODUCTION MANAGER: BRIGGS CUNNINGHAM
NEWS EDITOR: RYAN DOUGHERTY
PUBLICATIONS COORDINATOR: JENELL TALLEY
DESIGN CONSULTANT: INGRID GEHLE

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PRINTED ON 20% POST-CONSUMER WASTE RECYCLED PAPER



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.

HOW TO JOIN

You can become a member by calling our Membership Department, extension 213. *National Parks* magazine is among the benefits you will receive. Of the \$25 membership dues, \$3 covers a one-year subscription to the magazine.

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 222.

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 you.

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A Grizzly Future, LA's Backyard



Out of the Ashes

I disagree with the contention made in "Out of the Ashes" [September/October 2002] that fire suppression is not a long-term sustainable solution to current fire problems.

I believe fire suppression during the hot part of the summer, thinning, prescribed fire, and salvage logging, are the key ingredients to healthier, more fire-resistant forests in the future.

The main reason we are in the dire straits that we are today is because of the 1935 Forest Service decision to stop prescribed burning and move toward a policy calling for total fire exclusion. Had the agency continued to prescribe burn 1 to 2 million acres per year for the last 65 years, I suspect we would not be in this fix. We would still have wildfires, just not the large catastrophic fires we are experiencing now.

I also believe the greatest lesson we should have learned from Cerro Grande is that when weather forecasters are drawing large red circles on a map to designate drought conditions, you don't go out and light a prescribed fire.

*Jim Gerber
St. Anthony, ID*

A Grizzly Future

Yellowstone has a special place in the

heart of this family. I have visited the park seven times. I urge our representatives to expand and protect the bears' vital habitat in the Yellowstone and Grand Teton area, a tiny fraction of their original range in America.

Numbers need to be sufficient to maintain a healthy grizzly population into the future. Encourage the National Park Service to expand the national park boundaries to wrest control from the states and individual landowners as necessary, especially in cases where violations of protection laws have occurred.

Secure and strengthen the laws of the Endangered Species Act and do not remove the grizzly from its protection. Influence the adjacent states of Idaho, Montana, and Wyoming to enforce the protection of these magnificent animals.

*Michael J. Quinn, M.D.
via e-mail*

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N/D 02

Meeting in LA's Backyard

The article on the Santa Monica Mountains [September/October 2002] was of great interest. I fully agree that many inner-city children have little idea what natural wonders exist so very close to their homes. I was, however, surprised that you failed to mention William O. Douglas Outdoor Classroom in Franklin Canyon among those organizations that try to acquaint children with nature. About 60 elementary schoolchildren arrive here four times a week and are taken for a two-hour hike to experience nature. I have been a docent there for the last 15 years. My job is a most gratifying one, and comments such as "This is better than the Discovery Channel" are more than enough reward for my effort.

*Ilse Kornfeld
Los Angeles, CA*

A Clear View

Criticism of Thomas Kiernan's editorials as being politically partisan [September/October 2002] was just that! It is important for any nonprofit preservation organization to be pro-active and not succumb to political pressure. The

greatest successes are accomplished when opposition to sound preservation management is identified and challenged. The Bush administration has not been a friend to the environment, as identified by many organizations in addition to NPCA. Readers need to know how their legislators stand on these issues so they are empowered to vote accordingly. After all, our only real ability to affect change is through our vote.

Thank you for telling it like it is.

*Linda Kiederer
Yorktown, NY*

Touring the Northern Border

I thoroughly enjoyed "Touring the Northern Border" [September/October 2002]. I'd like to point out, however, that St. Croix Island (est. 1604) was not the first European settlement in North America north of Florida, as stated. A colony was established on Roanoke Island off the coast of North Carolina in 1585, but it mysteriously disappeared by 1598, when an attempt was made to contact them again.

*David Y. Miller
Nellysford, VA*

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

CORRECTION

A photograph that ran with "Meeting in LA's Backyard" in the September/October issue was misidentified. The photograph on page 29 was from Chumash Painted Cave State Historical Park in Santa Barbara.

WRITE TO US

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"YOU ARE HERE"

In the late 1800s, private citizens began efforts to memorialize this site. The land was designated a state park in 1893 and officially became a part of the National Park System in 1977.

Answer: Valley Forge National Battlefield, Valle Forge, Penn.

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OWNER AND PUBLISHER:

National Parks Conservation Association

EDITOR IN CHIEF AND MANAGING EDITOR:

Linda M. Rancourt

HEADQUARTERS OF PUBLISHER AND PUBLICATION:

1300 19th St., N.W., Washington, DC, 20036

STOCKHOLDERS, BONDHOLDERS, MORTGAGE, AND OTHER SECURITY HOLDERS: None.

| | Nov/Dec 01 through Sep/Oct 02 | Single-issue filing date Sep/Oct 02 |
|--|-------------------------------------|---|
| A. TOTAL COPIES PRINTED (net press run) | 315,060 | 292,673 |
| B. PAID CIRCULATION | | |
| 1. Single-copy sales | 1,413 | 2,284 |
| 2. Mail subscriptions | 299,006 | 280,255 |
| C. TOTAL PAID CIRC. | 300,419 | 282,539 |
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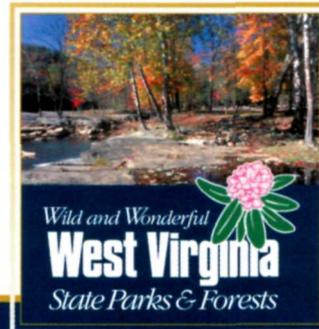
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ParkScope

News and Notes

BY RYAN DOUGHERTY

RESOURCE THREATS

Making a Pig Sty of Ancient History

Wild pigs are uprooting Chumash Indian history at Channel Islands.

CHANNEL ISLANDS N.P., CALIF.—Thousands of wild pigs are devastating more than 6,000 years of human history at Channel Islands National Park, digging up ancient burial sites and scattering artifacts on Santa Cruz Island—land sacred to Chumash Indians.

Feral pigs, estimated at 4,000, leave three-foot-deep holes in the ground and mangle heaps of ancient Chumash shells, bones, pottery fragments, and other material.

“The number one priority of a national park is to preserve, unimpaired, its natural and cultural resources,” said park spokesman Tom Dore. “The pigs are impairing both, so something must be done to stop them.”

Park officials believe that nearly all of the 687 identified archaeological sites on the island have been damaged, ruining the ability of archaeologists to re-create the everyday existence of those who lived there long ago. They compare the damage to ripping a page from a historical record—and without that page, history cannot be accurately recounted.

“It’s devastating,” said Jeanne Arnold, professor and vice chair of the Department of Anthropology at University of California, Los Angeles. “[Pigs] have destroyed portions of buried houses,

unearthed human remains, and displaced craft production localities where people made beads or stones or tools.

“They are devastating the heritage of the Chumash people out there.”

The speed at which the pigs can dig makes them particularly troublesome.

“In a matter of hours, a couple of pigs can move as much earth as my students and crew would need 20 or 25 person-days to carefully excavate,” said Arnold.

The pigs are descendants of a domestic herd kept on the island in the 1850s. Park officials say the pigs can double their population every four months.

Pigs also contribute to the catastrophic decline of the native island fox. Golden eagles drawn to the island by the plentiful pigs also supplement their diets with the island fox and plant populations unique to Santa Cruz.

The damage the pigs leave behind can resemble a plowed field, causing erosion and spreading fennel and other weeds.

The Park Service recently released a restoration plan for killing the pigs to initiate the recovery of the island’s ecosystem, but it will not be easy.

One option is to split the island into six hunting zones, divided by 45 miles of chain link fence, and kill the pigs over a six-year period—at a cost of about \$6 million.

Park officials have been developing the plan to kill the pigs for about two years in consultation with The Nature Conservancy, which owns 75 percent of Santa Cruz Island.

Some animal rights advocates oppose the eradication plan, urging park officials to shoot the pigs with contraceptives so the herd can die off on its own. Park officials, however, say that the extent of the damage the pigs are creating has left them with little choice—the destruction of Chumash history must stop, quickly.

“The pigs are uprooting the resting place of these people, my ancestors,” Julie Tumamait-Stenslie, a Chumash Indian and island descendant, recently said to the *Los Angeles Times*. “I don’t like the idea of killing animals, but [the pigs] are not native to the place, and it has to be done for the greater good.”



Wild pigs can dig deep holes and ruin artifacts in just minutes.

ERIC REED, COLORS OF NATURE

Water Project Plans at Mojave Evaporate

Critics feared the project would threaten desert wildlife.

MOJAVE N. PRES., CALIF.—Plans for a massive water project that many feared would threaten the fragile ecosystem of the Mojave Desert have dried up.

The board of the Metropolitan Water District (MWD) of Southern California voted in October to scrap the \$150 million project proposed by Cadiz Inc. The project would have mined groundwater from the aquifer beneath Cadiz's land in the Mojave Desert to sell at a profit to southern Californians.

Courtney Cuff, NPCA's Pacific regional director, said the board's decision would protect California's deserts from a "potential disaster."

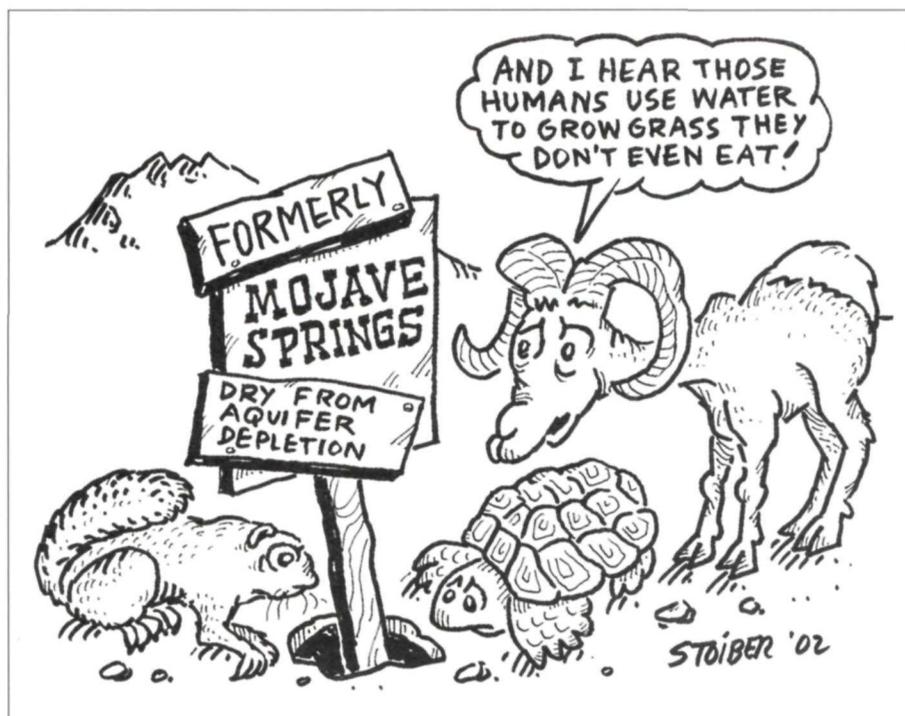
"We couldn't hope for a better outcome to this environmentally flawed and economically unsound proposal," said Cuff. "[MWD] had the courage to stand up to gluttonous corporate interests and prevent damage to national treasures."

Cadiz stood to earn as much as \$1 billion over 50 years from the project, which included plans to store up to 1.5-million-acre-feet of surplus Colorado River water in the aquifer. Cadiz hoped to sell the water to MWD, which sells water wholesale to local agencies.

Critics said the project would have seriously lowered the area's water table, causing shortages and dust storms that would be harmful to wildlife such as the desert bighorn sheep and desert tortoise.

"The project threatened the environment, made no economic sense, and would likely have advanced private interests at the expense of the public trust," said Cuff. "By mining groundwater, Cadiz would have, in effect, taken water out faster than natural cycles can replace it."

The aquifer supports four wilderness areas and Mojave National Preserve. The threat posed by the project compelled



NPCA to include Mojave National Preserve on its "Ten Most Endangered National Parks" list earlier this year.

Opponents of the project did not believe that Cadiz would have spotted potential problems—such as groundwater overdraft—in time to prevent dust clouds. They also did not approve of construction of intrusive facilities, such as a large pipeline and five-story power lines and towers, across the desert.

The Department of Interior greenlighted the project in September, heightening concerns. But, in a surprising twist, MWD decided to vote on the plan in October, much sooner than expected.

"The Cadiz project at this point does not represent reliability," said MWD board member Timothy Brick. "It represents just the opposite—risk."

Sen. Dianne Feinstein (D-Calif.) had publicly urged MWD to reject the proposal as both unnecessary and harmful to the Mojave Desert.

"To allow it to move ahead would be a terrible mistake," she said. "It does not make sense to siphon off water from this critical area of the California desert to send the MWD when the aquifer is vital to the health of the desert and its animal and plant life."

NPCA praised Feinstein for repeatedly expressing serious reservations about

the environmental impacts of the project, and for relaying citizen concerns.

Opponents of the project also believed that Cadiz grossly overestimated the amount of groundwater it could have extracted from the Mojave aquifer, which would have rendered the cost of the project so high that consumers would have felt the pinch.

A recent *Los Angeles Times* editorial on the Cadiz project said that California voters would witness "another boondoggle," which would contribute to rising water prices if Cadiz's plan materialized. Other critics noted that private control of water in other states has sometimes resulted in higher prices and reduced water quality.

NPCA was a leading voice of opposition to the project for several years. In August, NPCA presented more than 3,000 letters from Californians opposing the Cadiz project to MWD, asking the board to nix it.

"We're thrilled to know that our concerns, and the concerns of thousands of Californians who opposed this senseless plan, were heard," said Cuff. "Our national parks, our wilderness areas, the more than 500,000 annual visitors to Mojave National Preserve, and all of California's residents are better off for this decision."

VISITATION

Visits Up at Some Parks, Down Overall

Visitation within the park system is expected to drop 8 percent.

WASHINGTON, D.C.—While more Americans than ever have flocked to some of the more patriotic park sites as well as those close to home this year, overall visitation within the National Park System is expected to drop by 20 million people compared with last year.

Several reasons account for the expected drop-off, officials say, one being that international travel is down 10 percent. This has meant substantially fewer visitors to western icon parks such as Grand Canyon National Park, where the normally booked park lodges had vacancies this summer.

Of the 280 million visitors to the park system in 2001, 40 percent were foreigners, said David Barna, chief of communications for the National Park Service.

“That’s where we’ve taken the biggest hit this year,” he said.

The reasons for the decline in international travel are complicated but probably include the following: skittishness over traveling to America after the attacks of last September 11, struggling economies in countries such as Japan, rampant wildfires in the West, and a general sense that the parks are too crowded in the summer.

As a result, visits to icon parks are down about 15 percent so far this year. They are down 14 percent at Bryce Canyon National Park, 15 percent at Everglades National Park, 6 percent at Grand Canyon, and 5 percent at Yosemite National Park.

However, other sites in the park sys-

tem reported record numbers this past summer, fueled in part by a surge of patriotism and an increase in families taking vacations by car.

“It looks to us like Americans are staying close to home, but they are visiting the parks,” said Barna.

“At many of the cultural sites in the system, and at parks near large urban centers, visitation is up. People are revisiting our nation’s history.”

Visitation is up 5 percent at Shenandoah National Park, 4 percent at Fort McHenry National Monument and Historic Shrine, and at nearly all battlefields within the park system.

“There has been a renewed sense of patriotism since [last] September 11,” said Barna. “People are coming to park sites such as Mount Rushmore and Independence National Historical Park in record numbers.”

Another plus is that many park visitors this year have been first-timers.

“A lot of people who have not visited Yosemite [National Park] before are saying ‘Let’s go,’” said park spokesman Scott Gediman. “They’re coming with families, either discovering or re-discovering the park.”

Still, Gediman said it is hard not to notice the decline in foreign visitors this year, resulting in the drop in visitation at Yosemite. “What’s different is driving around and seeing practically no tour buses.”

Officials are hoping that the new visitors to parks this year will, in the long run, more than offset the recent drop in visitation.

“Once more visitors start flying again, along with a new crowd of people that have discovered the parks, we could actually see overall visitation going up again sometime soon,” said Barna.

Preliminary data suggest the park system will have 260 million visitors in 2002, down from 280 million visitors in 2001 and 286 million in 2000.

NEWS FLASH!
 Park visitation is expected to drop by 20 million people compared with last year, largely because of a decrease in foreign travel.

NPCA Notes 

Code Red in the Parks

Great Smoky Mountains National Park is the nation's most polluted, according to *Code Red: America's Five Most Polluted National Parks*, a report released this fall by NPCA and two other environmental groups. The report suggests that the air over the Great Smokies rivals that found in major cities such as Atlanta and Los Angeles.

Most park air pollution comes from burning fossil fuels—coal, oil, and gas. Power plants, cars, construction equipment, planes and trains produce such pollution.

“National parks have seen little or no improvement despite the most recent amendments to the Clean Air Act,” said Don Barger, NPCA's Southeast regional director. “For example, pollution from outdated power plants continues to harm parks and people, when there is no reason that older power plants cannot meet modern pollution control requirements.”

NPCA, Appalachian Voices, and Our Children's Earth rated the parks using an air pollution index developed by Appalachian Voices. The parks were rated on haze, ozone, and acid precipitation. The index compares data collected from 1991 through 2001 at the ten national parks with the most extensive monitoring programs. It assesses progress made since passage of 1990 amendments to the Clean Air Act. This year, the five most polluted parks, in order, are: Great Smoky Mountains, Mammoth Cave, Shenandoah, Sequoia/Kings Canyon, and Acadia. Visit NPCA's web site at www.npca.org/codered for more information.

—Jenell Talley

Visitors Attacking Bears at Smokies

Rangers remind visitors to keep their distance from wildlife.

GREAT SMOKY MOUNTAINS N.P.—A series of incidents involving visitors attacking black bears at the Cades Cove area of Great Smoky Mountains National Park this year has prompted rangers to remind people of the need to leave wildlife alone.

“We are working really hard now to keep bears and people separated,” said Bill Stiver, wildlife biologist. “The message we want people to understand is that they need to view wildlife from a distance, always.”

Rangers at the park have long voiced that message and are now re-emphasizing it after three incidents this past summer at Cades Cove.

▲ On June 28, several visitors interfered when a black bear attacked a fawn. One man who kicked the bear, grabbed it, and slammed it to the ground was charged with disturbing wildlife and disorderly conduct.

▲ On July 7, park researcher Jennifer Murrow heard an animal cry. While driving on Cades Cove Loop Road, she then saw a small bear trying to kill a deer fawn. One visitor, among a gathering of people, threw large rocks at the bear, trying to stop it from attacking the fawn. Murrow moved the crowd back and explained the role of bears and deer in the wild.

▲ On July 22, several young men chased a small bear and one tried to pick it up to take a picture with it. The bear bit the visitor. Shortly thereafter another young visitor hit the bear with a stick while holding a knife, as friends videotaped him.

“The bear is doing what it’s supposed to do, part of a predator-prey relationship,” said Stiver. “Maybe that’s hard for people to accept. It’s a challenge for us



BILL LEADERSKY PHOTO ASSOC

Visitors have long bothered bears at Cades Cove, but this year’s incidents were severe.

every day to remind people to let the natural order of the wild run its course.”

Because visitor run-ins with bears at Cades Cove are not likely to end any time soon—the 11-mile loop is a popular spot for visitors hoping to see wildlife—the message coming from the park rangers is simple: If your behavior changes the behavior of an animal, you’re too close.

“People need to keep that in mind and keep their distance,” said Stiver.

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HISTORIC PRESERVATION

Historic Lighthouses Available at No Cost

Interior Department seeks groups that can maintain the lights.

WASHINGTON, D.C.—The mystique of historic lighthouses can be very powerful; their beauty and lifesaving function resonate with people. Staffers at the Interior Department learned that firsthand recently, after announcing that 301 lights that the Coast Guard can no longer care for were up for grabs.

“We were shocked at the response—the phone calls came in daily,” said Nicol Andrews, Interior spokeswoman. “They were expressions of support, people asking ‘How do I get one?’ There’s just nothing not to like about lighthouses.”

Interior recently announced the National Historic Lighthouse Preservation Program, which transfers lighthouses at no cost to public and private groups that can afford to maintain them.

“The program recognizes the cultural, recreational, and educational value of

the structures by transferring them to the best possible stewards, both public and private, for long-term preservation,” said Interior Secretary Gale Norton.

“There is a mystique to lighthouses, a drama, a history, almost an aura of reverence for their lifesaving function,” she added. “People are drawn to them.”

The transfers are mainly aimed at historical societies, nonprofits, and local governments. When that is not possible, however, private interests can attempt to buy one but will have to do so at fair market value, officials said.

At press time, six lighthouses had been transferred:

▲ Rondout Creek (Kingston) Light, New York, transferred to the city of Kingston.

▲ Esopus Meadows Light, New York, transferred to the Esopus Meadows Lighthouse Group.

▲ Munising Range Light, Michigan, became part of Pictured Rocks National Lakeshore.

▲ Little River Light Station, Maine, transferred to the American Lighthouse Foundation.

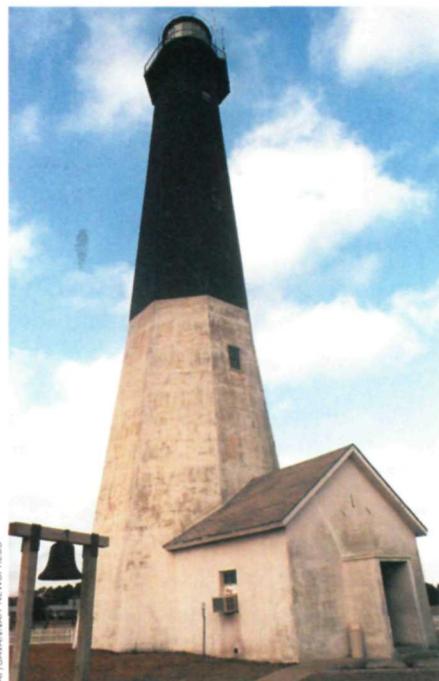
▲ Tybee Island Light, Georgia, transferred to the Tybee Island Historical Society.

▲ St. Augustine Lighthouse, Florida, transferred to St. Augustine Lighthouse and Museum Inc., a nonprofit.

Recent federal legislation authorized the transfer of historic lighthouses. The 301 lighthouses to be transferred, mostly along the Pacific and Atlantic coasts, are considered government surplus, no longer vital to mariners thanks to navigation technologies such as global positioning devices and radar. Lights can still help mariners during emergencies such as power shortages aboard ships.

For years, growing numbers of lighthouses have become tourist attractions and private residences. The National Park System contains about 60 lighthouses and light stations, including the Cape Hatteras and Alcatraz Island lights.

Officials said that groups that acquire lighthouses could expect to spend millions of dollars maintaining them. They must also be kept open to the public.



Tybee Island Lighthouse in Georgia.

NPCA Notes 

Face of America 2002

On August 24, the eve of the Park Service’s 86th birthday, Wolf Trap Farm Park for the Performing Arts premiered Face of America 2002, a presentation of dance, music, and poetry inspired by Mammoth Cave National Park in Kentucky. The annual performance series, which began in 2000, celebrates the country’s national parks. It supports preservation of natural and cultural resources and uses the performing arts to honor the diverse people, history, and landscapes that exist within each park. The event included a performance by country singer Rebecca Lynn Howard and poetry from a former Mammoth Cave park ranger.

Celebration at Ocmulgee

In September, NPCA attended the Indian Celebration at Ocmulgee National Monument in Macon, Georgia. The event showcases the music, dance, artwork, food, storytelling, and history of Southeastern American Indians. More than 14,000 people attend the annual event. The Ocmulgee Indian Celebration promotes astute management of the nation’s public lands, salutes local public service agencies, and honors the heritage of Southeastern natives such as the Creeks.

NPCA listed Ocmulgee as one of the Ten Most Endangered National Parks in 2001. The Georgia Department of Transportation has proposed a four-lane highway through lands sacred to the Creeks that adjoin the monument. The agency is accepting comments on this proposal. For more information, visit NPCA’s web site at www.npca.org.

—Jenell Talley

Violence Against Park Staff Rising

The recent killing of a ranger highlights a growing problem.

WASHINGTON, D.C.—Violence aimed at national park employees—whether a verbal threat from a drunken visitor, a fistfight, or even fatal gunfire—is rising, a report released in August by Public Employees for Environmental Responsibility (PEER) revealed.

Incidents of threats, harassment, and violence against park employees jumped from ten cases in 2000 to 104 in 2001, the report stated. PEER released a report last year indicating a smaller increase between 1999 and 2000.

Violence to park staff drew media attention in August when Ranger Kris Eggle from Organ Pipe Cactus National

Monument in Arizona was shot to death while helping border officials track a fugitive (see feature story, page 23).

“[Eggle’s death] underscores growing danger facing Park Service employees,” said Eric Wingerter, of PEER.

Fortunately, the tragedy at Organ Pipe is the exception rather than the rule—most violence against park staff is relatively minor, such as threats from visitors.

“Society is changing,” said Ken Mabery, president of the Association of National Park Rangers. “It is becoming urbanized and quicker-paced. That leads to people not knowing how to relax when they get to parks. They don’t know how to unwind. Ten or 20 years ago, we didn’t see that.”

Anecdotally, rangers throughout the park system have reported an increase in violence from visitors, said Mabery. Still, officials also credit better reporting of incidents as a factor in the increase stated in PEER’s report.

“As a society, we are getting more sophisticated about reporting what is

nefarious behavior,” said Mabery.

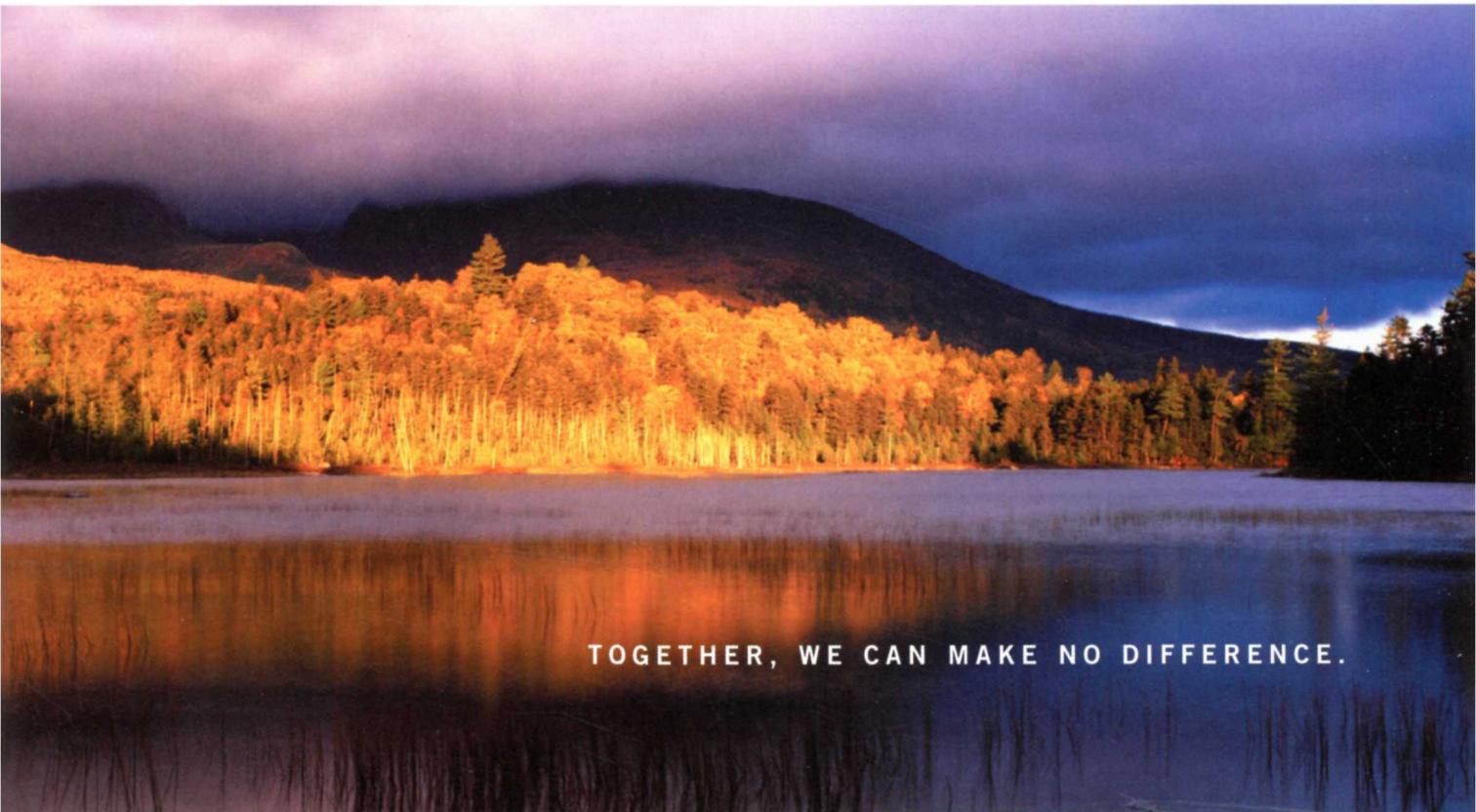
The Park Service lacks the capacity to track violence aimed at its staff, PEER said. Others agree the Park Service could do a better job of chronicling violent incidents but recognize the difficulty of doing so.

“If we report every little incident, we’ll have fewer people in the field helping visitors—they will be in the office writing up reports,” said Mabery. “Each chief ranger wrestles with that.”

Officials at smaller parks that attract fewer visitors tend to have more time to write detailed reports, said Mabery, while officials at the heavily visited parks may report only severe cases.

And, with the Park Service’s field staff at its lowest level in decades—about 1,350 law enforcement commissioned rangers—the attention paid to increasing violence has its limits.

“There has been better reporting of incidents recently,” said Mabery. “Now, whether we have time to investigate or address them is a different story.”



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HISTORIC PRESERVATION

Battlefield Grounds Eyed by Developers

A town could be built on land key to the battle of Chancellorsville.

CHANCELLORSVILLE, VA.—The second battle of Chancellorsville has begun.

Nearly 240 years after the first battle, a coalition of preservation groups and citizens is fighting to protect Chancellorsville Battlefield from a proposed 2,350-house residential and commercial development on 788 acres of farmland adjacent to the park's boundary.

Critics say the development would essentially drop a 10,000-person city at the site of the first day of fighting for one of the Civil War's legendary battles.

"The battlefield's history demands that it become a national park, not an office park," said Joy Oakes, NPCA's Mid-Atlantic regional director.



Chancellorsville Battlefield is one of four major battlefields contained within Fredericksburg and Spotsylvania County Battlefields Memorial National Military Park, located about 50 miles south of Washington, D.C.

Dogwood Development hopes to build a community at Chancellorsville, in which its residents can live, work, shop, and play. Ray Smith, Dogwood's president, has offered to donate \$19 million worth of land, including a 34-acre chunk, to mark where the first day of fighting at the battle of Chancellorsville occurred. The company says the development would generate thousands of jobs and \$11 million annually for the county.

The sheer size of the development, however, concerns battlefield advocates.

"I don't think there's ever been a project in the park's history that presents such a threat," said John Hennessy, acting superintendent of Fredericksburg and Spotsylvania. "No matter where you are at Chancellorsville, there will be an impact. It will be disastrous."

Among many concerns, battlefield advocates point to the developer's estimate that the project would increase traffic on Route 3 from 40,000 to 110,000 cars per day (which could spur calls to widen the road); attract ancillary development, further marring the area's landscape; and degrade the overall visitor experience.

"This development will overwhelm

the existing historic park and the whole area," said Jim Lighthizer, president of the Civil War Preservation Trust. "At best, it's ill-advised. At worst, it will be a land-use disaster."

The Spotsylvania County Board of Supervisors is expected to vote on the proposal late this fall, at the earliest. Dogwood is asking the board to rezone the land, allowing a mixed-use development. The land is currently zoned for shops, offices, and up to 225 houses.

"If the land was developed as it is currently zoned, we would still oppose it," said Jim Campi, spokesman for the Civil War Preservation Trust. "But that would not have near the impact of what's being proposed now."

A public opinion poll commissioned by the Coalition to Save Chancellorsville Battlefield, to which NPCA belongs, revealed that 66 percent of polled Spotsylvania County voters oppose the development. Hundreds of preservationists and residents attended a town meeting on the development in late August to express concerns.

"[Residents] have had enough of the haphazard-hyper-growth that's turning their communities into one big strip mall choked with traffic," said Robert Nieweg, Southern field office director for the National Trust for Historic Preservation.

And sadly, preservationists say, development of all kinds threatens Civil War and other battlefields across the United

Historic Tidbits

A recent report commissioned by the National Park Service found that 103 African Americans and American Indians fought in the Battle of Bunker Hill in 1775—more than five times the previous estimate. Revolutionary War consultant George Quintal, Jr., spent years studying records to gather information for the report.

The personal stories he found of patriots of color may change the face of the battle, historians said. Officials believe further research could identify more people of color as Bunker Hill battle participants. The report will be part of a new exhibit planned for Boston National Historical Park, officials said.

States. (To view a current list of threats, visit www.npca.org/take_action.)

“Battlefields are America’s living classrooms, where history becomes real,” said Oakes. “They are also local economic engines that support heritage tourism, year after year. Communities can benefit by protecting the national park in their backyard, or they can regret having let them be developed.”

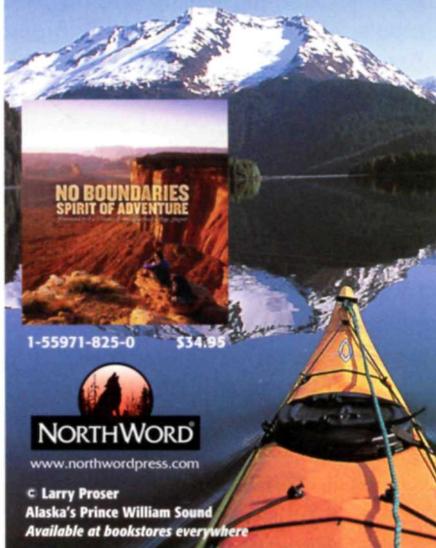
Nearly 200,000 Civil War troops clashed at Chancellorsville from May 1-3, 1863, resulting in 30,000 casualties, including the death of Confederate Gen. Thomas J. “Stonewall” Jackson. It was one of the largest battles ever waged in North America.

Take Action

For more information and to write to Spotsylvania County officials, visit www.npca.org/take_action/action_alerts/ and click on “Fight the Second Battle of Chancellorsville.” Virginians and Civil War enthusiasts are especially encouraged to visit the web site.

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NEWS IN BRIEF

GRAND CANYON N.P., Arizona—In what park advocates consider a victory for a quieter Grand Canyon, a federal court in August ruled that the Federal Aviation Administration (FAA) must consider the impact of all aircraft noise over the Grand Canyon when formulating new flight rules for air tours. The court stated that the FAA has poorly measured the restoration of natural quiet since passage of the National Parks Overflights Act in 1987. That legislation prescribed restoration of quiet in 50 percent of the park, 75 percent of the time. NPCA applauded the court’s decision but continues to urge Congress to apply pressure to the FAA and Park Service to ensure quick implementation of the ruling.

GLACIER N.P., Montana—The Canadian government is considering a proposal to add 100,000 acres of Canada’s Flathead Valley to Waterton-Glacier International Peace Park. After nearly two years of negotiation, the Canadian Parks and Wilderness Society has reached an agreement with Tembec Inc., the timber company holding logging rights in the Canadian Flathead, in which Tembec would surrender its rights in the proposed park expansion area on the east side of the Flathead River. In return, Tembec would receive funding to upgrade its Elko, British Columbia, sawmill. British Columbian planning officials were evaluating the proposal at press time. NPCA is the U.S. coordinator of the campaign. Observers have considered Flathead Valley a “missing piece” of Waterton Lakes and Glacier national parks for nearly a decade. For more information on the issue and to take action, visit www.peaceparkplus.net.



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The Clean Air Challenge

Some of the most polluted air in the country is over national parks.

We must strengthen, not weaken, the tools we have to clear the air.

BY HON. SEN. JAMES M. JEFFORDS (I-VT)

America is a nation of nature lovers. We are also in love with our power and electricity, our cars and mobility, and our traditional way of life. Therein lies a dilemma that needs to be solved and solved quickly.

The way we use our energy resources is significantly affecting natural systems. Inefficient fossil fuel combustion spews billions of tons of greenhouse gases and millions of tons of other air pollutants and toxics into the air every year. These waste products accumulate in the water and atmosphere, damaging wildlife and human health.

Power plant pollution causes about 30,000 premature deaths in America each year. An estimated 160 million people live in areas of the country where the air is unhealthy, and toxic tailpipe pollution in urban areas is creating significantly higher risks of cancer and developmental problems. Air pollution alerts during the summer have become a standard part of many urban weather reports. And, if global warming proceeds as scientists expect, weather will become increasingly more extreme and difficult to predict.

Long ago, the citizens of this great nation enacted legislation to set aside some of our most precious areas. They recognized the value of protecting historically significant sites and tracts of land before progress could swallow it up. National parks are revered, almost holy places where millions of people go annually to get away. Visitors find spots quiet enough to hear only their heartbeat and

the wind or to see an eagle on the wing. The point of creating the National Park System was to conserve the scenery, natural and historic objects, and wildlife and to provide for the enjoyment of current and future generations.

Unfortunately, some of our wild and precious places have come under attack from a variety of angles—from oil exploration in the Arctic National Wildlife Refuge and pollution that clouds the views at Grand Canyon to bleached coral reefs at Virgin Islands and rising sea

Some of America's most polluted air occurs in national parks—Big Bend in Texas, Acadia in Maine, Sequoia/Kings Canyon in California, Mammoth Cave in Kentucky, and Great Smoky Mountains in North Carolina and Tennessee.

levels along our shores.

Pollution made up of fine particulate matter clouds views in the Green Mountains of Vermont, the Shenandoah Valley of Virginia, the Grand Canyon in Arizona, and elsewhere across the nation. These pollutants come from industry and power plants, cars and trucks.

They contribute to the acid rain that degrades forest and lake ecosystems in the Northeast and the Southeast. They also damage crops and lungs. A recent study indicates that ozone can actually induce asthma in healthy, exercising children, rather than just worsen it. Outdoor activities at camps and schools are often cancelled in the Northeast and elsewhere because of pollution alerts. Parents think twice before telling their kids to go outside and get some fresh air.

Some of America's most polluted air occurs in national parks—Big Bend in Texas, Acadia in Maine, Sequoia/Kings Canyon in California, Mammoth Cave in Kentucky, and Great Smoky Mountains in North Carolina and Tennessee. In fact, Great Smoky Mountains has the dubious distinction of being among the five most polluted parks in the country, according to a report released this fall by NPCA and two other environmental groups. During peak tourist season over the last four years, ozone levels at Great Smoky Mountains National Park violated federal health standards on more than 140 days, threatening human health, plant life, and the park's image as well as its prospects for tourism.

The same sources of pollutants that cause the ozone levels to soar are also adding to the human-enhanced greenhouse effect. With reasonable certainty, the National Academy of Sciences and many of the world's experts agree that an average global warming of three to ten degrees Fahrenheit is likely over the next



100 years, on top of the one degree shift that has taken place since the Industrial Revolution. This could raise sea levels by one to three feet, inundating low-lying areas all over the world. The academy attributes this warming primarily to human-made greenhouse gas emissions.

These changes may steadily cause more unpredictable and extreme weather events. Or, as the academy has also cautioned, the temperature shift could cause abrupt and catastrophic climate changes because of a corresponding change in ocean circulation. Cape Cod National Seashore in Massachusetts, as we know it, may cease to exist, fragile alpine meadows are likely to face extreme stress, and the glaciers that made Glacier National Park famous will continue to dwindle.

So, what is the right response to air pollution and its impacts? Using and strengthening the tools we currently have under the Clean Air Act would be an easy first step. That means enforcing its New Source Review provisions, which require modified and new air pollution sources like power plants to use the best available control technology. That's particularly important near parks and refuges or other Class I areas. The

Clean Air Act includes many other tools and authorities that can be used right now to protect the parks and our special places.

Initiating a new effort to dramatically reduce these pollutants is harder and more complicated. I, and 22 of my colleagues, have begun this effort by sponsoring the Clean Power Act of 2002. This legislation would significantly lower emissions of sulfur dioxide, nitrogen oxides, mercury, and carbon dioxide by 2008.

Unfortunately, the administration's response to air pollution and global warming has been chilling at best. The administration has walked away from international negotiations on climate, insisting that voluntary actions are adequate. Enforcement of the Clean Air Act has been put on the back burner. New rules regarding New Source Review are being considered that would exempt thousands of sources from regulation. The president has proposed a bill that would take twice as long to clear the air as the Clean Power Act and would not lower the level of pollutants as quickly or address carbon dioxide. The administration's legislation would eliminate existing authorities that are important to protect-

ing parks and local air quality. Finally, progress on implementing the new ozone and fine particulate matter has been sluggish.

We have made good progress in reducing air pollution since the first Earth Day 30 years ago. But, now that we know how big the threat really is, we need a new way of thinking. Going backwards, as the administration proposes, to a voluntary or incremental approach that imposes no control costs on industry or requires no real change in behavior just won't cut it. That leaves the kids, the hikers, and the outdoor enthusiasts to bear all

the costs in reduced lung capacity and quality of life. That makes the many suffer so that polluters can enjoy short-term profits.

I want everyone's grandchildren to be able to say to their kids, "Go outside and get some fresh air," or "Let's take a trip to the park," and not worry about the health consequences or advisories. Unfortunately, that's not where this administration is taking us. Their path leads away from that kind of certainty and prudence.

Americans love a challenge. So, here it is. We have ten to 20 years to completely re-invent our energy, transportation, and community systems so that they are emissions-free. That's the timeframe some scientists say is necessary to avoid a doubling of greenhouse gases in the atmosphere. Clearly, major investments have to start now to meet that deadline. We can't afford to waste any time. Even with all of our technological skill and innovative spirit, can we tackle this?

We love our parks. We love our children. We love a challenge. We have no choice. 

SEN. JAMES M. JEFFORDS *chairs the Senate Environment and Public Works Committee.*

By Todd Wilkinson

Losing the FORESTS *and the* TREES

At Clingmans Dome, the highest overlook accessible by car in Great Smoky Mountains National Park, Keith Langdon, supervisory biologist, is listening intently as a group of visitors ponders a question: What killed all the trees?

For miles, the park's famous endemic Fraser fir forest—which accounts for 75 percent of all Fraser fir in the world—is dead or dying. The decaying trunks, stripped of their needles and bark, are testaments to the lethal force of a tiny insect—the balsam wooly adelgid—whose lethality rate on mature Frasers hovers near 100 percent.

But as nightmarish as the outlook is from Clingmans Dome, experts say it is only part of a larger drama playing out in forests across America. From the adelgid infestation in Great Smoky Mountains, to lethal fungus killing off native dogwoods along the Eastern seaboard, to a deadly organism causing Sudden Oak Death Syndrome along the California coast and a fatal blister rust on whitebark and limber pines from the Pacific Ocean hundreds of miles inland to the Rockies, America's forests are under assault.

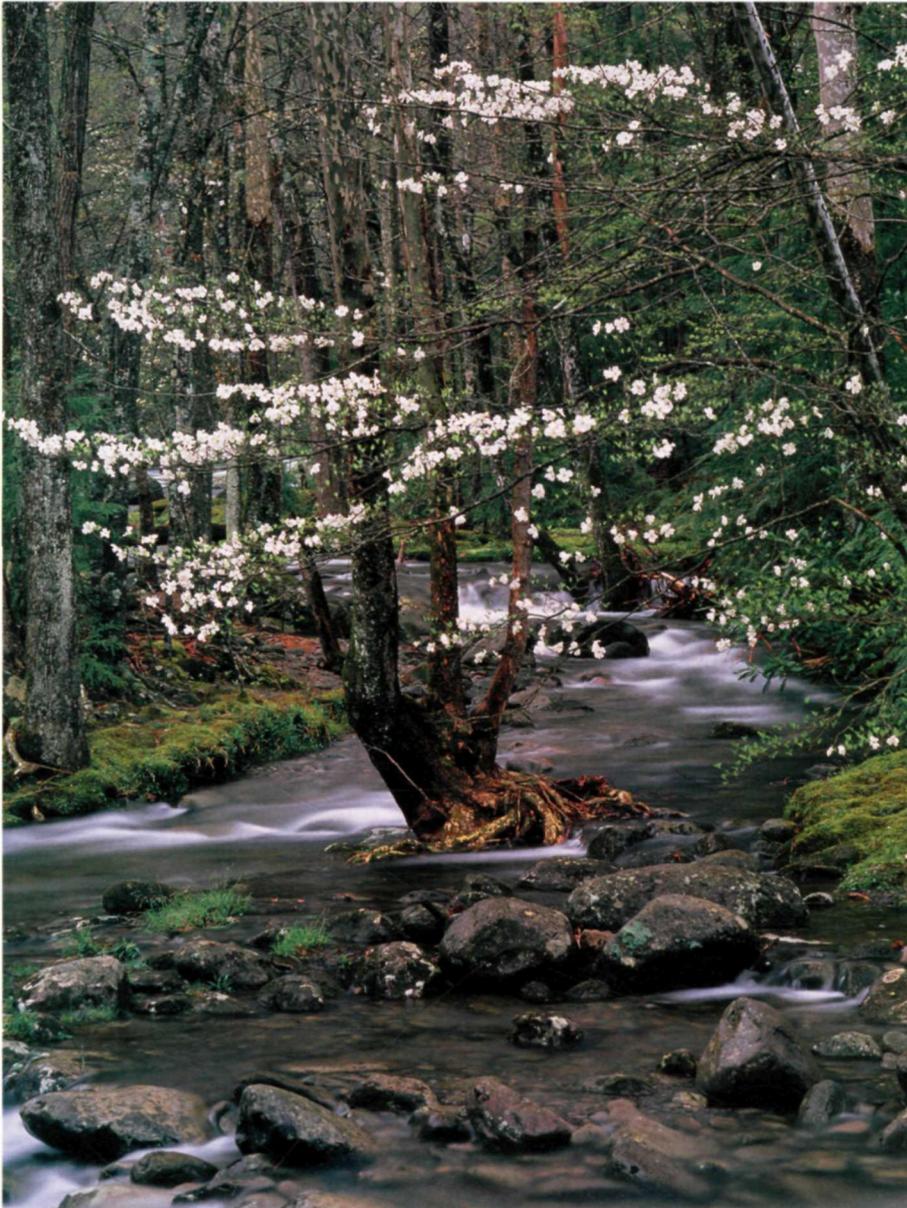
"This biological trainwreck has been tracked for a long time by the scientific community, but we've been unable to respond for a variety of reasons," says Dr. David Graber, the senior science advisor in Sequoia-Kings Canyon National Parks and a nationally respected conservation biologist. One reason, he says, is that these foreign diseases are incredibly virulent and made more potent by pollution and possibly by the onset of climate change. Another is that identifying disease-resistant trees and growing them successfully can take years.

Some of the biggest losers in years to come, aesthetically, ecologically, and even financially, will be national park ecosystems that historically have functioned as biological warehouses of America's great diversity.

The Park Service (inset) sprays the insects killing Great Smoky Mountains' Fraser firs.



SHARON GERIGTOM STACK & ASSOC.; INSET: NPS



LARRY ULRICH

Native dogwoods, an important food source for birds, are being killed off by a lethal fungus.

Bugs, blister rust, and fungi are attacking and killing off Fraser firs, native dogwoods, and whitebark pine from the Eastern Seaboard to the California coast. The losses could be as landscape-changing as the blight that nearly wiped out America’s chestnut trees more than 50 years ago and Dutch elm disease.

“The imminent loss of our native forests demonstrates, as poignantly as anything we’ve seen, that it’s not enough to draw a line around a park and call it protected,” says Joy Oakes, NPCA’s Mid-Atlantic regional director.

The devastation in Great Smoky Mountains is a case in point. The chilling, ghostly scene created by the Fraser fir decay is only part of the challenge to the park’s lush Appalachian mosaic. In the park’s American beech forest, trees are being ravaged by a one-two punch of boring insects and a fungus introduced to North America from Europe, probably through the contaminated soil of imported potted plants.

Once the insects feed on a beech’s protective layer of bark, the fungus moves in and kills the tree’s main trunk stem. At lower elevations, surveys show that the first wave of the hemlock wooly adelgid, introduced from Asia and a close cousin of the balsam adelgid that feeds on the Fraser fir, is assailing the park’s hemlocks.

The insect already has assailed forests in New England and other national park units, including Delaware Water Gap National Recreation Area in Pennsylvania and Catoctin Mountain Park in Maryland. Now it is menacing a forest that contains trees that offered shade to aboriginal American Indians and to frontier settlers such as Daniel Boone.

“We have been anticipating the hemlock wooly adelgid’s arrival and now are releasing federally approved ladybug beetles imported from Japan to fight the outbreak. But we realize it’s a last-ditch attempt to hold the line,” Langdon says.

Tree plagues reaching into every corner of the park are made worse, scientists say, by chronically bad air. Ozone produced upwind by power plants, auto emissions, and factories routinely settles on trees, stressing them and leaving them more

Todd Wilkinson lives in Bozeman, Montana, and is a regular contributor to *National Parks*.



Great Smoky Mountains' famous fall foliage may change along with the forest there.

Dirty Air Stresses Trees, People

NPCA is attacking the forest devastation problem on several fronts. In addition to testifying before Congress about the need for larger research budgets in land management agencies, the association is opposing Bush administration proposals to relax clean air regulations aimed at some of the country's biggest polluters. During the summer of 2002, NPCA joined with other conservation organizations, which together represent millions of members, in writing a letter to President Bush, telling him that his proposal to relax clean air enforcement was pure folly.

"Both Congress and this administration have the opportunity and obligation to do what's needed to protect both parks and people from air pollution," says Joy Oakes, NPCA's Mid-Atlantic regional director. "The problems besetting our trees, which are the natural factories of clean air, should be interpreted as a warning sign. Not only are trees stressed by dirty air, and not only is it impairing the visibility of many landmark views in parks, but studies show that air pollution annually contributes to 30,000 premature human deaths."

The fact that wildland parks, from Grand Canyon to Sequoia-Kings Canyon to Great Smoky Mountains and Acadia, are supposed to be refuges for clean air but have suffered from largely urban air pollution exposes the magnitude of the problem.

Not long ago, Don Barger, NPCA's Southeast regional director, testified before Congress on a "code red" air day, when pollution levels are unhealthy. Barger left members of Congress speechless when he pointed out that as sullied and unhealthy as the air was that day in Washington, D.C., hikers in the forests of Great Smoky Mountains or Shenandoah were encountering ozone levels even more hazardous.

"The threats to our forests and the scientific regulation of air pollution can, on the surface, seem very complicated, but in reality the solution is simple," Oakes says. "We must do more, not less, to reduce the contaminants that cloud our skies, and industry must be required to be as clean as possible, not as dirty as it can get away with. This administration wants us to believe that pollution will go away if citizens politely ask industry to voluntarily be responsible, but we know that doesn't work."



Dead tree snags at Clingmans Dome.

susceptible to disease and insects. Within the span of a human generation, eight or nine native tree species, including butternut, dogwood, and elm, are likely to disappear or suffer severe declines in a park beloved for its foliage.

It's the same across the National Park System, where dozens of major tree species are threatened and hundreds, if not thousands, of secondary species could be affected as well. Some of the devastation will be as complete as the blight that wiped out America's chestnut trees more than 50 years ago and as landscape-changing as Dutch elm disease.

Even today, some people remember the havoc caused by the chestnut blight. Hailed as the "redwood of the East" for their ability to grow to 100 feet and reach ten-foot diameters, chestnuts constituted an astounding 50 percent of mountain forests in the United States. They were used in home construction, produced commercial nut crops, and like oaks, provided food for wildlife. Then they were beset by what some regard as one of the worst natural calamities in the nation's history, the appearance of a fungus brought to the United States from Asia on exotic trees.

Within a few years, nearly all of the wild chestnuts—which placed together would have covered 9 million acres—were gone. Dutch elm disease, another import, destroyed thousands of one of the most popular shade trees of cities and towns in the East and elsewhere.

Losing a tree species can have cascading effects, many of which are not fully understood. Certain trees, for example, may be hosts for bees that serve a vital role as pollinators. If pollination does not occur, then fruit-bearing trees and plants do not produce foods for a variety of other species. Hemlocks, which typically grow along streams, provide shade that cools water temperatures and allows trout and other fish to survive summer heat and lower water levels.

In the case of Pacific dogwoods in the Northwest and flowering dogwoods in the Southeast, the tree functions as a depot of vitamins for many organisms. Of all the deciduous trees, flowering dogwood holds the highest percentage of calcium in its trunk. Dogwood berries, which are high in protein, provide an energy boost for migratory birds.

Perhaps nothing provides a better illustration of the importance of one tree species than the devastation being caused by blister rust.

Decades ago, this pathogen arrived in the Pacific Northwest and immediately spread, decimating whitebark and limber pines in a swath stretching from the ocean hundreds of miles inland to the Rockies. Blister rust also is attacking sugar pine in the Sierra Nevada, and botanists are asking themselves whether any sugar pines—the largest pine on the continent—will be left in 35 years.

Blister rust has also exacted a huge toll on whitebark pine in Glacier National Park in Montana and has reached the doorstep of the greater Yellowstone ecosystem. The loss of whitebark pine and its impact on the Lower 48's largest and most imperiled population of grizzly bears could be immense, says Kate Kendall, a senior biologist with the U.S. Geological Survey and a global expert on bears and whitebark pine.

Whitebark pine produces cones laden with highly nutritious seeds that grizzlies gorge themselves on before hibernation. The seeds' fat content enables the bears to put on enough weight to survive the long winter slumber, have successful pregnancies, have larger litters of cubs, and ultimately remain nutritionally sustained so that they don't wander into human settlements in search of food.

Saving the Urban Jungle

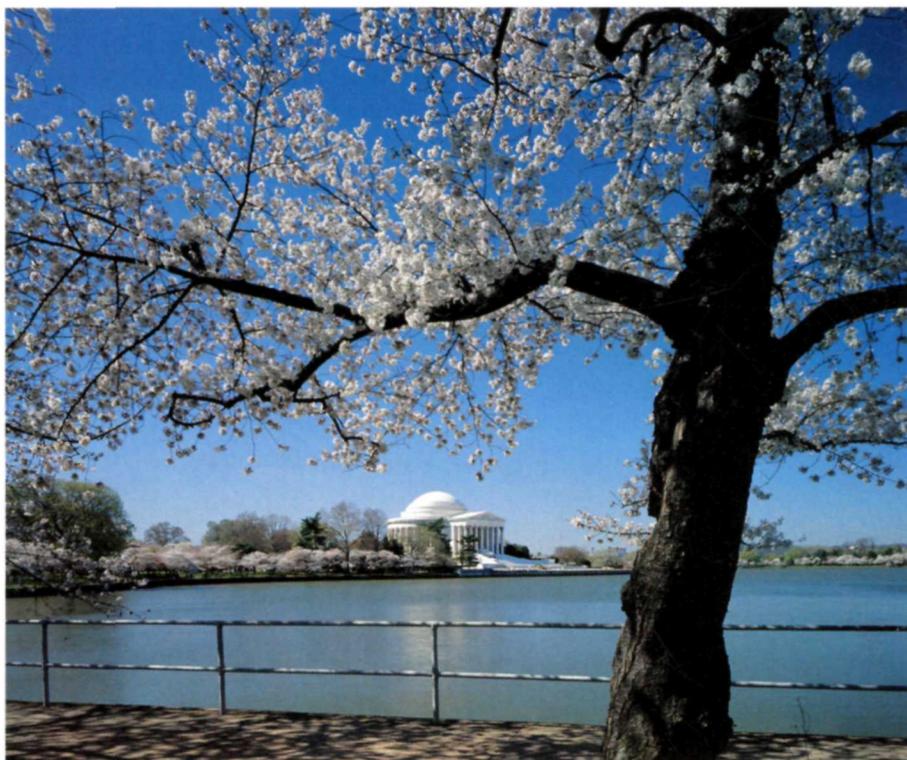
Concern about trees' future is resounding through the Park Service's "urban forest" too. The great hand-planted trees that line the National Mall in Washington, D.C.—a key attribute of the stately, inviting feel of the capital city—are not immune. American elms, all 600 of them on the Mall and 3,000 in the federal Washington greenbelt, are regarded as "organic monuments" that form the arboreal latticework, the "green superstructure" of the Mall, says Jim Sherald, plant pathologist and chief of natural resources and science at the Park Service's Center for Urban Ecology.

According to Sherald, people forget how valuable trees are, aesthetically and economically, until they are gone. "Does the public take the urban forest for granted? The answer is 'yes', and that's a problem," he says, noting that in suburban areas, the presence of healthy mature trees adds between 5 and 10 percent more value to a lot. But more important, trees are part of the fabric of life and serve as backdrops to the American experience.

When Dutch elm disease surfaced in Washington, D.C., in 1947, agency arborists were quick to respond because they knew what was at stake. They destroyed diseased trees and worked side by side with the National Arboretum in experimenting with disease-resistant varieties. It worked. However, in recent years, the maintenance budget for the District's forest, which, all told, includes 17,000 trees (including 3,000 exotic cherry trees), has not kept pace with costs, and the Park Service has had to farm out its caretaking duties. Some worry that disease control could fall through the cracks.

"The point we try to convey is we're a minor voice within the Park Service," says Sherald. "There is a general appreciation for the wildlands we manage, but an underappreciation for the horticultural lands we manage and the demands it requires."

—TW



Cherry trees, part of Washington, D.C.'s cityscape, surround the Jefferson Memorial.



The assault of foreign diseases on forests affects the overall health of park ecosystems.

“With regard to grizzlies, the impact of blister rust is that you’re removing a preferred and highly valued food,” Kendall says. “It’s just another significant food source being taken away in the wake of losing important salmon and trout spawning streams. Yes, bears can survive because they are highly adaptable and opportunistic, but it’s pretty clear that not as many bears will be supported by a given area of land as they were in the past.”

Bears are not the only park fauna affected. Whitebark pine, which has been documented at ages approaching

1,300 years, provides food and nesting cover for many different birds and rodents and serves as “snow fences” that trap snow that ultimately feeds vernal springs relied on by ranchers in the West for irrigation.

In Glacier, 42 percent of all whitebark are dead and most of the rest, Kendall says, “are all but dead.” Of the survivors, 80 percent are infected with rust.

Some conservationists, who attempted unsuccessfully to have the U.S. Fish and Wildlife Service declare whitebark pine an endangered species, are preparing to resurrect the campaign.

What You Can Do:

The loss of native trees is one of the most serious threats ever to confront the National Park System. Write to elected officials in both the U.S. House and Senate and demand that Congress appropriate significantly more funding on scientific research aimed at threats to our native forests and strengthen laws that protect clean air and prevent importation of exotic plant species.

In addition, the U.S. Forest Service is a few years into an innovative program of nurturing natural, disease-resistant whitebark and limber pine and experimenting genetically with trees that might reach maturity earlier. As things stand now, it takes seedlings planted today 80 years before they produce their first crop of seed-bearing cones. Helping whitebark pine survive may require extreme measures, including clearcutting patches of other trees to help healthy whitebark grow, replanting slopes with whitebark seedlings, and lighting lots of small wildfires.

“We are going to witness profound changes with native forests in our lifetime, and it behooves us now to think in a multi-century context particularly in parks that are facing ongoing threats in perpetuity,” Graber says. “This is going to require a change in attitude and that it be empowered by the will of society, because some of the planning decisions we will have to make may never produce results in our lifetime. We probably will have to contemplate landscape manipulation in ways we never thought we would. But long before we commit ourselves to doing these things, we need to do extremely sophisticated and complex modeling of ecosystems so we can make wise decisions. I’m not an optimist, but I know that as bad as things are, they could be worse.”

Currently in Great Smoky Mountains National Park, park ecologists are hastily conducting surveys that involve beating gently on limbs of surviving trees and collecting all the insects that fall into a waiting net below.

“We’re doing this to identify not only what we have, but what we could lose,” Langdon adds, noting that when the American chestnut was wiped out by blight, no one was there to document the array of life that depended on those trees for survival.

“The fact is that we are not going to be left without ‘a forest,’” Langdon says. “There will still be green trees growing out there, but in terms of the diversity known and enjoyed by our grandparents and parents, that forest will be gone and replaced by something much simpler.”

Woefully understaffed parks along the U.S. southern border have become the special targets of drug and people smugglers. They have left behind a trail of trash, destruction, and in some cases, death. Nowhere is the situation more pressing than at Organ Pipe Cactus National Monument, where this summer a park ranger was gunned down by a Mexican outlaw.

Tim Vanderpool lives in Tucson, Arizona, where he writes about environmental and border issues.



JON GNASS

UNDER SIEGE

By Tim Vanderpool

From saguaro-tufted arroyos to stunning limestone canyons, Southwest borderland parks are among America's most beautiful desert treasures. But the same remote landscape that endows these parks with haunting beauty also places them at special risk. At Arizona's Organ Pipe Cactus National Monument, Big Bend National Park in Texas, and other preserves, fragile natural and archaeological treasures are under assault by illegal cross-border traffic from Mexico.

Nowhere is the situation more pressing than in Organ Pipe Cactus, spanning 30 miles of the Arizona-Mexico border, where rugged bluffs and gentle slopes have become a war zone known for both drug and peo-



AP PHOTO/TRANSVERSE CITY RECORD-ENGLE, JOHN L. RUSSELL

Funeral procession for ranger Kris Eggle, who was killed this summer.



FRED HIRSCHMANN

Organ Pipe is home to regal horned lizards.

Illegal traffic in Organ Pipe Cactus prompted the Fraternal Order of Police Park Ranger Lodge to label it the most dangerous park to be a ranger in the United States for two years running.

ple smuggling. In August, Ranger Kris Eggle was shot and killed by a man wanted by Mexican authorities in connection with a quadruple murder.

Marijuana seizures there have jumped from about 10,000 pounds two years ago to nearly 9,500 pounds in the first half of 2002 alone. Smugglers roar across the 330,000-acre park, forging ugly wildcat roads and destroying fences. Up to 1,000 undocumented immigrants also pass through Organ Pipe Cactus each day, leaving behind trash and a growing web of footpaths. More than 100 miles of trails now scar the park, creating erosion nightmares, trampling young cacti, and frightening endangered wildlife such as the Sonoran pronghorn and ferruginous pygmy owls.

Organ Pipe Cactus Superintendent Bill Wellman calls it a looming catastrophe. "We've lost most of our wilderness characteristics already, and within the last two years, we've started hearing comments from visitors about resource damage," he says. "If the situation doesn't improve, I would suspect that within ten years we'll reach a state of impairment by anybody's definition."

Still, with 324,000 visitors last year, Wellman says he hasn't seen a dramatic

drop-off in the number of Americans traveling to the park—at least not yet. But the park's ability to remain a place where visitors feel safe is in jeopardy. Organ Pipe Cactus has a mere five to six rangers in the summer, and only eight in the winter when visitor traffic is heaviest. Chief Ranger Dale Thompson says at least 16 rangers are needed for round-the-clock monitoring. Presently, the park is staffed only from 7 a.m. to 7 p.m. "When we go to bed, the smugglers come out," he says. Brazen traffickers have even used the visitor center parking lot as a nighttime staging point.

Campgrounds are also targeted by cross-border thieves, and "smugglers come down these roads at 60 to 70 miles an hour," says Thompson. Last year, one ranger "was nearly injured when a vehicle headed for Mexico sideswiped his vehicle and ripped the door off its hinges," he says.

Illegal traffic in Organ Pipe Cactus prompted the Fraternal Order of Police (FOP) Park Ranger Lodge to label it the most dangerous park to be a ranger in the United States for two years running.

The FOP report pinpointed a number of pressing security problems else-



AP PHOTO/GREGORY BULL

Scattered debris near the park's border.



FRED HIRSCHMANN

Young organ pipe and saguaro cacti are cleared by immigrants in a quest for shade.



GEORGE H.A. HUEY

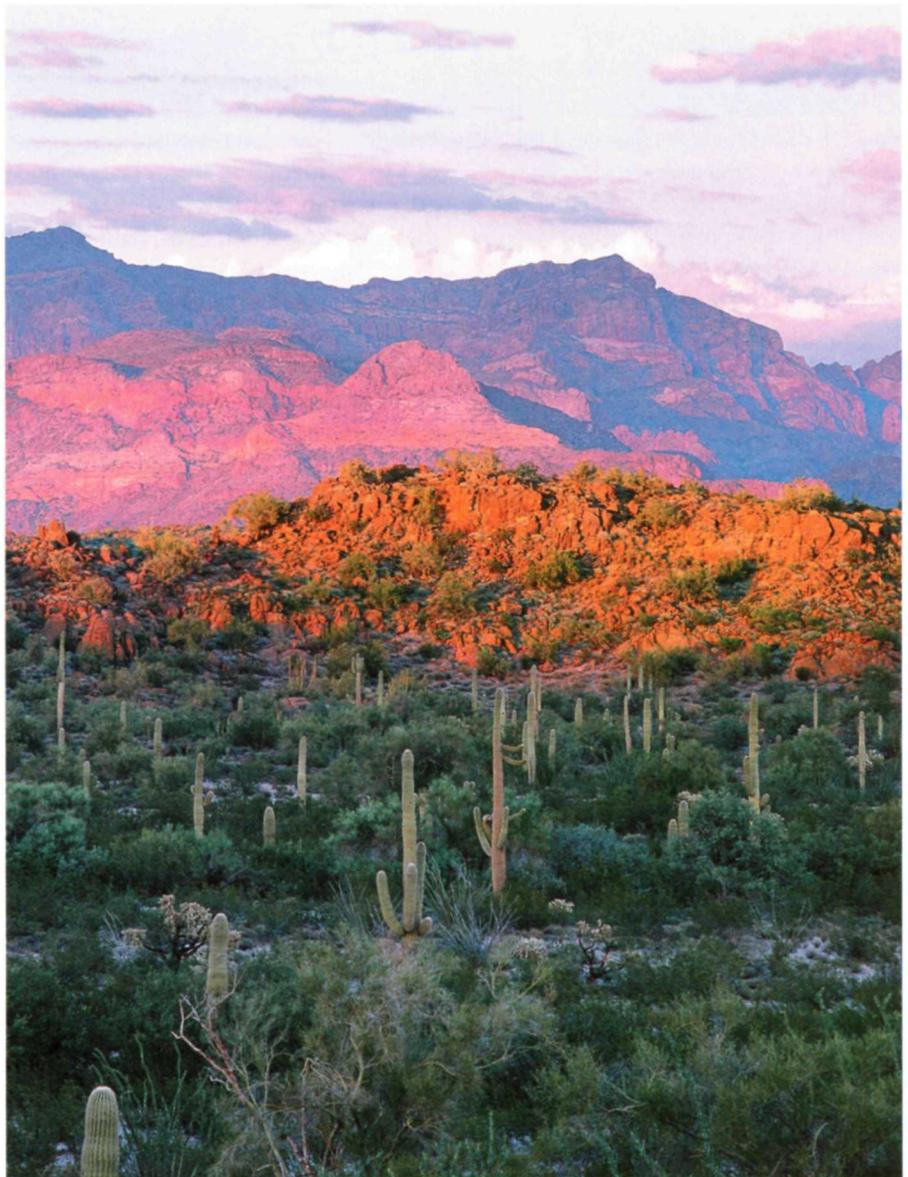
Padre Island is ranked the third most dangerous park, thanks to smugglers and illegal aliens.

where. Big Bend National Park, with 1 million acres and more than 100 miles of international border, has been ranked the second most dangerous national park by the FOP. Despite its size, the park has only 12 rangers, making effective monitoring nearly impossible, says Mark Spier, Big Bend's law enforcement specialist.

Another Texas park, Padre Island National Seashore—home to the endangered Kemp's ridley sea turtle—is ranked the third most dangerous. "There are not enough rangers to regularly patrol this barrier island in the day, much less at night," said the FOP report. "Drug smuggling, illegal aliens, poaching of endangered turtles and their eggs, [and] illegal commercial fishing pose a threat to the resource, the visitors, and the rangers themselves."

At Padre Island, "We're 30 minutes across the gulf from Matamoros, Mexico, so it's really quite easy to hop in a shark boat, and they're here," says Chief Ranger Randy Larson. The greatest concern: hideouts dug into the dunes harm critical habitat for several species, including the snowy plover.

And in Arizona, the FOP report called Saguaro National Park near Tucson a "home to body dumping, smuggling, and poaching." Robert Stinson, district ranger for Saguaro's western unit, says that "law enforcement . . . takes away from time we can spend protecting natural resources in the park."



GEORGE H.A. HUEY

Saguaro National Park has been called a home to body dumping, smuggling, and poaching.

Rangers in Danger

Being a law enforcement ranger has become more dangerous in the last year, a fact borne out by a tragic episode that occurred at Organ Pipe Cactus National Monument on August 9, 2002.

National Park Service ranger Kris Eggle, 28, was killed by a burst of gunfire just north of the Mexican border in Organ Pipe Cactus while responding, along with the U.S. Border Patrol, to a call for assistance from Mexican authorities.

The man who killed Eggle was armed with an AK-47 assault rifle and was identified as a drug dealer. He died in a hail of bullets fired by Mexican authorities. A second suspect was taken into custody. Eggle, who had worked for the Park Service for several years, was wearing a bulletproof vest at the time of his death.

Although murder is thankfully rare, attacks on and threats against Park Service law enforcement employees are on the rise, according to a report released this summer by the Public Employees for Environmental Responsibility (PEER). The number of violent incidents against rangers rose an incredible 940 percent in 2001, according to agency incident reports obtained by PEER, a non-profit group. PEER attributed this nine-fold increase, from ten incidents in 2000 to 104 in 2001, in part, to better reporting and to the increase in land under federal control.

According to PEER, only some of the items have been summarized in the Park Service's incident report. The remainder were obtained through Freedom of Information Act requests. The Park Service lacks any mechanism for tracking threats or acts of violence against any of the nearly 20,000 full-time permanent non-law enforcement employees.

Other troubled preserves on or near the border are the Cabeza Prieta National Wildlife Refuge and the Coronado National Memorial, both in Arizona, and the Amistad National Recreation Area in Texas.

What can be done to protect border-area parks? "A band-aid solution could be additional funding for rangers and resource specialists," says Randall Rasmussen, acting Southwest regional director for NPCA. He says NPCA is advocating for an additional \$280 million for the Park Service in fiscal year 2003, some of which should go to alleviate the agency's staffing shortages. "But neglecting to fund the Cabeza Prieta at the same time would only move the effects of illegal crossings into the adjacent wildlife refuge," says Rasmussen.

Reaching that goal is an uphill battle. President Bush has proposed an increase of \$107.5 million in the operation budget for national parks next year, raising the operating budget to \$1.6 billion. The administration has requested an increase of \$13.3 million for the U.S. Park Police.

Congressional support looks more promising. In July, the House approved a \$1 million appropriation for federal lands (primarily Bureau of Land Management lands) in southeastern Arizona to begin mitigating impacts from smuggling and immigration. The funding was pushed by subcommittee member Rep. Jim Kolbe (R-Ariz.). That

With limited manpower, Organ Pipe Cactus' rangers must strike a delicate balance between efficient crime prevention and further affecting the park.

vote followed a recent joint study by the Interior Department, Immigration and Naturalization Service, and Environmental Protection Agency, prompted by Kolbe.

"As a result of the vast amount of smuggling of humans and controlled substances in southeast Arizona," says the report, "the extremely valuable, and sometimes irreplaceable, natural and cultural resources...are in jeopardy."

The report—and the additional funding—focus only on Kolbe's district, which doesn't include Organ Pipe Cactus. "But there's talk of another study looking at the entire border region, with ours as a model," says Kolbe spokeswoman Neena Moorjani.

If so, that model provides a solid blueprint for increased border park resources. It calls for approximately \$23.5 million next year to begin addressing the environmental impacts and a total of \$62.9 million over the next five years. The money would fund habitat restoration and more law enforcement officers.

While boosting law enforcement is key to recovery for border parks, it remains a daunting task. According to the International Association of Chiefs of Police, the number of commissioned park rangers fell by 9.3 percent in the latter half of the 1990s as officers retired or left for other federal jobs. Meanwhile, funding for park law enforcement fell from \$94 million in 2001 to \$90 million this year. In addition, since the September 11 terrorist attacks, rangers around the



Border markers don't deter the influx of illegal aliens.

country have been siphoned away from their own duties to protect “icon” parks and other potential targets.

“Right now, we have about 1,350 agents nationwide,” says Dennis Burnett, chief Park Service law enforcement administrator. “That’s down 100 from where we were at this time last year, and down from a high of around 2,245 about 12 years ago.” A report from the Interior Department’s own Inspector General cited the need for a minimum of 600 additional rangers, says Burnett.

With limited manpower, Organ Pipe Cactus’ rangers must strike a delicate balance between efficient crime prevention and further affecting the park. They have dug narrow ditches alongside several backcountry roads to stop smugglers attempting to flee into the desert. In some spots, replacing wire fence along the border with solid fencing has also been discussed. Other parks, such as the Coronado National Memorial, are considering the use of backcountry surveillance cameras, but Wellman says cameras would make little sense at Organ Pipe Cactus without additional rangers, because it could be up to 90 minutes before rangers reach the site where illegal activity was spotted. Some extreme tactics, such as installing huge stadium lights in heavily trafficked areas, have been rejected as inappropriate.



GEORGE H.H. HUEY

Drug traffickers have turned Organ Pipe’s rugged bluffs and gentle slopes into war zones.

Meanwhile, Organ Pipe Cactus’ flora and fauna continue to deteriorate. Young cacti such as the saguaro and namesake organ pipe require the shade of paloverde and other trees to flourish. But these same shady spots are coveted by immigrants, who often clear away the maturing plants so they can rest comfortably in the shade.

Illegal traffic also frightens the endangered lesser longnose bat, pygmy owl, Sonoran pronghorn, and other wildlife

from waterholes and other habitat. The pronghorn, which number fewer than 100 nationwide, congregate at Organ Pipe Cactus in the spring, but the shy animals are easily frightened by nighttime traffic, Wellman says. And at least one pygmy owl tagged for study has disappeared, possibly due to human disturbance.

In addition, vandalism threatens the park’s prehistoric archaeological sites, remnants from the Hohokam people—as do the truckloads of trash rangers retrieve from the backcountry, everything from water jugs and clothing to human excrement.

Even with help from other agencies, including sheriff’s deputies, U.S. Customs, and Border Patrol agents, park rangers spend two-thirds of their time policing crime, with precious little time left for repairing the damage. “It would be foolish to try to do mitigation until we’re able to move the problem out of the park,” Thompson says.

The Park Service mission is to protect and preserve public lands, he says. “But being on the border makes this an interesting resource to protect with a small staff and tight funding. There is a crisis down here, and it’s going to take future Americans’ heritage away from them.”



AP PHOTO/GREGORY BULL

Rangers retrieve trash left behind by illegal immigrants cutting through the park.

Private owners sell artifacts on the commercial market at prices well beyond the reach of the National Park Service. How can the agency realistically compete in today's market?



JACK & SUSAN DAVIS (3)

History FOR SALE

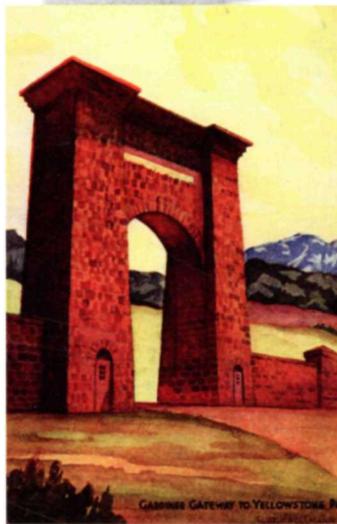
by Phyllis McIntosh

When a Quincy, Massachusetts, church received a whopping \$3 million at auction for a collection of ceremonial silver bequeathed to it—by the ancestors of Abigail Adams—the sale sent shock waves through the National Park Service (NPS) and among historians across the country.

Though known as the Church of the Presidents—both John Adams and his son John Quincy Adams are entombed with their wives in its crypt—the church is not part of Adams National Historical Park (although the Park Service has a cooperative agreement with the church to interpret the crypt). And despite entreaties from the Park Service and Quincy residents who wanted to keep the collection together, the congregation decided to sell the 11 pieces separately to generate maximum income to renovate the historic church.



Yellowstone postcard showing Roosevelt Arch, 1912.



Printed postcard "Gardiner Gateway to Yellowstone Park" signed by Gustave Krollman, 1936.

"We tried to prevail upon them that this is part of the heritage of the city, something so rare that it could never be duplicated," says Kelly Cobble, museum specialist with the Adams National Historical Park.

The congregation, of course, was well within its legal rights to sell the silver, but in so doing, it has deprived the American people of a bit of their past. The silver, now dispersed among private collectors, will probably never be reassembled in one place or be associated again with the Adams family site.

It's a scenario repeated at scores of national parks and historic sites. Private owners are selling significant artifacts on

Phyllis McIntosh is a writer living in Maryland. She last wrote for *National Parks* about restoring the Everglades.

the commercial market at prices well beyond the reach of the Park Service or parks' "friends" groups. Often, parks learn of an impending sale only when an auction house lists an item in its catalogue. A notice usually comes just weeks or months before the auction occurs—too late for friends groups to even try to raise money for a successful bid. As a result, the item ends up in the hands of a private collector instead of under the care of a public steward.

At the Martin Van Buren National Historic Site in Kinderhook, New York, a highly valued item the park wished to acquire was an unusual accordion-style table that folds up to a mere 25 inches but opens, with an added extension, to more than 19 feet. Lindenwald had served as the former president's retirement home from 1841 to 1862, and he had removed a wall, creating a main hall large enough to accommodate the table. Curators believe numerous political meetings and social events took place there.

When a private owner put the table up for sale, curators knew it was beyond their reach. So, with the cooperation of Sotheby's auction house, they sent the new buyer photos of the house and a letter explaining why the table was so important. They asked if he would consider loaning it to them temporarily and perhaps giving the Park Service right of first refusal if he ever wished to sell. He did indeed place the table on loan at the Van Buren farm for eight months, enabling a master craftsman to make the detailed drawings and measurements necessary to construct a reproduction.

"It took three years, but we now have a table in the hall that is an exact replica," says assistant curator Judy Harris, who still holds out hope that the site might one day acquire the original.

Melrose, an antebellum mansion that is part of Natchez National Historical Park in Mississippi, also has had to settle for second best—a digital reproduction of a John C. Calhoun portrait by noted American painter Rembrandt Peale,



A reproduction of the accordion-style table sits in the main hall of the Martin Van Buren home.

donated by the private owners of the original. Even though the owners have expressed interest in selling, the curator knows she stands no chance of purchasing the original, which Melrose's builder, John T. McMurrin, commissioned in the 1840s. The museum does not have a formal friends group, says curator Kathleen Jenkins. "We're a park in a very small southern town with scores of other antebellum mansions, a dozen of which

are also historic house museums."

Even when they manage a successful bid, smaller historic sites can nearly exhaust their fund-raising capacity for just one prized acquisition. Hampton National Historic Site, once a 25,000-acre agricultural, industrial, and commercial estate north of Baltimore, was delighted to be able to buy a bed that had belonged to the house's original owners. The pre-sale estimate was \$20,000 to \$30,000, but the final auction price, plus fees and shipping, topped out at \$100,000. Hampton's friend's group, Historic Hampton, Inc., helped to make the purchase possible.

How can the National Park Service, prohibited by law from directly soliciting money or donations of artifacts, realistically compete in today's market? The agency has proposed establishing an emergency acquisition fund managed by a partner organization, such as the National Park Foundation. A park superintendent who learned that an item was coming up for sale could apply instantly to the fund for support to make the purchase, then raise money to reimburse the fund over a period of time. "We proposed this in 1989 and haven't yet had a partner interested in raising the money," says NPS chief curator Ann



Bought at Sotheby's for \$100,000, this original bed is at the Hampton historic site.

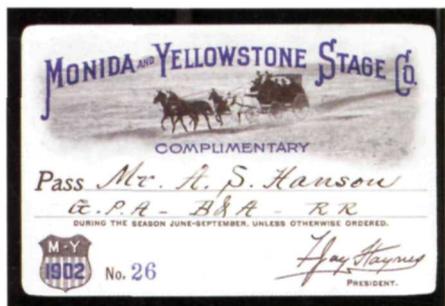


"Alice in the New Wonderland" Northern Pacific Railways brochure, circa 1884-85.

Hitchcock. "We figure we would need at least \$800,000 to \$1 million to make it a viable fund."

The fund would be similar to what the Park Service does with its land acquisition partners, the Conservation Fund and Trust for Public Lands.

Hitchcock adds that the Park Service, through its partner organizations, does inform private owners of options that could bring a significant piece into pub-



A complimentary pass to Monida and Yellowstone Stage Co. 1902.

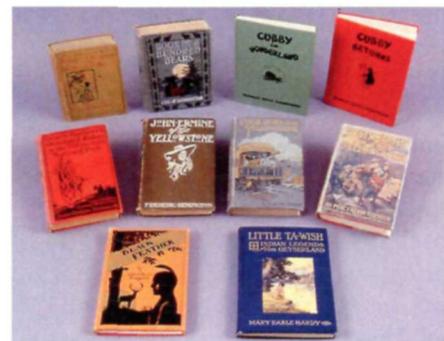
lic ownership. Options include selling an item for lower-than-market price and donating the difference or negotiating a sort of layaway plan, whereby a park could pay for an item over time.

NPCA's Northeast Regional Director Eileen Woodford believes that NPS should cultivate stronger ties with private citizens who own items of public value and educate them about their responsibility to history. "Just as museums go after great pieces of art, there are ways to cultivate awareness among private holders of historic items," she maintains. "NPS folks have done pretty well in working with landowners adjacent to parks, but my impression is that it's not the same with owners of other pieces of the historic fabric."

Some parks have forged long-term relationships that have paid off handsomely. Yellowstone National Park recently acquired one of the largest and most varied collections of postcards, photographs, guidebooks, maps, and souvenirs dating to the early years of the park. Jack and Susan Davis of Bozeman, Montana, had amassed the collection over more than 30 years.

"They could have broken up the collection and sold it on eBay or at antique shows for many times what they made by selling it to the park," says Yellowstone museum curator Susan Kraft. "It's very much to their credit that they wanted to keep the collection together and wanted to see it come to a place they love and above all where the public could benefit from it."

The popularity of online auction sites, especially eBay, has increased the competition over scarce historical items. But such sites also provide a rich source of information about what's out there. On any given day, a search for "Yellowstone" or "Gettysburg" on eBay yields a list of 600 to 700 items. They are by no means all of historic value, but by monitoring the site, Yellowstone staff have picked up



An assortment of children's books about Yellowstone from the early 1900s.

some important photos and artwork for their collection.

A check of online auction sites can also help experts track items that rightfully belong to the public. Vermont historians alerted authorities when a cannon believed to be from a Revolutionary War boat commanded by Benedict Arnold turned up for sale on eBay. The seller, a retired military officer who reportedly bought the cannon at an

antiques show, turned it over to the U.S. Naval Historical Center in Washington.

Obviously, a lot of the nation's history is in circulation and on display. So, does it really matter if a private individual buys a piece of Quincy family silver to enjoy in his own home? Yes,

because although many historical items may not seem terribly significant themselves, they are pieces in the puzzle that tells the story of our country and the people who shaped it. In private hands, these objects are unavailable for public education and scholarly research, and the historic sites with which they are associated are missing part of their story.

"Historic sites are 'cultural ecosystems,' where everything in situ—the collections, historic structures, the historic landscape—helps tell the story," says NPCA's Eileen Woodford. "Just as in natural ecosystems, some things are very obvious, while others are important behind the scenes. But they're all vital to the whole."



An original pencil sketch of a "Bull Buffalo" from the 1920s.

Keeping History Intact

Not all artifacts in private hands got there legally. Many were looted from parks, battlefields, and other historic sites. For looters who are caught, penalties are stiff. Under the Archaeological Resources Protection Act (ARPA), removing or showing intent to remove artifacts nets a first offender a fine of up to \$20,000 and up to two years in prison. A second offense is punishable by a fine of up to \$100,000 and up to five years in prison. Simply possessing a metal detector on federal property means a \$50 fine. Subject to congressional consent, a new sentencing guideline that increases the penalties for cultural heritage resource violations goes into effect November 1, 2002. Bills are pending in Congress to amend existing protection laws to comply with the sentencing guidelines.

The majority of people who help themselves to history are not serious criminals, however. Many are hobbyists eager to try out a new metal detector or Civil War buffs unaware that they are violating the law, say rangers. For them, education is probably the best long-term deterrent.

"Rangers are trained to explain that the way bullets are assembled in the ground can reveal to us where a troop or unit was located and give us some new piece of information about the battle that we didn't know before," says Ed Wenschhof, chief ranger at Antietam National Battlefield in Maryland. "Even one bullet can be important in telling part of the story."

Meanwhile, some parks are recruiting private citizens to extend the eyes and ears of rangers. Gettysburg, the most visited Civil War battlefield, has trained a team of 125 Park Watch volunteers to help monitor its

6,000 acres, 1,300 monuments, 400 cannon, and 100-plus historic structures. Last year, they logged more than 7,000 hours patrolling the vast park by car, foot, bicycle, and horseback. Several volunteers have launched a similar watch program at nearby Antietam.

Luckily, some purloined items do find their way back to their rightful homes. Thanks to a call from an alert Baltimore scrap metal dealer, Gettysburg officials recovered a bronze relief depicting battle action that had been snatched from one of their monuments.

"We often get guilt calls from people who've been directly involved in acquiring things from the battlefield or just happen to have had them for a long time," says Gettysburg spokeswoman Katie Lawhon. "We've even had rocks mailed back to us."



Adams National Historical Park.



Jack and Susan Davis of Montana recently donated their 30-year collection of postcards and other memorabilia associated with Yellowstone to the national park.



A HOLIDAY TOUR WITH A LATIN FLAIR

One of Texas' most popular destinations, San Antonio offers a rich mix of festivities and a chance to explore the city's famous missions.

By Patricia Caperton Parent

Although San Antonio rarely offers a white Christmas, its holiday sights and sounds provide a kaleidoscope for the senses. From the smell of fresh tamales to the multi-colored Christmas lights draped across tall trees lining the famous River Walk, San Antonio offers visitors a cross-cultural holiday celebration.

If you're planning a journey, the holiday season is a good time to explore both San Antonio's famous missions and one of Texas' most popular destinations. Famous for its River Walk as well as the Alamo, San Antonio offers a rich mix of holiday festivities, spiced with Spanish flavor.

Holiday festivities begin at dusk the Friday after Thanksgiving with the Festival of Lights followed by an hour-long river parade. San Antonio's mayor lights a huge evergreen tree in front of the historic Alamo—where outnumbered Texans died fighting for independence from Mexico—then flips a switch illuminating lights along downtown's River Walk. More than 100,000 brilliant red, green, and gold lights twinkle above the San Antonio River, their reflection shimmering in the water below. In the river parade following the lighting ceremony,



Church interior at Mission San Juan

elaborately decorated and illuminated Christmas floats drift slowly by in the placid water, carrying mariachis, carolers, dignitaries, and military bands. After the parade, the lights are turned on each night until New Year's. In December, 2,500 luminarias are also lit along the riverbank after dark every Friday, Saturday, and Sunday.

Another holiday tradition takes place in early December with a candlelit procession known as Los Posadas, a recreation of Mary and Joseph's search for shelter before the birth of the baby Jesus. Brightly costumed carolers singing traditional hymns begin the procession along the River Walk and end up in the Arneson River Theatre. Also, during the holidays, the old missions of San Antonio Missions National Historical Park take on special meaning. Today, these Catholic missions host tourists and church services alike, but they've played many roles over the centuries.

In the late 17th century, Spain began extending its influence eastward from New Spain (now Mexico) toward French-held territory in Louisiana. Spain's missions were established then to spread the Catholic faith among the Indians and expand its colonial empire. In 1691 Spain established six missions in far East Texas. Another was added on the San Antonio River in 1718 to act as a way station. Today we know this mission, San Antonio de Valero, as the Alamo. Encouraged by the relatively peaceful Coahuiltecan Indians and plentiful water and game, the Crown and Fran-



Christmas at the historic Alamo

ciscan friars quickly established another mission, San José, to the south along the river. By 1731, harsh conditions in East Texas forced the transfer of three missions, Concepción, San Juan, and Espada, to the fertile San Antonio River Valley, forming in effect a chain of missions from the Alamo south along the river.

These missions prospered for almost 50 years. The Coahuiltecos traded their nomadic hunting and gathering life for farming and religious discipline. Mission life offered food and protection from hostile tribes in exchange for work and Christian conversion. Missions included a church, convento (living quarters for missionaries), Indian living quarters, and workshops, all enclosed within a walled compound surrounded by farmlands. An elaborate acequia system drawing on the San Antonio River provided irrigation for crops, and a few Indians tended livestock on far-flung ranches. Occasionally bands of Apaches and Comanches threatened the missions, but the thick stone walls usually deterred them.

When the remaining Indians accepted much of the Spanish way of life, the need for missions diminished and, in 1824, the church secularized the missions. Although they continued as active parishes, most of the structures fell into

disrepair. Over the years the decaying walls sometimes housed livestock and occasionally sheltered army troops.

Eventually 20th century preservation campaigns resulted in the Alamo becoming a state historic site administered by the Daughters of the Republic of Texas and the other missions eventually becoming a national historical park in 1978. Unlike many such parks, the missions aren't contiguous, so you'll have to move around a bit to see all four. If driving appeals to you, you can take the Mission Trail driving tour connecting all the missions. This takes about a full morning or afternoon, unless you stop to picnic along the river. If you don't want to drive, you can take one of several daily commercial bus tours. The park is open daily except Thanksgiving, Christmas, and New Year's Day. Admission is free. For more information, call the visitor center at 210-932-1001.

Concepción

If you take the Mission Trail south from downtown, you'll reach Mission Concepción first. Built of Tufa limestone, Concepción's church walls never crumbled, so visitors see the original, 1755 unrestored church and convento. Only these two buildings remain, giving the place an open feel. Set on a wide, grassy lawn dotted with mature trees, the



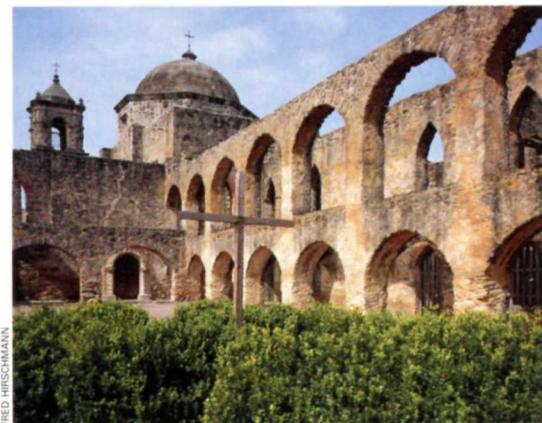
Mission Concepción

church features elegant twin towers and a Moorish dome. Brightly painted geometric designs once adorning the church's façade are long gone, but remnants of colorful frescoes grace the interior walls and ceiling in the convento.

San José

If you have time to see only one mission, make it this one. Beautifully restored San José, often called "the Queen of the Missions," has the full ensemble of an 18th century mission—church, convento, granary, and massive stone walls. At the mission's peak, as many as 350 Indians lived here. A National Park Service visitor center provides information, maps, an award-winning documentary film, and museum displays.

The limestone church is a model of Spanish colonial architectural style. Its classic design features a graceful dome and singular bell tower to the right of the entrance. Ornate stonework frames the entry doors; the scrolls, cherubs, and saints include the mission's patron saint, Joseph, and Mary's parents. On the south side is the famous Rose Window,



Mission San José

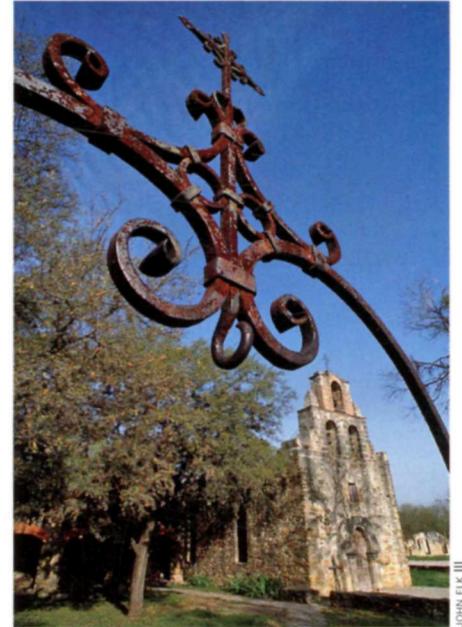


CARY C. GIVEN

Courtyard of Mission San José

a sacristy window with elaborate grillwork surrounded by carved-stone trim. Then, to get a true feel for the mission's past, walk around the walled grounds, and view the fortified walls and Indian living quarters.

You can experience San José's heritage any time of year (a mariachi mass at noon on Sundays draws regular church members and visitors alike), but the Yule season is special. Between Christmas and New Year's, the park and San Antonio Conservation Society host Los Pastores, a festive holiday pageant. Costumed players perform the centuries-old Spanish language Shepherds' Play outdoors. Before the play, sample tamales, chili, and hot chocolate at the food booths, and enjoy local musicians' renditions of holiday tunes.



JOHN ELK III

Mission Espada

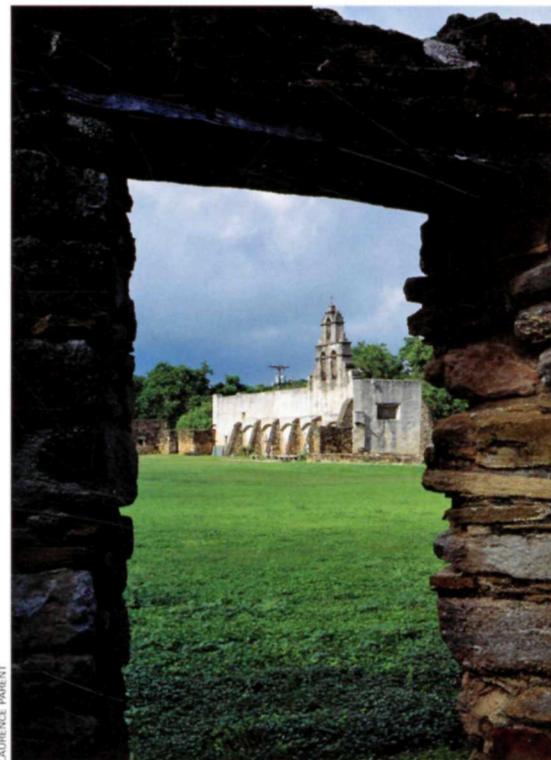
San Juan

Located in a remote, pastoral setting, Mission San Juan's chapel—the next stop on the Mission Trail—the next stop on the Mission Trail—has more of a rustic feel of an 18th century mission. Compared to San José, its archi-

ecture is stark, with only a double-tiered bell tower gracing its form. Many believe the modest building was built on the site of a former granary, using much of its foundation. To get a feel for the local flora and fauna, take a short hike along the Yanaguana Trail, a paved nature trail along a nearby San Antonio River channel.



MATT KANNA



LAURENCE PARENT

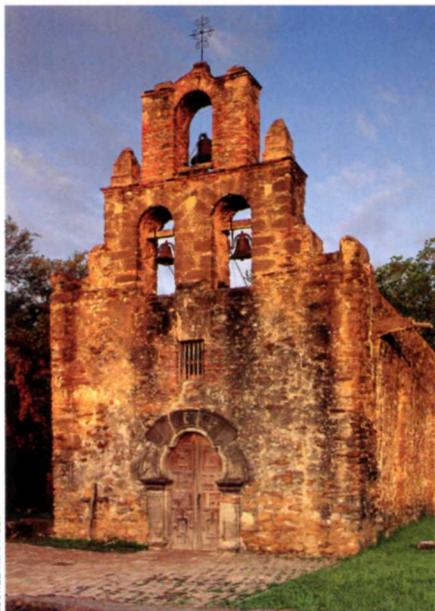
Mission San Juan

Espada

Espada lies farther south than any other mission, in a pastoral setting much like its original one. Its simple, unadorned façade features a two-tier arched bell tower and a Moorish stone arch around the doorway. Other parts of the old compound, including the granary and Indian living quarters, lie in ruins.

Only the chapel and information center are open to the public, but visitors also can explore the spacious grounds. Although much of the Espada compound has fallen into decay, its acequia system has

endured for centuries and still works today. As you drive the Mission Trail along the San Antonio River south toward Mission San Juan, you see a picnic area and a small reservoir. Here Espada Dam, built in 1748 to serve Mission Espada, still diverts water from the old San Antonio River channel into an irrigation ditch or acequia. This well-constructed acequia supplied Espada's outlying fields with much-needed water for growing crops. A short drive west of Mission San Juan will take you to Espada Aqueduct, where an elaborate arched stone bridge still carries river water over Piedras Creek to Mission Espada's fields.



GEORGE H.H. HUEY

Church of Mission San Francisco de la Espada, founded 1731.

Patricia Caperton Parent is a frequent contributor to *Texas Highways Magazine* and has contributed to *Texas Parks and Wildlife Magazine* as well. In a collaborative project with her photographer husband Laurence, she wrote the text for a new book, *Wildflowers Across Texas*.

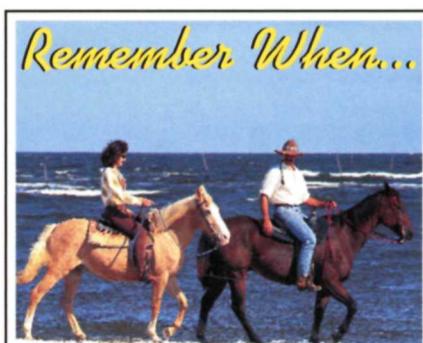
Getting Around

The River Walk parade is free, except for a small seated area. For details, call the Paseo de Rio Association at 210-227-4262 or visit www.sanantoniocvb.com/visitors/eve_majorevents.asp.

For additional San Antonio area Christmas events, visit the San Antonio Convention and Visitor's Bureau web site at www.sanantoniocvb.com.

Because San Antonio Missions National Historical Park is spread out, driving is the best way to experience the missions and acequia system. The Mission Trail starts downtown at the intersection of South Alamo and Market Street, just two blocks south of the Alamo, and meanders south. Although signs mark the way, be sure to obtain detailed maps before you go; the route can be confusing. Try the park's web site for maps and other general information. Several commercial bus tours also are available, most starting from the Alamo. For bus transportation, call the San Antonio Visitors Information Center at 210-207-6748 or 800-447-3372. If you decide to picnic along the river, make sure you're with a group. This is an isolated area and not a good place to be alone.

The Park Service has wheelchairs available at each mission, but accessibility varies from site to site. The visitor center at San José is accessible. For more information on the park, go to www.nps.gov/saan. Flash floods can occur along the San Antonio River, so proceed with caution in inclement weather. If flooding closes parts of the Mission Trail, follow the alternate route on the Park Service map or call the park for more information.



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Antiquity of Man

Ocmulgee National Monument in Georgia features physical evidence of the distinct and rich cultures that existed there over a 12,000-year period.

BY RYAN DOUGHERTY

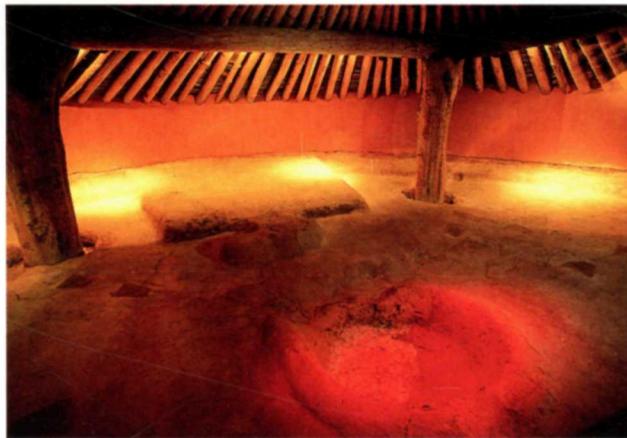
When a city declines and a culture fades, oral history and written record is often the essential evidence with which historians learn about ancient people.

With no such history interpreted at Ocmulgee National Monument, however, artifacts unearthed by archaeologists—ranging from pottery to hunting tools to ceremonial items—are key for teaching visitors about the people that occupied the land long ago, ancestors of the thriving Creek Nations.

“This site is unique in that we found artifacts for every single cultural face of the Southeast—early, middle, and late,” said Superintendent Jim David, “an entire 12,000-year continuum.”

That continuum stretches from Ice-Age hunters to Creek Indians, but one period of the site’s history stands out. Between 900 and 1200, a farming people known as the Mississippians occupied the site. Their distinctive, rich culture took shape around the year 750 in the Mississippi Valley and spread through the central and eastern United States. Many archaeologists believe the Mississippians displaced the native Woodland Indians on the Macon Plateau at Ocmulgee.

The Mississippians hunted, fished, and grew crops such as beans, squash, pumpkins, corn, and tobacco. They



The interior of the original earth lodge would have looked something like this at about the year 1000.

built what the Park Service calls “a compact town of thatched huts on the bluff overlooking the river,” where more than 2,000 people lived. They built at least eight earth mounds for public ceremonies important to their politics and religion, and as burial places for the elite. They occasionally added layers of earth to the mounds, perhaps when new leaders arose.

The plaza side of Great Temple Mound, likely a major hub of the society, rises 50 feet above the plateau. Leaders probably lived atop the mound and held ceremonies there.

Mississippian culture at Ocmulgee also centered on the earth lodge, several of which they built. The best-preserved one, likely a formal council house, has been reconstructed over the original clay floor, with a large fire pit in the center.

Although the mounds and lodges shed significant light on Mississippian

culture, mysteries remain. Why did the town decline, and what happened to its inhabitants?

As the Mississippian ceremonial center faded, a new Lamar culture rose in the surrounding areas, blending Mississippian and Woodland elements. In 1540, Hernando de Soto encountered Lamar people on the first European expedition into the inner Southeast, which signaled disaster for the culture.

Disease killed many, and the natives were soon drawn into Spanish, English, and French politics and trade. The English

forged a trading post at Ocmulgee around 1690 and Muscogee (Creek) people, descendants of earlier cultures at the site, settled there. During the Yamassee War in 1715, the English burned the town, and the Creeks moved closer to the Spanish. The Creeks refused to part with the Ocmulgee Old Fields until they ceded their last remaining lands before being forcibly removed on the Trail of Tears. They carried their history to Oklahoma, honoring their ancestors by choosing Okmulgee as the name of the capital of Muscogee (Creek) Nation.

In 1999, the Old Fields and adjacent lands became the first traditional cultural property east of the Mississippi. The tribal nation and park supporters continue to fight for preservation of the site by opposing a looming threat: a proposal for a highway that would run through the Ocmulgee Old Fields.

RYAN DOUGHERTY is news editor.



Karner's Got the Blues

A loss of habitat and a favorite food has caused a tremendous decline in the Karner blue butterfly population, found at Indiana Dunes National Lakeshore.

BY JENELL TALLEY

Butterflies are beautiful by nature. Their lavish colors are nearly intoxicating. Unfortunately, like many beneficial insect populations, some butterflies, including the Karner blue, are on the decline.

In the past century, the number of Karner blue butterflies has dropped about 95 percent. More than 90 percent of the decline has occurred in the last 15 years. The Karner population, which once occurred in a continuous narrow band across 12 states and Ontario, Canada, mostly has been relegated to Wisconsin, Indiana Dunes National Lakeshore, and Michigan. Remnants of the species, native to the Great Lakes region, also can be found in small sections of Minnesota, New Hampshire, and New York.

Although rough estimates put Indiana Dunes' Karner blue population somewhere between 10,000 and 15,000, Randy Knutson, a wildlife biologist at the park, emphasizes that the high figure in no way means that the butterfly is not a threatened species. He says that the butterflies have completely disappeared from areas where they were once prevalent and that at Indiana Dunes "one wildfire or drought could possibly do them in." He adds, "The park is a small, isolated island, and with very few butterflies around, [Karners] wouldn't be able to repopulate unless humans physically restored them."



DAVID H. ARRENHOLZ

The Karner blue butterfly's average life span is only five days.

The Karner blue is a small, sexually dimorphic butterfly. It has approximately a one-inch wingspan. The upper side of the male's wings are violet blue with black margins and fringed white edges. The female's upper side ranges in color from bright purplish-blue near the body to a dark grayish-brown with orange crescents on its edges and back wings. Both males and females have fawn-colored undersides with speckled orange and metallic spots on all four wings.

Two batches of Karner eggs hatch each year. In April, the first group of caterpillars hatch from eggs laid the previous year. The caterpillars pupate by mid-May, and adult butterflies emerge from cocoons in June. These adults mate and lay their eggs on or near wild lupine plants. After seven days, the eggs hatch and the caterpillars feed for the next few

weeks. The summer's second generation of adults appears in July. The Karner takes flight only twice during the summer.

The butterfly's ability to reproduce depends largely on wild lupine plants, which require dry soils in open to partially shaded woods and clearings, such as oak savanna, to survive. Although adult Karner blues feed on the nectar of various flowering plants, the caterpillars feed only on the wild lupine's leaves, making the plant critical to the butterfly's survival.

Decades of wildfire suppression have affected the butterfly's habitat. Without fire or other disturbance activities such as grazing, shrubs and trees invade open savanna and barrens and shade out grass and herbaceous plants, making it difficult to find lupine. Limited habitat often results in small, isolated Karner populations unable to adapt to environmental changes. Clearing land for farming and commercial and residential development also contribute to the Karner's waning numbers.

Indiana Dunes, however, is clearing some trees by using prescribed fires and other methods such as timber harvests to improve habitat for the butterfly. Knutson says the park plans to help restore the Karner to its natural range.

Although it's difficult to say whether the Karner blue butterfly will ever become de-listed, Knutson is optimistic about the insect's future. If the federal recovery plan, still in draft form, is adhered to, Knutson says, "there's a good possibility of that happening."

JENELL TALLEY is publications coordinator.



YOU ARE HERE

No Valley Low Enough

George Washington's army honed its skills through intensive training at this park, gaining the poise and confidence needed to rally for this country's autonomy.



Few places capture the essence of American patriotism as does this landmark. This park represents an American army's attempt to overcome hunger, disease, and the forces of nature while struggling to gain the country's independence. Thousands of American soldiers died here during the winter of 1777-78. George Washington transformed his downtrodden brigade into a strong, well-trained unit. The spirit evoked here would help America win its independence from the British six years later. Have you visited this park? Do you know which one it is? [Answer on page 7]

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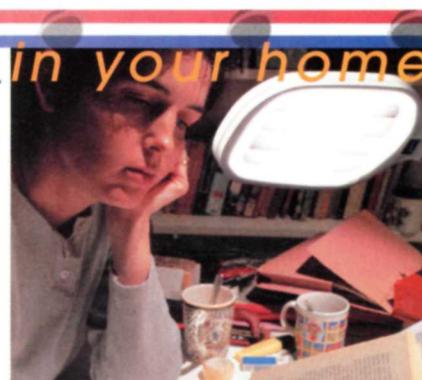
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