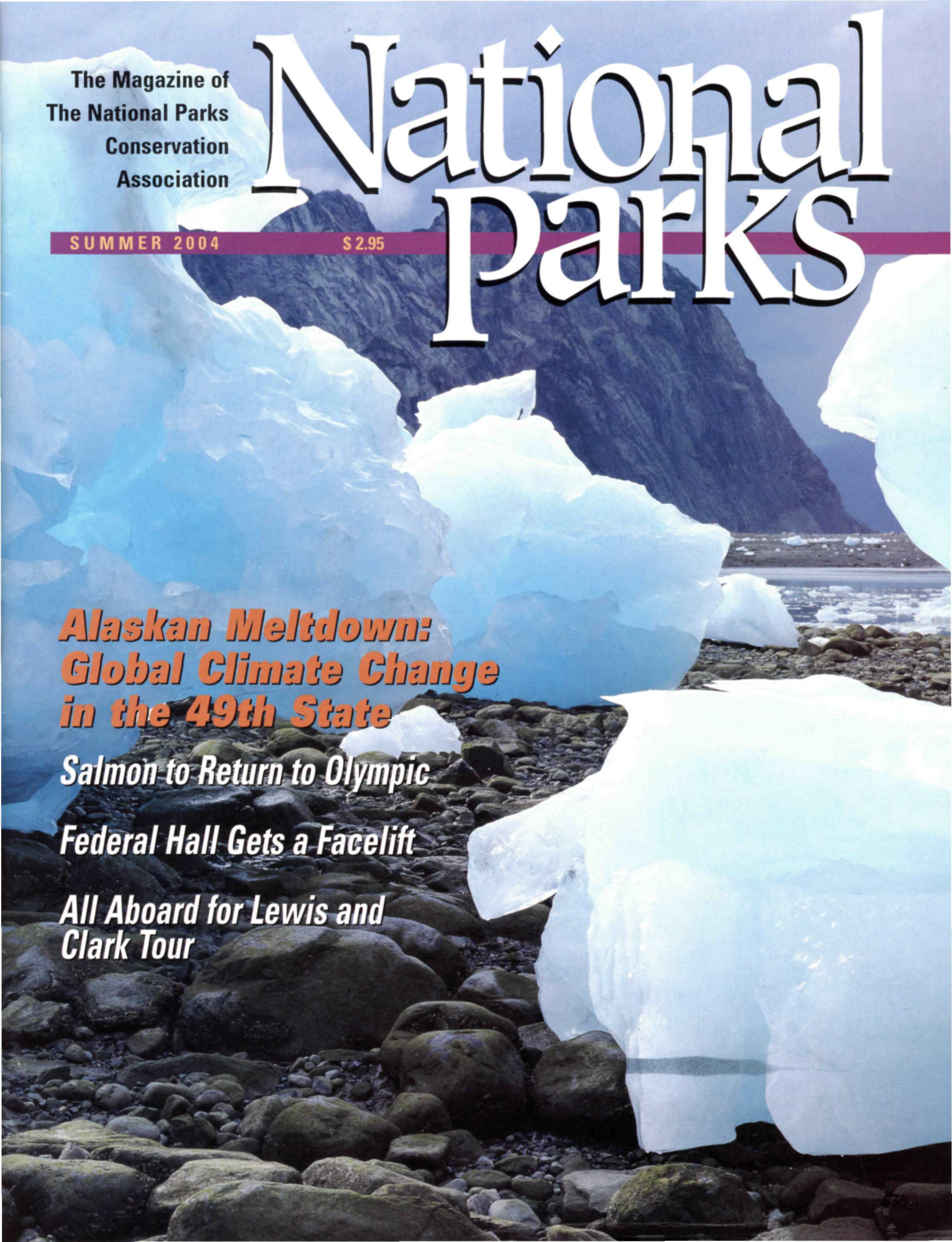
The Magazine of
The National Parks
Conservation
Association

# National Parks

SUMMER 2004 $2.95



## Alaskan Meltdown: Global Climate Change in the 49th State

## Salmon to Return to Olympic

## Federal Hall Gets a Facelift

## All Aboard for Lewis and Clark Tour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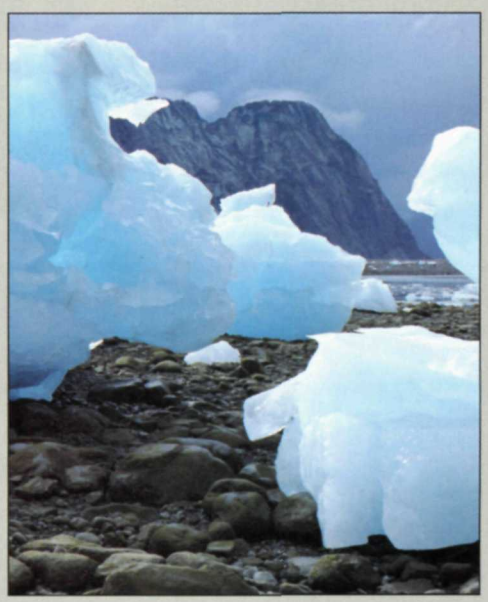
National Parks

Vol. 78, No. 3
Summer 2004

## FEATURES





Cover photograph of White Thunder Ridge at Glacier Bay N.P., Alaska, *by Fred Hirschmann*


MARK CONLIN/LARRY ULRICH STOCK

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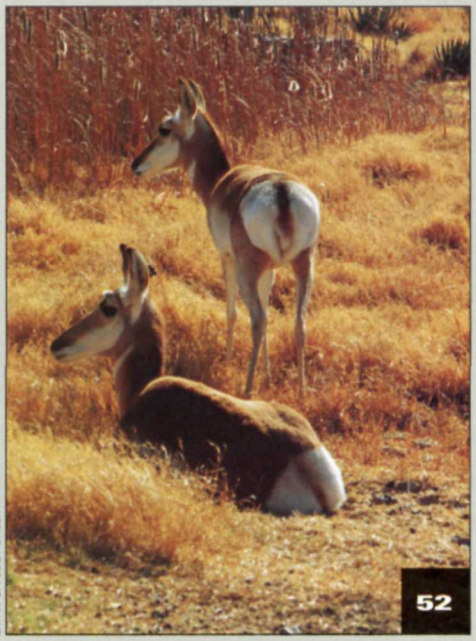
KENNAN WARD

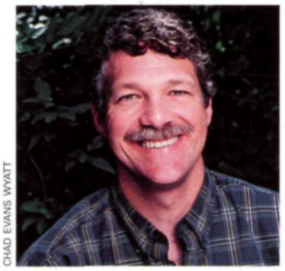

WAYNE MUMFORD




ERWIN & PEGGY BAUER

## Departments

# Family Vacation



CHAD EVANS WYATT

Those of us who live in the nation's capital are very much aware of the history represented here. But New York City is also a historic town. In fact, it was the nation's first capital, and Federal Hall, in downtown Manhattan, the nation's first capitol building.

Federal Hall represents the birthplace of democracy. It was here that George Washington took his oath of office and where the Bill of Rights, the first amendments to the Constitution, were signed and adopted.

Like many historic sites within the National Park System, Federal Hall has many financial needs—so many in fact that it landed on NPCA's list of America's Ten Most Endangered National Parks two years ago. This hallmark to history was in sad shape. Its exhibits were more than 30 years old because the Park Service could not afford to update them, and cracks had been in the walls since the 1930s when the city built a subway beneath the building. Then on September 11, 2001, the collapse of the World Trade Towers caused the equivalent of a seismic shock in Lower Manhattan, damaging the building even more.

Federal Hall is fortunate. It has received a $16.5 million congressional appropriation for repairs, which will begin this fall. Not all parks are as fortunate, but many are just as needy. The current backlog of maintenance projects for the National Park System is estimated to be between $4.1 billion and $6.8 billion. The park system also operates with a $600 million annual shortfall. The maintenance backlog and funding shortfall means that this summer you may see parks in need of repair, services may be cut, and exhibits may be closed. NPCA has issued two reports that address these issues, the *Endangered Ranger* and the *Burgeoning Backlog.* Each is available for your review on our web site at www.npca.org.

This summer I intend to travel with my family to many national parks in the Southwest and Rocky Mountain regions to see for myself how these funding shortfalls are affecting our national parks. I will be sharing some of my stories and photos on our web site at www.npca.org/tk. Please travel along with me and my family as we explore the parks. I will give you a full report in the fall issue of the magazine.

As you know, the national parks are extremely important to all of us. They tell the stories of our country, and they also tell our own personal stories and preserve our family memories. (See Reflections, page 42.) The most important thing that NPCA can do is help to ensure that these special places—these touchstones of America's history—are protected, celebrated, and interpreted for the next generation. You help us to do this by supporting our work, and we thank you for that.

**Thomas C. Kiernan**

EDITOR'S NOTE

# Climate Change


CHAD EVANS WYATT

In *The Day After Tomorrow*—the recent Hollywood thriller—a climatological disaster transforms New York City into a vast frozen wasteland.

The movie is designed to horrify and titillate—not educate. But many who believe climate change is upon us have touted the film as a wake-up call for those who believe otherwise. The movie depicts images that are grossly exaggerated and overwrought. But make no mistake, the climate is changing—and it is changing at a rate that has been accelerating since the Industrial Revolution gave us the combustion engine and a proliferation of smokestack industries.

In Alaska, the changes are becoming increasingly apparent. As Bill Sherwonit's story, page 24, describes, glaciers and sea ice are rapidly melting, permafrost is diminishing, and lakes are drying up. As a consequence, many of the state's inhabitants—both human and nonhuman—are being forced to adapt.

Alaska is our canary in the coal mine. The effects are greatest there because as snow and ice melt, it creates more water surface that holds the heat longer. Those darker surfaces absorb much higher amounts of solar radiation, and as they expand in size the heating process accelerates.

The questions for us are these: Are we willing to lessen the effects by cleaning up power plant emissions, enforcing clean air laws, and changing our driving habits? Answering yes would be an important step to ensuring our health and the health of the planet.

**Linda M. Rancourt**
***Editor-in-Chief***


# National Parks

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## About NPCA

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

### WHAT WE DO
NPCA protects national parks by identifying problems and generating support to resolve them.

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

### EDITORIAL MISSION
The magazine is the only national publication focusing solely on national parks. *National Parks* 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. Please sign up to receive *Park Lines* our biweekly e-mail newsletter. Go to www.npca.org to sign up.

### 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.

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

### HOW TO REACH US
National Parks Conservation Association, 1300 19th Street, N.W., Suite 300, Washington, DC 20036; by phone: 1-800-NAT-PARK; by e-mail: npca@npca.org; and www.npca.org.

# Winners, Sinners, and the Menace of Math

## Winners and Sinners

I'm writing to compliment your staff on the beauty of the current *National Parks*. It is so well integrated, and it allows me to get to the heart of many different articles with ease. Thanks for all your good work. It is noticed and appreciated.

*Judy Rimler*
*Pompano Beach, FL*

The article about Route 66 [Spring 2004] was great! Retirement will find me thinking about this somewhat tattered legacy of a better time (at least in my mind). There was one small error in the photos. The statue of Paul Bunyan and Babe the Blue Ox in the photo on page 51 was taken in Bemidji, Minnesota, far from Route 66. But the statue is on US Highway 2, another important route in our traveling history.

*David Kannas*
*Seattle, WA*

**Editorial Reply:**

Many of our astute and well-traveled readers wrote to us to correct this mistake, which we regret. The photograph shows Paul Bunyan and his ox in Minnesota and is not the one along Route 66 in Illinois referred to in the article.

## Green Menace

I was delighted to see your emphasis on the invasive plants problem in the Spring 2004 issue of *National Parks* [Green Menace]. Besides the bulldozer, they are the biggest threat to natural habitat and, thereby, biodiversity.

I have joined the crusade. Every year my wife and I combat tree of heaven, garlic mustard, and Japanese stiltgrass on the section of trail we oversee in Shenandoah National Park for the Potomac Appalachian Trail Club. On March 7, I joined 15 other members of the Virginia Native Plant Society in pulling garlic mustard (with permission) from the Appalachian Trail corridor north of Shenandoah National Park, where millions of large-flowered trillium bloom in May. In three cold, damp hours, we could not finish clearing a quarter mile of trail, though we pulled out more than 8,000 plants. I was depressed afterwards because I know one garlic mustard plant can produce 200,000 seeds.

I have a question about a fact that was in your story. The


statement, "Each year invasive exotic plants infest about 100 million new acres, a land mass about twice the size of Delaware."

One hundred million acres is 76 times the size of Delaware, four times the size of Virginia, and about the size of California. I have seen the 100 million acres figure used as a measure of how much land is already infested. If 100 million new acres were infested each year, the United States would be completely covered in 24 years.

*Richard Stromberg*
*Front Royal, VA*

**Editorial Reply:**

Mr. Stromberg is a much better mathematician than we are. The reference came from a document called: *Pulling Together: National Strategy for Invasive Plant Management*, written by the Federal Interagency Committee for Management of Noxious and Exotic Weeds. The actual reference says: "Experts estimate that invasive plants already infest well over 100 million acres in the United States and continue to increase by 8 to 20 percent annually." Public lands, in fact, lose an estimated 4,600 acres per day to these aliens. Although the numbers are still staggering, they do not, as Mr. Stromberg points out, equal the acreage of California.

In the article on invasive plants, the only ones you mentioned as posing serious problems in the West were Scots broom and eucalyptus. Here on the Oregon coast, we have a great problem with English ivy (still being sold at local nurseries), pam-

pas grass (or Spanish plume), and gorse. The latter is not only invasive, but also combustible and has caused serious fires in the past. The state no longer sprays it, and consequently, it is spreading up and down the coast. The state also recently added butterfly bush to the list.

*Patricia Graves*
*Brookings, OR*

### Find That Plant

The article "Green Menace" was interesting and informative, but I would like to make a suggestion. When discussing plant material, it would be extremely helpful to use botanical designations to avoid confusion.

I was confused by the plant species called "mile-a-minute." None of the library books I consulted listed this plant under "common names." What is it? I write a column for the Potomac Unit of the Herb Society of America, and I would be glad to alert these readers, but without a botanical name, it is not possible.

*Phyllis G. Sidorsky*
*Alexandria, VA*

**Editorial Reply:**

Mile-a-minute weed is *Polygonum perfoliatum.* You can find more information about this and other invasives at www.invasivespecies.gov/profiles/milemin.shtml

## Member Questions? We can help!

***I renewed my membership. Why am I getting another reminder?***
Our goal is to inform you about the status of your membership. Sometimes our reminder crosses in the mail with your donation. If you have recently sent your gift to us, please disregard the reminder. To confirm that we've received your donation, just give us a call.

***I'm on the national do-not-call list. Why did NPCA call me?***
As a charitable organization, NPCA is exempted from the federal do-not-call regulations. We do, however, maintain our own list of members who don't want to be called. We occasionally engage professional firms to contact members about urgent park issues. If you prefer not to receive these calls, please let us know.

***I didn't get the free gift you promised me. What happened?***
Your gift should be sent from our warehouse within six weeks of your response to us. If it doesn't arrive, we'll be happy to resend it. Just let us know!

***Your member services team is here to help! If you have questions or comments, please call us at 1-800-628-7275 (9:00 – 5:00 M-F) or send an e-mail message to member@npca.org.***

## ONLINE CONNECTION

### *What's New at NPCA.org*

#### Where in the Parks is Tom Kiernan?

This summer, I'll be fortunate to share my love of the parks with my family. That's right—I'm packing up the family here in Washington, D.C., and embarking on a month-long road trip. And I'd like to invite you to come along for the ride. You can follow our trip as we explore the parks of the Wild West. Just visit www.npca.org/scrapbook to read about my experiences and see all the photos we're taking. You can play along by guessing our next destination. I'll give you a hint about the first park we will visit: Counting the grains that make up the most overwhelming substance in this park could help us pass the time as we head for this unique destination.
See you on the road!
Tom

#### Pick a Park

Not sure which national park to visit this summer? Get help planning your trip at www.npca.org. Go to our web site, choose the Explore the Parks option, and then take a Virtual Tour. You can plan your trip by activity, region, or terrain. Looking for a great place to watch birds in the mountains? The Parkfinder allows you to research park sites by name, keyword, or state. You can find a wealth of information about a specific park, including recommended activities, featured attractions, lodging and accommodations, and weather conditions. While you are exploring the parks, check out NPCA's Parkscapes Travel Program at www.npca.org/travel. The Parkscapes program was started nearly a decade ago to create in-depth, fun, and educational experiences for our members. Two of the trips this year are a family trip to Glacier National Park in Montana and a journey through the inside passage of Alaska. Check the web site for more details.

#### Code Red

*This summer, before you take a hike in your favorite national* park, find out whether the air is fit to breathe. Why? Because we've just released *Code Red: America's Five Most Polluted Parks*, outlining the parks most affected by haze, ground-level ozone, and acid precipitation. Is your favorite park on the list? Visit www.npca.org/codered to find out and also to learn how you can help clear up the air in the parks.

#### Olympic

No, not the summer games, the park! NPCA recently released a State of the Parks report on Olympic National Park in Washington. And what score did we give the park? An 81—enough to bring in an NPCA silver medal. Visit www.stateoftheparks.org/olympic for a full report.


**NEWS & NOTES**

By Ryan Dougherty

# The Endangered Park Ranger

*Fewer rangers in the parks this summer means fewer programs, diminished experiences.*

A recent report by NPCA reveals a critical shortage of staff in national parks, a problem sure to be seen and felt by many of the millions of visitors to the parks this summer.

The fact-based report, *Endangered Rangers*, highlights several culprits for the staff shortages, chief among them shoestring park budgets. It's a simple but worrisome equation: a lack of park funding leads to fewer rangers, which leads to fewer programs, diminishing the rich experiences visitors have come to expect from the national parks and the ability of the Park Service to preserve America's heritage.

"America's national park rangers are becoming an endangered species," says NPCA President Thomas C. Kiernan. "President Bush has made strong commitments to the American people about protecting our national parks, but regrettably the administration and Congress have failed to keep them."

Among the many effects of staff shortages across the park system are wildlife and American Indian artifacts being poached, a lapse in scientific monitoring of endangered species, historic structures deteriorating until their roofs cave in, and museum collections piled up in corners or stashed in damp basements.

Other examples include: locked historic buildings at Valley Forge National Historical Park in Pennsylvania, where visitors cannot fully experience George Washington's encampment; closed visitor centers at Olympic National Park in Washington, where the park can no longer afford seasonal staffers; and a 25 percent cut in education programs at Great Smoky Mountains National Park, America's most-visited park.


DAVID HORSEY/SEATTLE POST-INTELLIGENCER

The report lists several suggested steps for the administration, Congress, and the Park Service to take to preserve our parks' heritage and the experiences of visitors, from improving park management to providing better infrastructure to support volunteers. Its strongest recommendation, however, is for increased park funding. The average park struggles to operate with only two-thirds of the money needed, an annual shortfall across the park system of more than $600 million.

"By neglecting their duty to adequately fund our national parks, Congress and the administration are squandering the nation's legacy," says Kiernan. ❖

*To read the full report, visit www.npca.org/report/endangeredrangers.asp.*

# Endangered Florida Panther Prowling Big Cypress

*Sightings of the cats please wildlife officials but cause anxiety for some residents.*

The endangered Florida panther is back on the prowl at Big Cypress National Preserve in Florida, encouraging federal agencies that have worked hard to restore the cats but worrying some residents on whose lawns they have roamed.

One of the world's most endangered species, the panther is usually an elusive creature that prowls at night, out of the public's eye. But citizens in the Pinecrest area reported seeing the cats around homes and campgrounds on remote Loop Road last fall. Sightings in December, January, and March caused anxiety among some residents who said the panthers showed no fear of humans.

"We are trying to protect and preserve this large predator, but there are pressures from all around," says Bob DeGross, park spokesman, adding that the number of panthers has increased from between 30 and 50 in 1997 to between 80 and 100 today—thanks in part to the introduction of Texas cougars, a Park Service initiative that NPCA supported. "Most people want to know that there are panthers out there but don't want them attacking their livestock, or threatening lives," says DeGross.

AP/WIDE WORLD PHOTOS

**Florida panthers may look fearsome, but officials say there is no documented case of one attacking a human.**

Officials believe that there were never more than three cats sighted: a mother and her two offspring, all between 60 and 72 pounds. They surmise that the cats lost their fear of being around humans because they were born in populated areas, and that they prefer a habitat, such as Pinecrest, with dry hammocks and pine islands where deer and other wild animals gather.

Several residents have complained about the panthers and expressed a fear that the cats could become aggressive, especially with children. The Miccosukee Indians, whose reservation is east of the preserve, have said they may kill any panthers wandering onto tribal property if they threaten humans.

"We will not allow these animals to harm anyone, especially children," Billy Cypress, tribe chairman, wrote in a letter to wildlife officials. In response, however, officials say that the cats have shown no aggressiveness, and that there is no documented case of a Florida panther attacking a human. Wildlife officials have used dogs to scare the panthers away from the public, and they tranquilized the mother panther and placed radio collars around her and her offspring to track their movements. When they were spotted again in March, the panthers were hit with sling-shots. These methods worked, it seems; no further sightings were reported at press time.

"We feel the cats responded to our conditioning as they should," says DeGross, "basically taking off as soon as they have contact with people. Our first priority remains ensuring public safety." ❖



## NPCA Notes

### NPCA Report on Park Backlog

NPCA recently released a report, *The Burgeoning Backlog*, to draw attention to the growing backlog of deferred maintenance in America's national parks, estimated to be as much as $6.8 billion. Among other problems, the backlog has led to crumbling structures, outdated visitor centers, and poorly maintained campgrounds and trails. The report reveals decades of insufficient funding in the national parks and calls on Congress and the Bush administration to increase annual funding for the parks and pass a transportation bill, The Transportation Equity Act for the 21st Century, that would allocate about $270 million each year to repair and rebuild park roads and bridges over the next six years. To view the full report, visit www.npca.org/report/backlog/asp. To take action on national park funding, visit www.npca.org/action.

# Coal Developers Eyeing Glacier's Flathead Valley

*One threat averted, another moves forward.*

AP/WIDE WORLD PHOTOS

**Coal development would threaten the Flathead River Valley's precious resources.**

A Canadian plan to mine coal a few miles upstream of Glacier National Park in the Flathead Valley has been stopped—again—but plans to extract coal bed methane in the same watershed are moving forward.

The proposed coal-mining development along Glacier's north edge at Cabin Creek, a tributary of North Fork of the Flathead River, halted in late May when Richard Neufeld, the British Columbian Minister of Energy and Mines, announced open-pit coal mines would not be allowed and that the area would be spared from future development. Critics had urged the province to make such a decision, asserting that coal mines would threaten wildlife and water quality in the Flathead area—one of the wildest places left in North America.

Residents and local groups such as the Flathead Coalition, which NPCA belongs to, hailed the decision but criticized the province for not also putting a

stop to a proposal for coal bed methane exploration in the Flathead watershed.

"The death of the proposed coal mines is a huge victory, but we cannot divert our attention from the other major threat to the Flathead basin," says Dick Kuhl, president of the coalition. "Coal bed methane development is every bit as serious a concern as the coal mines. It's one down, and one to go."

Cline Mining Corporation had yet to secure permits or submit specific plans to the British Columbian government, but it sought the development of the coal mines by 2007. NPCA and other groups strongly criticized those plans, as did Sen. Max Baucus (D-Mont.), who recently wrote a letter to the U.S. State Department to voice his concerns and determine whether the proposal was illegal under a ruling issued in 1988 by the International Joint Commission. That ruling halted a proposal for coal mining at Cabin Creek, asserting that it violated international law and a boundary treaty signed by Canada and the United States. The State Department agreed that the ruling still applied.

Neufeld cited the previous ruling and trans-boundary agreements, as well as the proximity of the proposed coal mines to Glacier and adjacent Waterton Lakes National Park in Canada. He did not, however, express similar concerns about coal bed methane extraction, saying it was "not nearly as intrusive on the landscape." But critics counter that exploration would bring a vast industrial complex of roads, drilling pads, compress stations, and pipelines, creating tainted wastewater that would settle into Flathead Lake.

Coal bed methane development is a relatively new technology that differs from conventional gas development. Coalfields contain methane gas, whose removal requires taking water from the coal aquifer with a high density of wells. Massive volumes of wastewater are dumped into nearby streams, possibly polluting them with sediments, acidity, temperature variations, heavy metals, and salts.

Glacier National Park advocates are working closely with residents and elected officials in Fernie, British Columbia, who also oppose the coal bed methane development.

"Coal bed methane development is a scary prospect, in terms of industrializing the landscape," says Steve Thompson, NPCA's Northern Rockies program manager and board member of the Flathead Coalition. "The headwaters of Glacier National Park are a highly inappropriate location for such a development." ❖

**Take Action:** *E-mail Gordon Campbell, Premier of British Columbia, to urge him to protect Flathead Valley from coal bed methane extraction: premier@gov.bc.ca.*

# Q&A

# Securing Liberty

*Among the many repercussions of September 11, 2001, was the closure of perhaps America's most recognizable symbol of freedom: the Statue of Liberty. Liberty Island re-opened two months later, but visitors have been barred from going inside the statue or its museum. After nearly three years and about $20 million of funding to secure the monument and ensure the safety of its visitors, that will change as soon as late July.* National Parks *recently spoke to Brian Feeney, the Park Service's New York public affairs officer, on what it took to re-open Lady Liberty.*

CORBIS

**Q: What has happened on Liberty Island since September 11?**

**A:** We've been working since then to complete new safety and security improvements. The primary concern right after 9/11 was to secure the island. Those first few days, no one had any idea what would happen in New York. Afterward, we wanted to get the island itself open and did it in three months. We installed new security measures that made us feel we could allow people back and know that we were keeping them safe. Now visitors can come onto the island and go wherever they want. We have had millions of visitors the past few years. This summer, we expect to reopen the base of the monument, its pedestal. Visitors can then go inside and see things like the statue's original torch, which stood in the harbor for a century, or clay models of the statue in the museum.

**Q: What changes will they notice once inside?**

**A:** They'll be able to take an elevator up to the top of the pedestal, where they can look through a new, specially constructed glass ceiling that lets them see inside the statue. That view gives them a sense of the statue's construction, what she looks like on the inside, how she was built, etcetera. They can no longer go up into the monument, but they'll still get a very good interpretive experience. This way we can protect the monument while still giving the visitors a good look inside of it. They can also go to the observation level at the top of the pedestal. It offers a 360-degree, panoramic view of New York Harbor. The island offers a good experience now, but it'll be even better with these new opportunities. They will also notice the security enhancements. Before the statue's entrance, visitors will go through an airport-style screening facility, as they have had to do before boarding the boat that goes out to the island since 9/11. That's become very common here in New York. Once on the island, they'll notice an increased U.S. Park Police presence. We have spent millions of dollars to make the area and our visitors safer. They will see emergency staircases we added on the outside of Fort Wood [which houses the museum]. They give people a second way to exit—a good emergency evacuation route and a good way for us to control the flow in and out of the monument.

**Q: How will the changes affect the overall experiences of visitors?**

**A:** Since we re-opened after 9/11, visitors have had a really good experience and reconnected with the statute. Because people have had to focus on viewing the statue from the ground, as opposed to inside it, in some ways they've experienced it more in the way the statue's designer intended: as a wonderful sculpture. In the past, visitors were so focused on climbing to the crown as fast as possible that sometimes they didn't take an opportunity to think about the statue and what it stands for. The Statue's formal name is "Liberty Enlightening the World." It's great that people are reconnecting with that concept. ❖

*The Park Service is aiming to re-open the statue in late July. For updated information, visit www.nps.gov/stli.*

# Rock Quarry Halted

*A citizen's phone call helped stop a rock quarry near the Appalachian Trail.*

Never doubt the power of a persistent few. A phone call from a concerned citizen helped to quash plans for a rock quarry near Appalachian National Scenic Trail in North Carolina that would have ruined a chunk of mountainside, been visible along a two-mile stretch of the trail, and brought a cacophony of machinery.

The resident, who lived near the trail and noticed signs of the mining operation, called state officials to inquire and formed a citizens group to protect the trail. The state found that the proposed quarry's proximity to the trail violated the Mining Act of 1971 and rescinded its permit. The mining company appealed but the state's appeals court in May upheld the revocation.

"This common-sense decision stayed true to the purpose of the Mining Act and protects one of the most beautiful places in the Southern mountains," says Don Barger, NPCA's senior Southeast regional director. "The state took the proper action and should be commended."

"This is a huge victory," he says, "and it's a case of citizens protecting their own park. It's about the effectiveness of vigilance and perseverance when a beloved resource is at stake."

When state officials awarded the permit to Clark Stone Company five years ago, they did not know that the quarry would be visible from the trail, hurting the experiences of hikers and other visitors. Since then, NPCA, the Appalachian Trail Conference, and local groups have worked to stop the quarry and preserve the trail through a series of administrative and legal actions, which have included pressing the state to revoke the permit and participating in a mediation session on the permit revocation.

"Thanks to the actions of the state, local conservation groups, and the concerned citizens, this national park site—one of the most magnificent places I know—will remain an incredible landscape," says Barger.

"The trail will remain an inspiration to visitors now and in the future." ❖

## News in Brief

**Washington, D.C.**—More than 140,000 people, among them thousands of veterans and President George W. Bush, visited the National Mall on May 29 to see the long-awaited dedication of the National World War II Memorial. The memorial is the National Park System's 388th unit and features interpretive programs about the war, as well as a touch-screen computer database of the names of Americans who served in the war. For more information on the site, visit www.nps.gov/nwwm/index.htm.

**Yellowstone, N.P.**—June marked the 100th birthday of Yellowstone's Old Faithful Inn. The national historic landmark, known for its exceptional rustic architecture, has hosted millions of visitors since opening in 1904. Among the treasured aspects of the inn are the asymmetrical windows in its six-story lobby that give visitors a feeling of standing in the forest. The park offered special exhibits and activities in May, and more activities will be held later this summer. For more information, visit www.nps.gov/yell.

# Protecting Hallowed Land

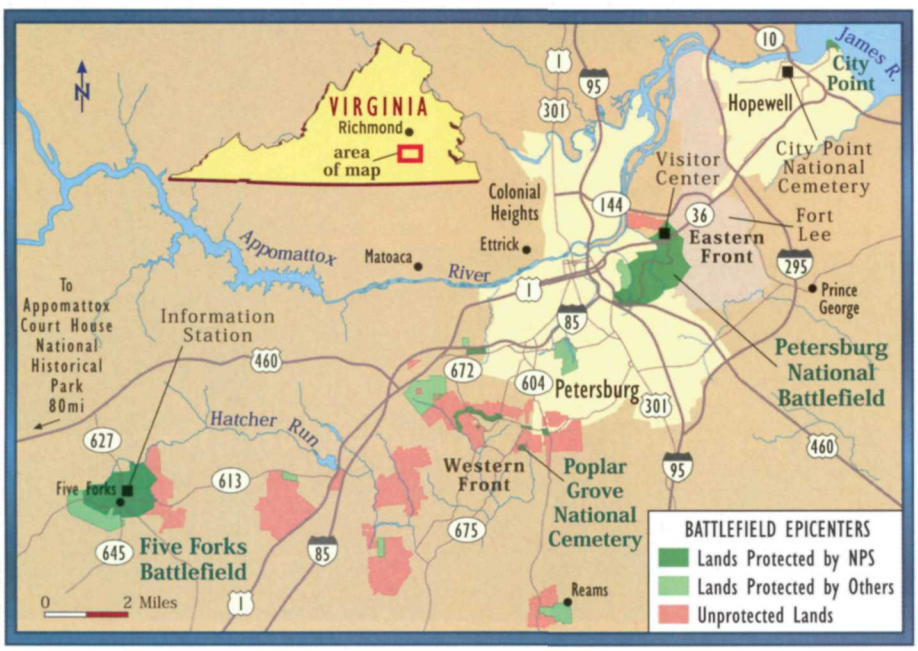
*Park plan could make Petersburg the largest protected Civil War battlefield and enhance stories told there.*

The site of the Civil War's longest siege could soon become its largest protected battlefield. The Park Service is devising a general management plan for Petersburg National Battlefield in Virginia that could add more than 7,200 acres to the park—broadening the story told at the site and potentially boosting the economies of surrounding towns through increased tourism. The Park Service has narrowed the plan down to four alternatives but prefers the option that would protect the greatest number of now-unprotected acres of historic battlefield, helping to keep the land safe from encroaching development that threatens many of America's battlefields.

"Expanding the park's boundary is an important and necessary investment in the future of this battlefield site," says Joy Oakes, NPCA's Mid-Atlantic regional director. "Petersburg's extraordinary stories deserve the broader and bigger audience that will be attracted by the Park Service's visionary plan."

The park's planning is designed to reaffirm Petersburg's purpose and importance and assess its natural and historic resources. It could: include further interpretive outreach in downtown Petersburg, expanding on the stories told of the war to include those of free African Americans and women as well as the story of the city being under siege; connect battlefield land to nearby recreational trails; and rehabilitate Poplar Grove National Cemetery—to restore what park officials call its "sense of contemplation, quiet, and solemnity.'

"This plan could have enormous economic benefits for the region," says Superintendent Bob Kirby, citing a recent study by the Civil War Preservation Trust that revealed how preserving battlefields can boost economic viability by preventing blight and pollution and increasing tourism, among other long-term benefits.




RICHARD VAUPEL

"Preserving the battlefield is important for us to be able to tell the interesting story of America's history," says Kirby, "but it also allows us to create green space, really enhancing the region's quality of life."

Among the other proposed enhancements to the site are boosting park staff, from law enforcement to historical interpreters, and forging a partnership between the park and the city of Petersburg to create a downtown visitor contact station. Each of these proposals is devised to strengthen the park's ability to convey its history and

offer meaningful and fun experiences to visitors.

Petersburg was the scene of a months-long siege, the longest in American history, during the Civil War, when Gen. Ulysses S. Grant failed to capture Richmond in the spring of 1864. Grant sought to subdue the Confederacy by surrounding Petersburg and splitting off Gen. Robert E. Lee's supply lines into Petersburg and Richmond. Nine-and-a-half months after the siege began, the Confederacy had collapsed and Lee evacuated Petersburg on April 2, 1865.

"We are hoping to make the Petersburg campaign as relevant to the Civil War as Colonial Williamsburg is to colonial history," says Kirby.

Adding the unprotected acres to the park is timely in light of what is occurring at other battlefields in the mid-Atlantic and South, where encroaching development has become a pressing threat, says Oakes.

"Suburban sprawl has become one of the biggest threats," she says. "Inappropriate and poorly placed developments have been a major problem. Petersburg is under the same pressures, although the pressures are currently greater at places like Manassas National Battlefield Park in Virginia.

"Manassas is in danger of becoming a green median strip surrounded by sprawl and traffic,"says Oakes. "Look at Manassas and see Petersburg's future if we don't act today." ❖

***Take Action:*** *For more information on the park's general management plan or to take action, visit www.nps.gov/pete. Public meetings will be held in Virginia this summer, and public comments will be accepted through August 6.*

## NPCA Notes

### Volunteers in Northwest Parks

NPCA's volunteers in the Pacific Northwest will help to educate as many as 24,000 visitors this summer about threats facing parks in the region. The volunteers will spend weekends in Olympic and Mount Rainier national parks in "First Amendment" areas talking to visitors about issues such as funding cuts and salmon habitat loss. Volunteers will inform visitors about the effects of fewer rangers, closed roads and trails, and closed visitor centers that have resulted from park budget cuts. For the first time in Olympic's history, the main visitor center will be closed twice a week, and the Forks Visitor Center may be closed indefinitely. Volunteers will also urge park visitors to take action to support increased park funding. For further information or to volunteer, please call 206-903-1444 (extension 22) or e-mail northwest@npca.org.

## TAKE ACTION...

***NPCA's Online Take Action Center:***
www.npca.org/action

***Important Addresses:***

***The White House:***
President George W. Bush
1600 Pennsylvania Ave., N.W.
Washington, DC 20050
Comment Line:
202-456-1111
Fax: 202-456-2461
www.whitehouse.gov

***The U.S Senate:***
The Honorable .....
United States Senate
Washington, DC 20510
202-224-3121 or
800-522-6721
www.senate.gov

***The U.S. House of Representatives:***
The Honorable .....
United States House of
Representatives
Washington, DC 20515
202-224-3121
or 800-522-6721
www.house.gov

***The Department of Interior:***
Secretary Gale Norton
Department of the Interior
1849 C St., N.W.
Washington, DC 20240
202-208-3100
www.doi.gov

***The National Park Service:***
Director Fran Mainella
National Park Service
1849 C St., N.W., Room 3112
Washington, DC 20240
202-208-4621
www.nps.gov

# Cell Towers in Parks Decried

*Critics call cellular towers eyesores that do not belong in parks and question Park Service's decision-making.*

The placement of cellular phone towers inside of the boundaries of at least 15 national park units has dialed up an urgent call from park advocates. Several groups, including NPCA and the Public Employees for Environmental Responsibility (PEER) oppose cell towers in parks, saying the structures are eyesores that don't belong in a national park. The issue rose to national prominence earlier this year when a tower was built overlooking Old Faithful at Yellowstone National Park.

"The [Old Faithful] viewshed is one of the most recognized assets in our National Park System," says PEER board member Frank Buono, former Park Service manager. "It is, however, being managed with all the care of a strip mall."

PEER has charged the Park Service with failing to: protect the special qualities of the national parks; develop a central management plan for placing the towers (the current process is decided by individual park superintendents); inform and solicit comments from the public; and have a clear idea of how many cell towers exist in the park system.

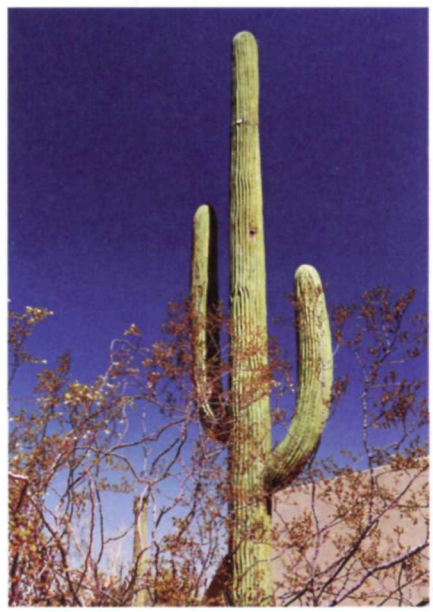
The Telecommunications Act of 1996 opened federal lands to cell towers, and they have since gone up in national parks such as Grand Canyon, Yosemite, and Everglades. NPCA does not support the construction of cell towers in national parks and has directly opposed them in parks such as Antietam National Battlefield, Grand Teton National Park, and Great Smoky Mountains National Park (where a recent proposal for three towers along a main road was scrapped in June).

"Over nine million people visit the Smokies each year to enjoy the breathtaking scenery" says Gregory Kidd, NPCA's associate Southeast regional director, "which would be threatened by cell towers."

Although some companies claim they can build towers that blend into public landscapes, "I find it hard to believe that they can construct one that can blend into the natural beauty of the Smokies," says Kidd.

Park Service officials have said that towers help to improve park communications during emergencies and satisfy visitor demand for cell phone coverage. Still, critics assert that the towers degrade the scenery and serenity of the parks.

"We are arguing for a sound, informed public policy that will uphold the solitude and scenic values of the parks," says Chas Offutt of PEER." ❖



AP/WIDE WORLD PHOTOS

**This tower is a saguaro cactus replica designed to blend into the landscape.**

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## News in Brief

**Minuteman Missile N.H.S.**—Visitors can get a sneak peak at Minuteman Missile National Historic Site in South Dakota this summer. Although the park site will not be fully operational for several years, visitors can tour the site through September 6. The park site was recently created to illustrate the history and significance of the Cold War, the arms race, and intercontinental ballistic missile development. To make reservations, call 605-433-5552.

**Channel Islands N.P.**—The Channel Islands fox was recently listed as an endangered species, bringing additional support to groups working to restore it. The Park Service and The Nature Conservancy have worked for several years to save the island fox, whose populations on Santa Cruz, Santa Rosa, and San Miguel islands plummeted more than 95 percent between 1994 and 2000, largely because of predation by golden eagles. Thanks to the Park Service's captive breeding program, populations rose in recent years from 15 to 38 on San Miguel and 14 to 54 on Santa Rosa.

# Hazy Forecast for Parks

*Visitors to parks this summer may be surprised to learn that the air is unhealthy to breathe on many days.*

The warmer temperatures of summer draw millions to the national parks each year, but this season's forecast is a bit troubling. Visitors to many national parks this summer will discover that, on days with a particularly high amount of ground-level ozone or smog, the air is unhealthy to breathe. Some will experience shortness of breath or coughing. Others will learn the grim news from signs posted in the park, warning visitors to avoid physical activities like hiking.

The Environmental Protection Agency (EPA) recently designated several parks "unhealthy" areas that fail to comply with federal ozone standards, including the most visited national park, Great Smoky Mountains in North Carolina and Tennessee.

"The visitors who expect clean, clear mountain air in the Smokies are surprised when they learn that the air is not healthy to breathe on many summer days," says Jill Stephens, NPCA's Southeast regional program analyst. "They are discouraged to find air pollution rivaling that of the city they left behind."

Ground-level ozone affects the lungs of people, especially children and asthma sufferers. At even lower levels, it can also harm plant life—such as at Acadia National Park, one of the parks that EPA deemed unhealthy, whose white ash and eastern white pines suffer from pollution.

Another threat to parks is pollution from coal-fired power plants, which forms a thick wall of haze that obscures vistas in many national parks. It limits how far visitors can see while distorting the color and clarity of park sights. Sulfate particles emitted by power plants create more than three-quarters of the haze in the Smokies, where views of mountain ridges have been greatly blurred.

"We often get complaints," Jim Renfro, an air-quality specialist at the Smokies, recently told *USA Today*. "People say 'the mountains aren't there. I thought you could come and see seven states.'"

Park haze is a widespread problem that affects parks from Big Bend in Texas to Shenandoah in Virginia. The National Park Service monitors air quality at a few dozen of the 388 national park units. At Big Bend, vistas on bad air days drop from about 100 miles to ten, and at Shenandoah, where vistas once stretched to the Washington Monument nearly 100 miles away, they now average 25.

AP/WIDE WORLD PHOTOS

**Haze on a bad air day at Big Bend greatly obscures views of the Rosillos Mountains.**

In April 2004, EPA officially designated hundreds of polluted cities and counties as unhealthful because of ozone, including the following national parks that monitor ozone pollution: Great Smoky Mountains, Sequoia-Kings Canyon, Acadia, Shenandoah, Rocky Mountains, Yosemite, and Joshua Tree, along with Cape Cod National Seashore. These parks exceed EPA's ozone standard set to protect human health. In a report, *Code Red: America's Five Most Polluted Parks*, released in June by NPCA and two other enviromental groups, the Department of Interior is quoted as saying that poor visibility is "the most ubiquitous air pollution-related problem in the national parks."

Also this spring, EPA released proposed rules to clean up hazy park skies by requiring some of the oldest, dirtiest power plants and industries to install modern pollution controls. But clean air advocates have criticized the administration for not enforcing this program and instead relying on reductions from the proposed Interstate Air Quality Rule (IAQR). Although IAQR targets the same pollutants, it would not require facilities near parks to clean up or reduce pollution far enough or fast enough to protect parks and dozens of polluted communities.

"Requiring power plants to install readily available pollution controls would improve air quality in our national parks and polluted communities," says Stephens. "We urge EPA to finalize a strong, effective, and enforceable rule to clear the air in our parks." ❖

***Take Action:*** *To urge EPA to strengthen its haze rule to protect the parks and people, visit www.npca.org/action.*


AP/WIDE WORLD PHOTOS

**Ozone monitors within many parks keep track of days on which air is unhealthy.**

# Blowing Off Some Steam

**By Ryan Dougherty**

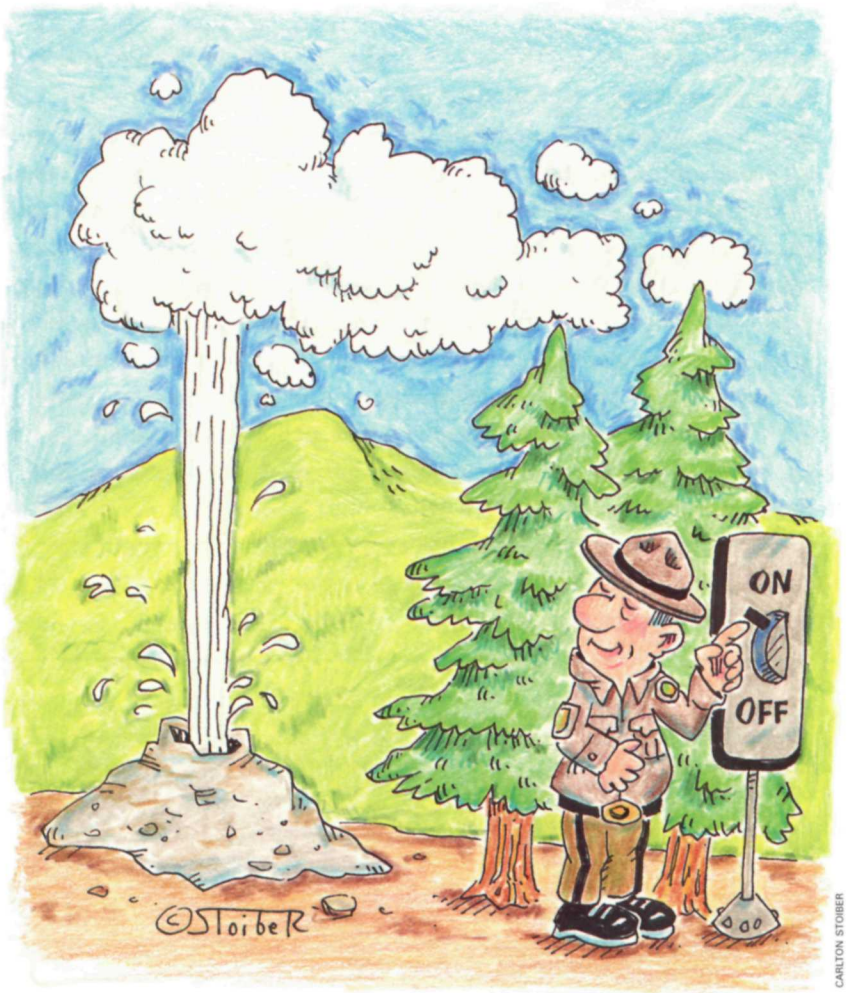
An erupting geyser dazzles visitors like few other natural events. The ground rumbles and shakes and the geyser releases a warning burp before thousands of gallons of scalding water and steam rocket from the Earth. This geo-phenomenon can last as long as 45 minutes and ascend to heights of 400 feet.

Scientific experts call geysers "the rarest fountains of all." They are hot springs that erupt, holes in the ground that emit violent bursts of steam and boiling water. The eruptions are rare, however. There are about 1,000 active geysers on Earth, and half of them are within Yellowstone National Park. The park's Norris Geyser Basin, at 7,000 feet, has an exceptional blend of the three ingredients that are key to forming geysers: abundant water, intense heat, and water and pressure-tight underground plumbing.

Although the elements are simple, many visitors wonder: How do the geysers really work? "That is a frequently asked question," says Hank Heasler, park geologist at Yellowstone. "I usually am asked by some very curious school-age children. In the past, I explained the operation of a geyser through the analogy of a pressure cooker, but school-age children today have no concept of what that is. They're used to microwaves."

So how does it work? Basically, the geyser's underground plumbing has volcanic rock that conducts heat, radiating into surrounding rock. Water from rain and snow works its way underground through several narrow passageways. As water hits the rock, the heated water rises to the surface, passing through volcanic ash or lava. The water dissolves solid matter and carries it up through the rock crevices, forming constrictions. Those constrictions impede the mounting pressure, and expanding steam bubbles from the rising hot water built up in and behind them.

The steam squeezes through passageways and causes water to overflow from the geyser. That spray of water at the surface sparks a rapid decline in pressure for the hotter water deeper in the geyser, triggering a chain reaction of steam explosions that cause the volume




CARLTON STOIBER

Geysers send scalding water and steam as high as 400 feet—without a human touch.

**Ryan Dougherty** is news editor for *National Parks* magazine.

of (now-boiling) water to grow 1,500 times or more. This water then erupts into the sky—a spectacular geyser.

Still confused? Here's another way to think about it.

"The key principle," says Heasler, "is the relationship of boiling temperature to pressure. At sea level, water boils at about 212 degrees. Up in Norris Geyser basin, water boils at about 200 degrees. As you get less and less pressure, the water boils at a cooler and cooler temperature. As you get more and more pressure, the water boils at a much higher temperature. In the geyser, the water deep within it gets well above the boiling temperature due to overlying water pressure.

"Keep putting heat in, and eventually the water will get so hot that the overlying water column's pressure can't constrain the rapidly heating water anymore." Then, Heasler explains, the initial burp of water indicates that some pressure has been forced out by a big steam bubble.

"Once the pressure has been slightly relieved by this burp of water, the entire plumbing system flashes to steam, because the super-heated water is no longer constrained by the overlying water pressure. That forces out the rest of the water in a spectacular, usually high, eruption," wowing visitors.

"The steam phase is where the geyser is sort of clearing its throat," says Heasler. "After the water pressure has been reduced, steam forces its way out of the geyser and the re-filling process begins."

Once that extraordinary pressure has been released, the warm-to-cool water flows back into the geyser's plumbing system through cracks in rocks. The somewhat cooler water begins to refill the geyser but is reheated by very hot surrounding rock. The water becomes so hot that it's above boiling but it's still water.

When the water gets so hot that it can no longer be constrained, the eruption begins anew. At the Old Faithful geyser in Yellowstone, this can happen every 45 minutes or so—making it among the most predictable of geysers, thus the name. ❖

KENNAN WARD

***Yellowstone contains more than half of the world's active geysers, which help to draw millions of visitors each year.***

# Stopping the Slaughter

**Like the Stars and Stripes or the Liberty Bell, the bison is a symbol of America, yet last year federal tax dollars supported the slaughter of 244 bison at or near Yellowstone.**

**By U.S. Rep. Nick J. Rahall II**

This is a test. Name the largest land mammal in North America. Now name the only animal, other than the eagle, to appear on U.S. currency during the 20th century. Finally, name an animal being systematically slaughtered using federal tax dollars. Stumped? Sadly, the answer to all of these questions is the same: the American bison.

Like the Stars and Stripes or the Liberty Bell, the bison is literally a symbol of America. This magnificent animal's shaggy head and massive shoulders graced the "tails" side of 1.2 billion Buffalo nickels minted between 1913 and 1938. The coin's designer, James Earl Fraser, an assistant to sculptor Augustus Saint-Gaudens and a product of the American Plains, is said to have chosen the bison precisely because its image expressed such a distinctively American theme.

And yet, the U.S. Department of Interior—which took the bison as its emblem—has participated in the slaughter of 278 animals this year. Last year, federal tax dollars supported the slaughter of 244 animals, and over the last 20 years, U.S. taxpayers have helped pay for the killing of more than 3,500 bison. The vast majority of these doomed animals were captured *within* Yellowstone National Park. Surprised? Most people are. The general public is under the impression that these American icons are being sheltered and protected by the federal government, not rounded up and shot.

The department's justifications for killing bison are nonsensical. During the winter months, Yellowstone is blanketed by three to four feet of snow and ice; high temperatures are in the single digits with overnight lows below zero Fahrenheit. Yellowstone bison scavenge for any food that might be available in these extreme conditions, while protecting their young and conserving what little energy they have.

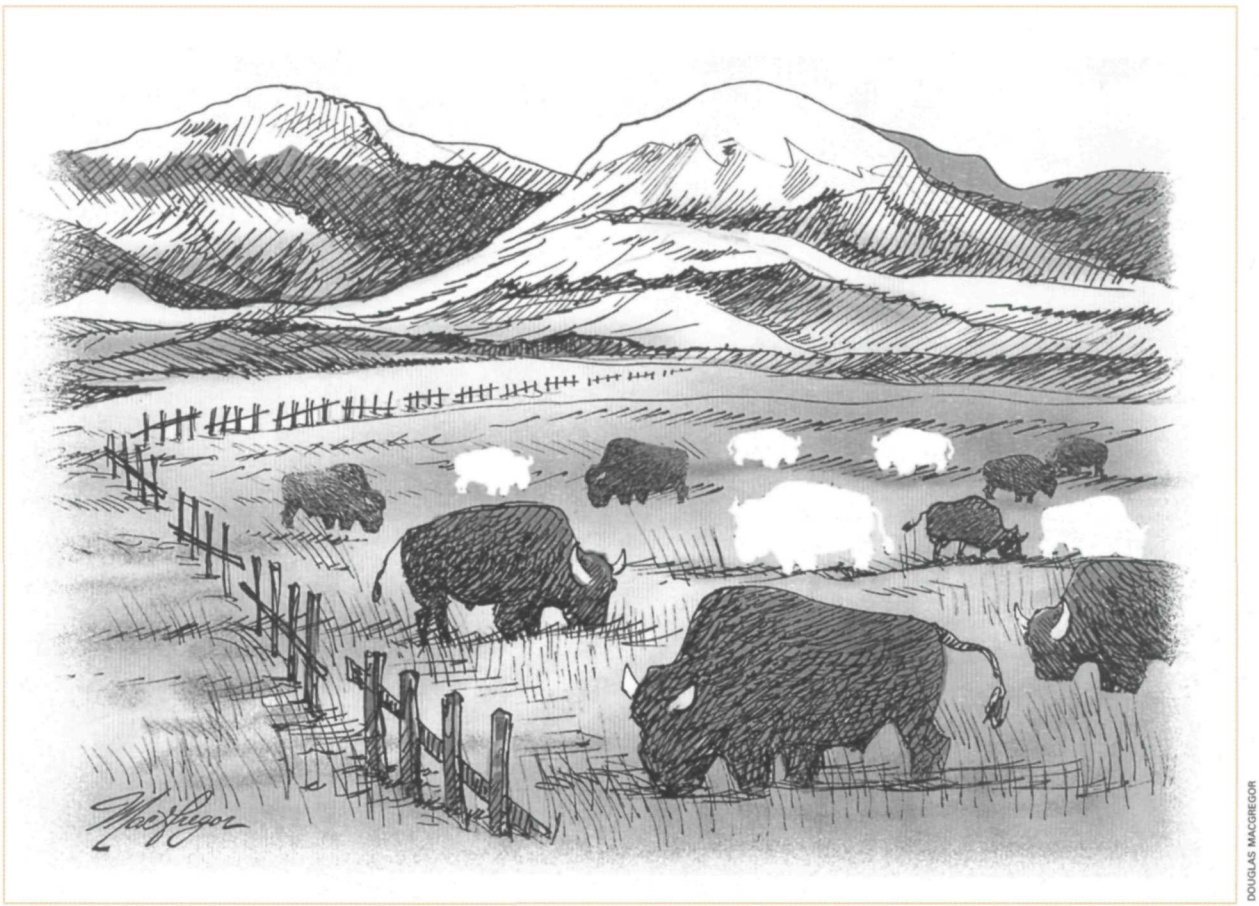
As part of this desperate race to sur-

**Rep. Nick J. Rahall II (D-W.Va.)** is the ranking Democratic member of the House Resources Committee. He is serving his 14th term in Congress.

## Preserving an Icon

During the 1800s, millions of American bison were killed. By the last decade of the 19th century, only a few hundred remained. Yellowstone National Park had the last remnant of a wild buffalo herd. By 1901, there were only 25 animals. The offspring of these survivors constitute today's Yellowstone herd. Yellowstone's herd is the only truly wild, free-roaming buffalo herd that has continuously occupied its native habitat in the United States. Today, Yellowstone's buffalo number about 4,000.

The Yellowstone Buffalo Preservation Act (H.R. 3446) is before the House Resources Committee. The bill provides for the protection of the last wild and genetically pure American buffalo, calling for the end of the ongoing slaughter. It recognizes that the American buffalo (*Bison bison*) has ecological, cultural, historical, and symbolic significance to the United States. The bill currently has 102 co-sponsors in addition to sponsor Rep. Maurice Hinchey (D-N.Y.). The bill was referred to the House Resources Committee in November, but a hearing has not yet been scheduled. Check out www.npca.org for more information about this bill.



DOUGLAS MACGREGOR

vive until the spring thaw, some bison leave Yellowstone to seek food at lower elevations, a journey they have been making since well before the national park or the state of Montana existed. Once they leave, however, they can come into contact with cattle allowed to graze on adjacent public and private land in Montana. Some of the bison have been exposed to brucellosis, a disease that can be dangerous to cattle. The theory goes that if the cattle consume birth material from pregnant female bison, the cattle might get the disease, which can cause cattle to abort their young. If that happened, Montana's cattle industry might lose money.

You may have noticed that those last few sentences contained more than a few "ifs" and "mights." That is because there has never been a documented case of brucellosis being transferred from bison to cattle in the wild. Never.

And yet the state of Montana, at the behest of the cattle industry, insists that the only way to deal with the theoretical possibility that it might is to routinely slaughter bison that step over the invisible park boundary, bulls and cows, juvenile and mature animals alike. Making this hysterical overreaction even more unbelievable is the fact that most of the bison are not even tested for exposure to brucellosis before being slaughtered.

As you might expect, the vision of wildlife "managers" shooting trapped bison is not particularly popular, and this is where your tax dollars come in. The state offers to kill fewer bison in return for getting uniformed Interior employees involved in the killing. Having members of one of the foremost conservation agencies in the world, the Park Service, aid and abet the slaughter provides the activity with a sheen of legitimacy just thick enough to blunt public outrage. And so the killing continues, on the federal taxpayer's buffalo nickel.

This has got to stop. If states want to allow industry to dictate the continued use of wildlife management policies that were popular in the 1800s, which is their right, they must be made to own up to their actions. The U.S. Department of Interior, an agency with a conservation mandate funded by the American people, should not help do the dirty work. Interior must continue working cooperatively to address the theoretical threat of disease through the hazing and capture of bison, through development of a vaccine for both cattle and bison, and through the use of other tools. But the tools they use should no longer be lethal.

There are plenty of things we can and should be spending federal tax dollars on. Killing one of the most powerful symbols of America, for no good reason at all, is not one of them. ❖

KENNAN WARD

# ALASKAN MELTDOWN:

## On the Frontlines of Climate Change

FRED HIRSCHMANN

Alaska and the national park sites in our northern-most state are showing dramatic signs of global climate change. Melting permafrost and glaciers, eroding coastlines, and insect invasions all point to warming temperature trends.

**By Bill Sherwonit**

Evidence of global warming may be subtle enough to overlook or ignore throughout most of the United States, but in Alaska, the signs of climate change are everywhere, and they are dramatic. From the state's Southeast Panhandle to its far northern reaches, Alaska's landscape is being reshaped. Glaciers and sea ice are rapidly melting, boreal forests are being transformed by unprecedented insect outbreaks, permafrost is diminishing, lakes are drying up, Arctic tundra is giving way to woodlands, and coastal areas are being eaten away by fierce storms. As a consequence, many of the state's inhabitants—both human and non-human—are being forced to adapt to new living conditions.

"In Alaska, people are more aware of the warming problem because it's staring you in the face," says Gunter Weller, director of the Center for Global Change and Arctic System Research at the University of Alaska, Fairbanks. "You can't deny the evidence, because it's all around you."

More and more of that evidence is being collected by legions of Alaskan researchers, and it is being experienced first-hand by residents. Among those most directly affected are the Inupiat Eskimos of Alaska's northern coasts, where rising sea levels, thawing permafrost, and increasingly severe storm surges are eroding the ground beneath several villages.

Located on a barrier island just outside Bering Land Bridge National Preserve, Shishmaref is among Alaska's most endangered villages. The bluffs on which the community sits are rapidly eroding, and residents have decided to relocate inland—a hard but necessary choice

***Dramatic climate change in Alaska has forced the state's plants and wildlife, such as the caribou, left, and Siberian phlox, top, to adapt to altered habitats and conditions.***

BRAD MARKEL

***Thawing permafrost has forced some of Alaska's Native people inland, threatening their subsistence lifestyle.***

with huge emotional and economic tolls.

Inupiat hunters are having a harder time harvesting traditional subsistence foods because the ice pack is retreating. The marine mammals on which they depend are more difficult to locate. At the same time, caribou are staying longer on the North Slope and arriving later in fall. "All our hunting, our whole lifestyle, is being affected," says Willie Goodwin, an Inupiat resident of Kotzebue and special assistant for Alaska's Western Arctic National Parklands, which are heavily used for subsistence purposes. "The changes were subtle at first, but now we're very concerned about what we're seeing."

Alaska's Interior-dwelling Athabascans have also noticed unsettling changes in either the number or behavior of animals, from white-fronted geese to beavers, according to Orville Huntington, vice chair of the Alaska Native Science Commission. The Yukon River is warming, and increasing numbers of its king salmon are being infected by a parasite. And elders say "winter isn't really winter anymore."

Scientists and indigenous residents aren't alone in their concerns. Even Sen. Ted Stevens (R-Alaska)—hardly an environmental alarmist—recognizes that Alaska has been hard hit by climate change. Industry leaders, too, have been forced to pay attention: The oil industry's winter exploration season on the North Slope has dropped from 200 to 100 days in only three decades.

Climate change is being felt in the Far North first, and most dramatically, because of what scientists call "feedback processes." As the region's abundant snow and ice melt away, increased areas of water and earth are exposed to the sun. Those darker surfaces absorb much higher amounts of solar radiation; as they expand in size, the darker surfaces take in more heat, which accelerates the warming. "Basically the warming builds on itself," says Weller. "It has a magnified effect."

Globally over the past century, the average annual temperature has increased about 1 degree Centigrade; in the Arctic, it has climbed 2 to 3 degrees C (3.5 to 5 degrees Fahrenheit). "That may not seem like much, but it's a huge signal of change," Weller says. Wintertime changes have been even greater, ranging from 7 to 9 degrees F higher in some parts of the Arctic between 1954 and 2004.

Although more moderate climates are lagging behind, scientists agree they are bound to feel the effects if the warming trend persists. "The Arctic is a preview of the Earth's future climatic shifts," says Bob Corell, chairman of the Arctic Climate Impact Assessment (ACIA), a multinational study involving 300 scientists and other experts, including indigenous elders. "It's not a question of 'if'; it's a matter of 'when.'"

It's not surprising, then, that some scientists consider Alaska our country's "early warning system," the proverbial canary in the coal mine of atmospheric warming.

Although some quarters still claim there is not enough scientific evidence to support a global warming trend, both Corell and Weller emphasize that the evidence is now "unequivocal." And Weller says "the evidence is now overwhelming that much of the global warming is due to human-made greenhouse gases" produced mostly by the burning of fossil fuels: oil, gas, coal. He adds, "We [in the science community] are not saying that the sky is falling, but there will be changes. We need to be realistic and assess the risks, vulnerabilities, and opportunities associated with global warming."

Spread across 32 ecoregions, Alaska's 54 million acres of national parklands are being affected by global warming in many ways, some of them obvious, others subtle. As wild landscapes change, plant communities, wildlife populations, and humans dependent on park resources must adapt or lose their niche in the ecosystem. Polar bears are a prime example. They're losing critical habitat—near-shore sea ice—at an accelerating rate. Among the 3,000 to 5,000 polar bears that inhabit Alaska's Arctic lands and waters, a small number follow the ice pack each year into Kotzebue Sound and come aground within two of Alaska's most remote parklands: Bering Land Bridge National Preserve and Cape Krusenstern National Monument. If warming keeps the ice pack from advancing into Kotzebue Sound, polar bears will no longer walk the shores of Alaska's northwest parklands as they have for untold generations.

The disappearance of sea ice is just one example of several climate-related changes that have been documented in

and around Alaska's national parklands.

Alaska's glaciers are "thinning" at an accelerating rate. From Kenai Fjords to Wrangell-St. Elias and Glacier Bay, glaciers are contributing enormous amounts of meltwater to the oceans. Of 100 glaciers studied in Alaska and Canada, all but three are losing mass, says University of Alaska, Fairbanks geophysics professor Keith Echelmeyer.

Although most of the current sea-level rise is caused by thermal expansion, about 10 percent is from glacial runoff. And Alaska's glaciers are contributing far more than anywhere else on Earth.

Many other changes have been noted throughout Alaska. Here are a few of the most dramatic examples.

- Throughout much of northern Alaska, tundra is becoming brushier and giving way to forest. As tundra diminishes, animals that depend on it for food or nesting habitat—caribou and many birds—are likely to lose out. That appears to be happening on the Seward Peninsula: Musk ox and moose are moving in as woodlands spread, and the caribou traditionally hunted by locals are moving out.

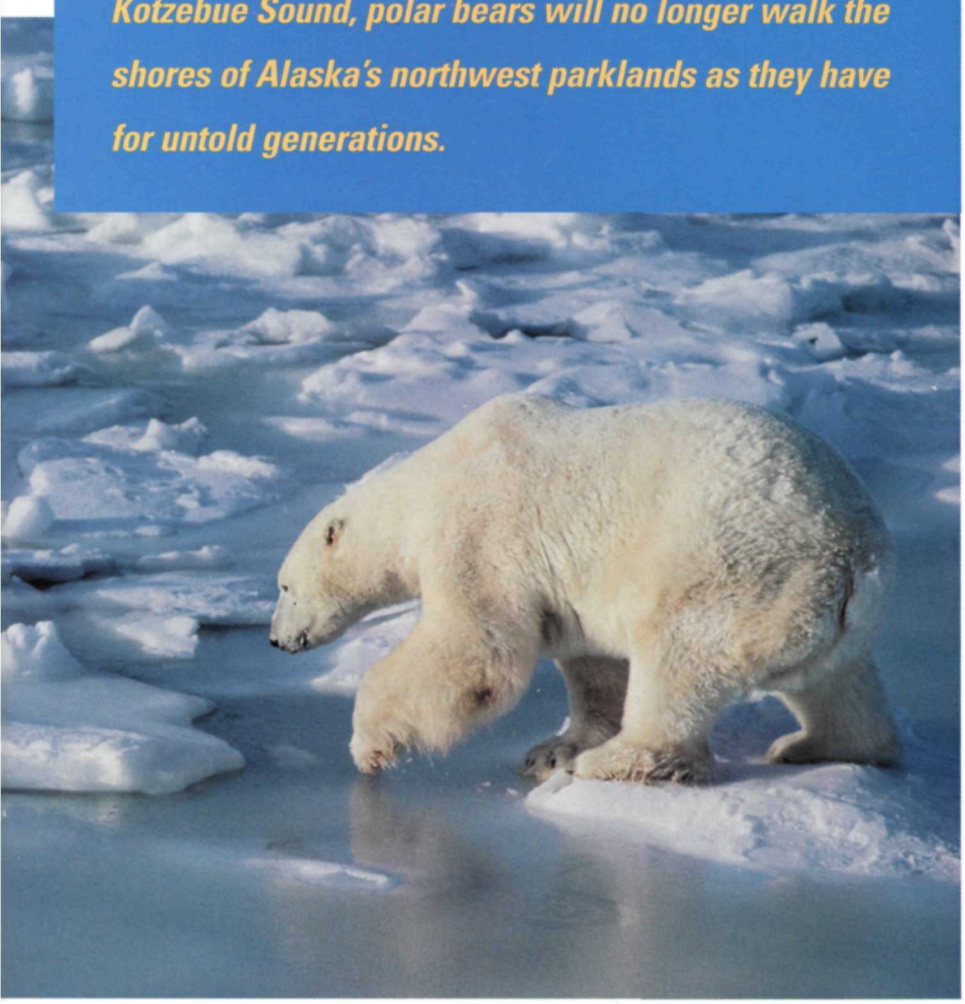
The Denali Caribou Herd at Denali National Park is already down to 1,800 animals. If the north side of the Alaska Range grows brushier and more forested—and there's evidence that this is happening—the herd may die out or move on. The loss of the herd would affect the park's famous wolves, which depend on the caribou.

- Alaska's woodlands have become more susceptible to insect attacks. A series of unusually hot and dry summers, combined with warmer winters and large stands of stressed trees, led to the largest insect infestation in Alaska history. Between 1989 and 1998, nearly 3.5 million acres of forested lands were beseiged by a "super outbreak" of spruce bark beetles. University of Alaska, Fairbanks forest ecologist Glenn Juday has called this an unprecedented "forest-shaping event" whose consequences are still being studied and debated. About 182,000 acres within Wrangell-St. Elias National Park have been affected. With continued warming, scientists predict additional infestations of Alaska's woodlands by a variety of insects.
- As Interior Alaska's climate becomes warmer and drier, the number of lightning-caused fires may increase in number and severity. "Fires are burning 'harder,'" says Park Service landscape ecologist Paige Spencer, "which sets back forest succession."

Even more disconcerting, perhaps, is the accelerated invasion of non-native plants. A prime example is sweet white clover, which loves dry, warm weather. Not so long ago, you could find only occasional clover patches; now it's taking over in some areas, at the expense of willow and cottonwood—and ultimately the moose that eat those plants. "What happens when clover replaces willow-cottonwood habitat?" Spencer asks. "What are the moose going to do?"

- Melting permafrost threatens damage to homes, public facilities, roads, and other structures in many north-

***If warming keeps the ice pack from advancing into Kotzebue Sound, polar bears will no longer walk the shores of Alaska's northwest parklands as they have for untold generations.***



KENNAN WARD

ern communities. In the Tanana Flats south of Fairbanks, forested areas are being transformed into wetlands. Conversely, where subsurface drainage is good, forests previously built on permafrost may dry out, producing grasslands. As with tundra, such ecosystem shifts will yield different plant and animal communities.

- The Bristol Bay region, home to the world's greatest sockeye salmon runs, has experienced unexpected sockeye declines since the mid-1990s. Researchers suggest the decline is climate related. Among the river-and-lake systems most severely affected is the Kvichak River-Iliamna Lake-Lake Clark drainage. Sockeye salmon is "the most important nutritive source in the Lake Clark ecosystem," the heart of Lake Clark National Park and Preserve, says Carol Ann Woody, a fisheries researcher with the U.S. Geological Survey. Once numbering in the millions, sockeye returns to Lake Clark have dropped to 200,000 fish. One of Woody's primary goals is to piece together the puzzle of those sockeye runs. "The models we used to depend on don't work any more," she says. "There's not a single sockeye system where we know what's going on."

Among those affected by sockeye declines are residents whose subsistence diet has traditionally been salmon rich. "It's a very significant concern to these people," Woody says. "They're having to fish longer, fish for other species, and some are still not meeting their subsistence needs."

Given the many climate-connected changes identified in and around Alaska's national parklands, it's only natural that the Park Service would play a key role in global-warming studies. As part of a national "inventory and monitoring program" that's still in its infancy, the Park Service will select "vital signs" for each of Alaska's 17 units, to measure their current ecological health and provide a baseline to measure changes. Inevitably, many of those "vitals" will be indicators of shifting climatic conditions. "Because of the way they're managed, our parks can be used as living laboratories," says Sara Wesser, Inventory & Monitoring (I&M) coordinator for the Alaska region. "Our studies can make important contributions to the science of climate change."

The I&M program will also assist managers as they deal with the changing nature of parklands and their many uses, both in Alaska and nationwide, as climatic conditions shift. No longer do we need to debate whether global warming is "real." Now the key questions become: How severe will the warming—and its consequences—be? And what are we willing to do to lessen our impacts as the Earth heats up.

PAT WARWICK/ALASKA STOCK IMAGES

***Scientists believe the Arctic offers a preview of Earth's future climatic shifts.***

Anchorage nature writer **Bill Sherwonit** is the author of ten books about Alaska.

FRED HIRSCHMANN

# About Global Warming

America's national parks preserve distinctive landscapes as well as cultural and historic landmarks that have shaped the character of our country. From Haleakala National Park in Hawaii to the Everglades in Florida, our parks and the unique ecosystems they protect are at risk from subtle changes produced by global warming.

Glacier National Park in Montana preserves one of the largest intact ecosystems in the lower 48 states, encompassing more than a million acres of forests, alpine meadows, and lakes. However, global warming may already be changing this park. In Montana, the temperature increased by 1.3 degrees Fahrenheit over the last century, and precipitation decreased by up to 20 percent in some parts of the state. The most expansive glaciers have been reduced by a third since 1850, with smaller ones no longer present. One study estimates that all of the park's glaciers may disappear completely in 30 years.

Carbon dioxide emissions are a primary culprit affecting global climate change. Normally the atmosphere allows excess heat to rise away from the Earth, but pumping lots of carbon dioxide into the air creates a layer that blocks heat from escaping into space. This trapped heat is increasing temperatures and causing problems all over the world—most dramatically in the Arctic regions.

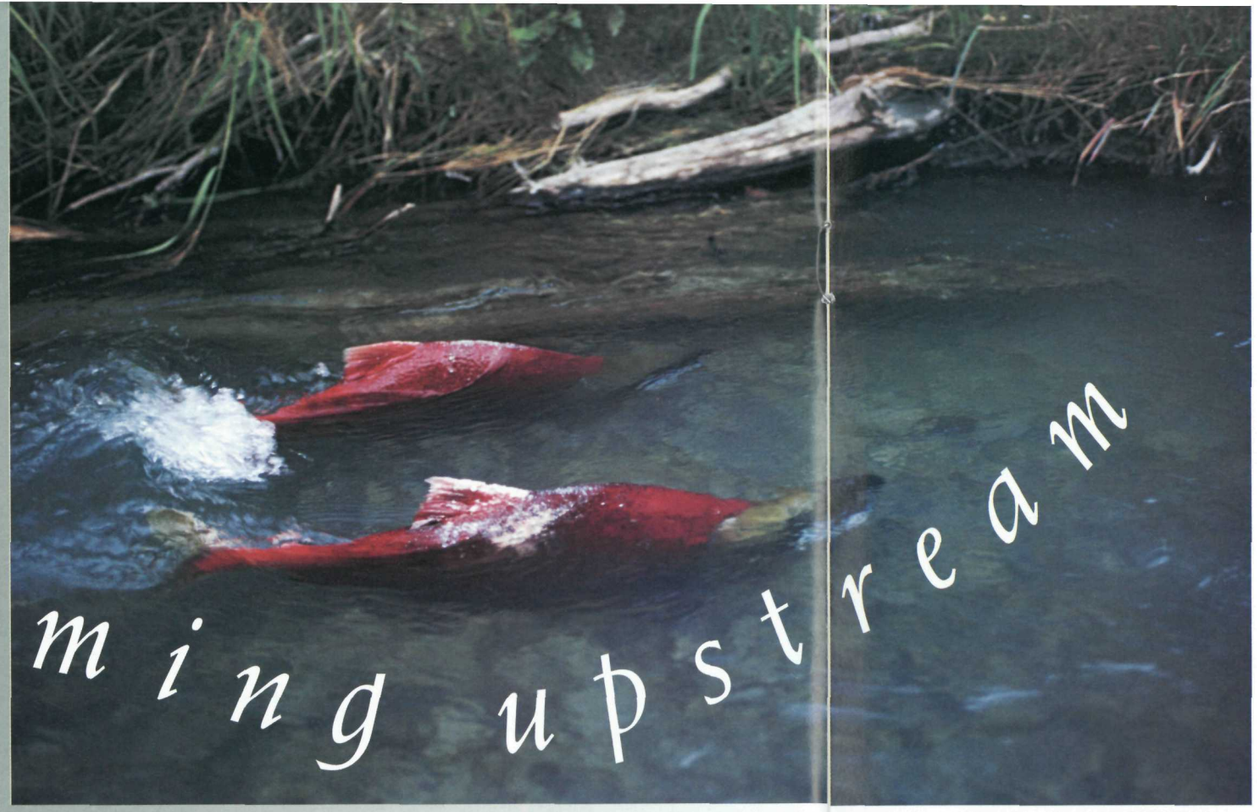
Currently, no law regulates the amount of carbon dioxide that power plants produce. Because this is such a large source, NPCA supports bills before Congress that would reduce this pollution for the first time. NPCA has worked for the past several years to strengthen federal clean air laws and limit the amount of sulfur dioxide, nitrogen oxides, mercury, and carbon dioxide that power plants emit. This will not only help curb global warming but also reduce hazy skies, unhealthy smog, acid rain, and toxic mercury build up in our national parks.

NPCA also endorses the Climate Stewardship Act proposed by Sens. John McCain (R-Ariz.) and Joseph Lieberman (D-Conn.). This bill would cap emissions of carbon dioxide and other heat-trapping pollutants. Although that legislation was narrowly defeated in the Senate last year, McCain and Lieberman are working to have another vote on the bill this summer.

For more information on NPCA's efforts to clear the air in our parks or to Take Action, visit: www.npca.org/air.

*—Ryan Dougherty*

# Swimming upstream



KENNAN WARD

*Sockeye salmon, shown here in Alaska, were among the species affected by dams.*

By Douglas Gantenbein

***Historic runs of salmon may soon return to the Elwha River and Olympic National Park if plans proceed to remove two dams that have blocked salmon runs for more than 90 years.***

These days, it's mostly surfers who congregate around the mouth of the Elwha River, catching smooth blue combers as they curl up from the water dissolving into white foam near the rocky beach.

Decades ago, this beach on Washington state's Olympic Peninsula would have been alive with members of the Lower Elhwa Klallam Tribe harvesting clams rather than catching waves. The Elwha Klallam have long lived on these shores, relying on the salmon that made their way up the river to spawn as well as little-neck clams and Dungeness crabs found along the shoreline of the Strait of Juan de Fuca.

Chief among the foods for the Elwha Klallam, along with eagles and many other animals living upriver, was the salmon. In fact, the Elwha once was one of the most productive salmon streams on the West Coast, producing nearly 400,000 coho, pink, chum, and sockeye salmon, steelhead, and mighty chinook salmon that sometimes topped 100 pounds. But those prodigious runs halted some 90 years ago, when a dam was built a mere 4.9 miles upstream from the Elwha's mouth, blocking passage. A second dam, completed in 1926, further severed the river from its once-close ties to the Pacific Ocean.

The dams, built primarily to produce power for a paper mill in Port Angeles, destroyed the once-great salmon runs, diminishing them to fewer than 3,000 wild fish each year. But now, after nearly 20 years of planning and political wrangling, those two dams are about to meet their end. If all goes well, sometime in 2007 engineers will start removing the Elwha Dam and its upstream companion, the Glines Canyon Dam. When work is completed three years later, the Elwha River will run free from its headwaters to the Pacific Ocean for the first time since 1910.

The scheduled removal of the two dams across the 48-mile-long Elwha River means more than restoring a historic run for salmon. It also provides a remarkable opportunity to restore the ecosystem of one of the finest wilderness parks in the National Park System, the 922,651-acre Olympic National Park. The $182-million restoration project is second only to the massive $30-billion proposal to restore the Everglades.

"People just aren't aware of how important salmon are to an ecosystem," says Heather Weiner, NPCA's Northwest regional director. "This is really a wonderful chance to educate them about the role of salmon, that these fish are important for the health of rivers."

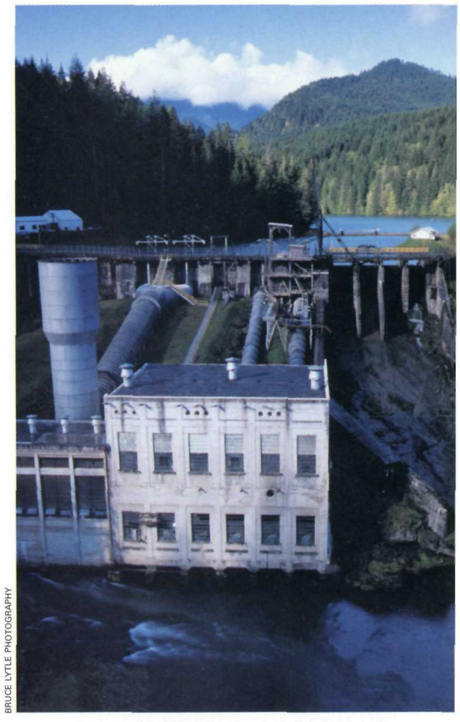
Anyone who has visited the big salmon-producing streams in Alaska, for instance, knows that spawning season transforms the character of a river. During the prime fall and spring spawning seasons, the banks of a stream with a healthy salmon population are littered with salmon carcasses.

In addition to providing a valuable food source for a variety of animals—from bears and eagles to pine martens and weasels—each fish is packed with nutrients that eventually return to the soil either directly through decay or indirectly through a predator's scat. "They're like vitamin pills for the ecosystem," says Brian Winter, a National Park Service fisheries biologist who is managing the Elwha dams' removal.

In the Elwha River basin, salmon once contributed more than 300 tons of phosphorus and nitrogen to the river and its surroundings each year. No accurate records exist of the Elwha basin's conditions before the Elwha Dam was built, so it's difficult to say what the loss of that biomass has meant. But experience elsewhere suggests that the return of salmon to the river will pay dividends for virtually every living thing in its drainage. Says Weiner: "We know that some 130 species, from tiny invertebrates up to bears and eagles, benefit from the nutrients in salmon carcasses."

In addition to playing a key role in the health of the ecosystem, salmon have been a crucial element in the culture and lives of the Elwha Klallam.

The 800-member tribe's reservation straddles the river's mouth, where it empties into the Pacific. Some tribal members still fish—primarily for Dungeness crab and geoduck, a big mollusk that is a delicacy in Asia—but the river that once fed them nutritionally and spiritually is a shadow of what it once was. Tribal rituals and festivals were built around the salmon, and even today



BRUCE LYTLE PHOTOGRAPHY

*The Elwha Dam, completed in 1913, severed the river from the Pacific.*


MATT KANA

LARRY ULRICH

***Big-leaf maples at Crescent Lake, Olympic National Park.***

**Locals told of seeing tens of thousands of fish swimming upstream, only to batter themselves to death in a futile attempt to pass the Elwha Dam.**

tribal members mourn the loss of the resource. "It hurts," says Robert Elofson, manager of the tribe's fishery and its chief representative working on the dams' removal. "The river meant so much to us, and even now we wonder what we could have done to keep the dams out."

In the 1980s, the tribe would finally make some progress in getting the dams removed, but not before the structures had dramatically changed the river's ecosystem.

In 1910, land speculator Thomas Aldwell formed the Olympic Power and Development Company and began work on the Elwha Dam on land that he owned. The dam, which straddled a rocky gorge, was completed in 1913.

State law forbade blocking salmon streams, unless upstream fish passage was provided for "food fish" (i.e., salmon.) However, state officials agreed to let him build a fish hatchery in lieu of a fish ladder. But the hatchery was a fiasco; its managers were unable to successfully rear fish, and it closed in 1922. Four years later, the Glines Canyon Dam was built eight miles upstream from the Elwha. Both dams provided electricity to paper and lumber mills in Port Angeles and to communities scattered along the northern Olympic Peninsula.

Within years, all ten runs of anadromous fish—coho, pink, sockeye, chum, and spring/fall chinook salmon, plus sea-run cutthroat trout, char, and winter/summer steelhead—had dwindled. Locals told of seeing tens of thousands of fish swimming upstream, only to batter themselves to death in a futile attempt to pass the Elwha Dam. Below the dams, the river itself changed, stripped of sediment and logs previously deposited from the upper reaches. Even the beach along the river's mouth changed. Denuded of sand that once was carried down the river, native populations of clams and Dungeness crab vanished. In their place came an ecosystem dominated by kelp and the less commercially lucrative rock crab.

The Elwha and Glines Canyon dams came to be seen as permanent structures. But the Elwha Klallam, long bitter over the destruction of their river and emboldened by court decisions that gave tribes increasing clout, challenged a relicensing application for the Glines Canyon Dam in the late 1980s. With help from several environmental groups, the effort to take the dams out at first moved quickly.

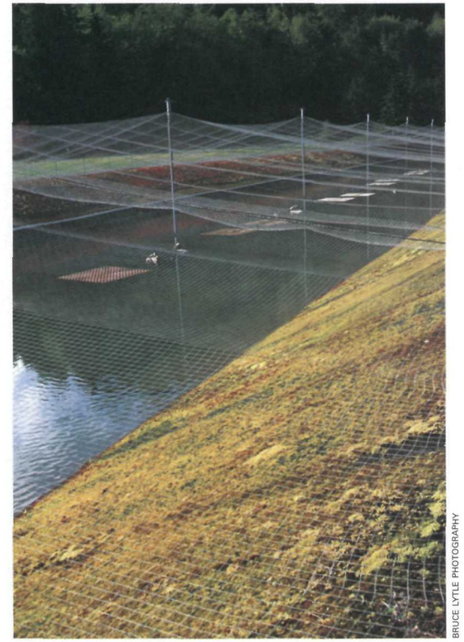
In 1992 Congress passed the Elwha River Ecosystem and Fisheries Restoration Act, and President George H.W. Bush signed it into law. It directed the federal government to buy and remove the dams. But no money was allotted, delaying the work and giving opponents time to stall.

In particular, a powerful Republican senator from Washington, Slade Gorton, slowed the removal process even though he had co-sponsored the 1992 legislation. In the late 1990s, he tried to implement a two-stage dam removal, with the lower dam taken out and 12 years of "study" following. He also attempted to link the Elwha dams' removal to a bill forbidding any dam removal on the Snake River, another river where dams have devastated salmon runs.

By 2000, Gorton retreated, and in February of that year the federal government bought the dams from the paper company, clearing the way for removal. But much work remains to be done. Beginning next year, plans call for the construction of water-treatment plants to help local water users cope with the heavy sediment loads that will be released by removal of the dams. Two years after that, the dams will be removed.

Removing the 210-foot Glines Canyon Dam is fairly straightforward. Engineers will cut out successive notches in the dam's thick concrete wall, gradually lowering the water level until the dam no longer restricts the river's flow. Taking out the 108-foot Elwha Dam is trickier. It was so sloppily built that soon after its completion, the foundation blew out. To plug the hole, engineers filled it with timbers, rubble, and concrete, a patch that extends well upstream from the dam's base. Notching will not work, so instead, the plan is to divert the river around the dam, build a cofferdam that isolates it, then demolish the dam when the lake behind it is drained.

The process is essentially the reverse of building a dam. "Anything that humans put up, humans can take out," notes Winter. When the dams are gone, not many will feel as much satisfaction as the tall, bearded biologist. Now 48, he



BRUCE LYTLE PHOTOGRAPHY

***Hatchery fish are raised to supplement populations of wild salmon.***

has spent most of his career in the Elwha's orbit, first as a fisheries biologist with the Lower Elwha Klallam Tribe, and since the early 1990s as the National Park Service's point man on dam demolition. He knows every nook and cranny of the dams, can readily spout statistics on sediments piled behind them (19 million cubic yards), and is fully confident that salmon will begin exploring the full length of the river within months of the dams' destruction. "The habitat for salmon is intact," he says. "The only perturbation on the river has been the dams."

It will take time for the Elwha to undo the changes brought about by decades of damming. Two lakes formed by the dams, Lake Aldwell and Lake Mills, contain silt and sand that covered slopes logged off before the dams were finished. Park biologists plan to revegetate the upper reaches above the river but will leave the deltas and sand banks to the river to erode and drag downstream. In time, the beaches along its mouth also are likely to resume their former shape, as sand from the river rebuilds stony shoreline. The Dungeness crab and other species are apt to follow. Even surfing may improve, with a better beach to launch from. Winter expects 30 years or so to elapse before the Elwha fully regains what it lost decades ago.

By then, more than a century will have passed since the last great salmon run on the Elwha. But nature can be a powerful and persistent force. Left to their devices, salmon will once again make the Elwha River their rightful home.

**Douglas Gantenbein** is a writer based in Seattle, Washington. He last wrote about the Wright brothers for the magazine.

## A Feast for the Forest

Olympic National Park contains 3,550 linear miles of stream, including 300 miles of river and 3,250 miles of creek. Together with the park's lakes, these waters are home to 29 native freshwater fish species, including at least 54 unique populations of Pacific salmon and steelhead, one endemic species, and five non-native fish species. The park represents one of the largest contiguous areas of undisturbed aquatic habitat in the lower 48 states and contains some of the last free-flowing coastal rivers in the United States.

In Olympic National Park, salmon link together the mountains, forests, coast, and sea. The park's rivers and streams are the corridors through which they travel. Salmon begin life in the gravelly bottoms of cold, clear rivers that flow from snowmelt high in the Olympic Mountains. These rivers nurture them until they head for the coast and swim to the sea, where they grow to maturity on the ocean's bounty. Then, following an age-old genetic calling, they battle upstream to return to their natal streams, where they give their last strength to spawn, creating the next generation. This life history is termed, "anadromy."

MARK CONLIN/LARRY ULRICH STOCK

***Sockeye salmon in Horsefly River, British Columbia.***

In a recently released State of the Parks assessment, NPCA explored a variety of challenges facing Olympic National Park, including the restoration of salmon. Removing the dams on the Elwha River presents the park with a rare opportunity to restore salmon habitat within the park. This single action would help do much to preserve the park's ecosystem.

Many species of Pacific salmon die after spawning, and as life leaves their battered bodies, the salmon become food for a host of forest inhabitants. Bears, eagles, raccoons, skunks, and even mice feast on the dead and dying fish. The bodies of the salmon nourish the next generation of juveniles by providing nutrients to stream invertebrates and other organisms that will become food for the young salmon.

Recent studies have shown that salmon also nourish the forest system. When carcasses are dragged ashore by bears and other forest animals, what is left uneaten becomes food for scavengers. The fish are rich in nitrogen, a primary nutrient required by trees and other vegetation. Decaying salmon carcasses, as well as waste from animals that have consumed salmon, release nitrogen and other nutrients that are used by plants.

Twenty-six runs of Pacific salmon and steelhead are now listed under the Endangered Species Act, and several of these occur in Olympic. Many more runs are considered to be at high risk of extinction.

*—Elizabeth Meyers, with NPCA's State of the Parks program*

MARK CONLIN/LARRY ULRICH STOCK

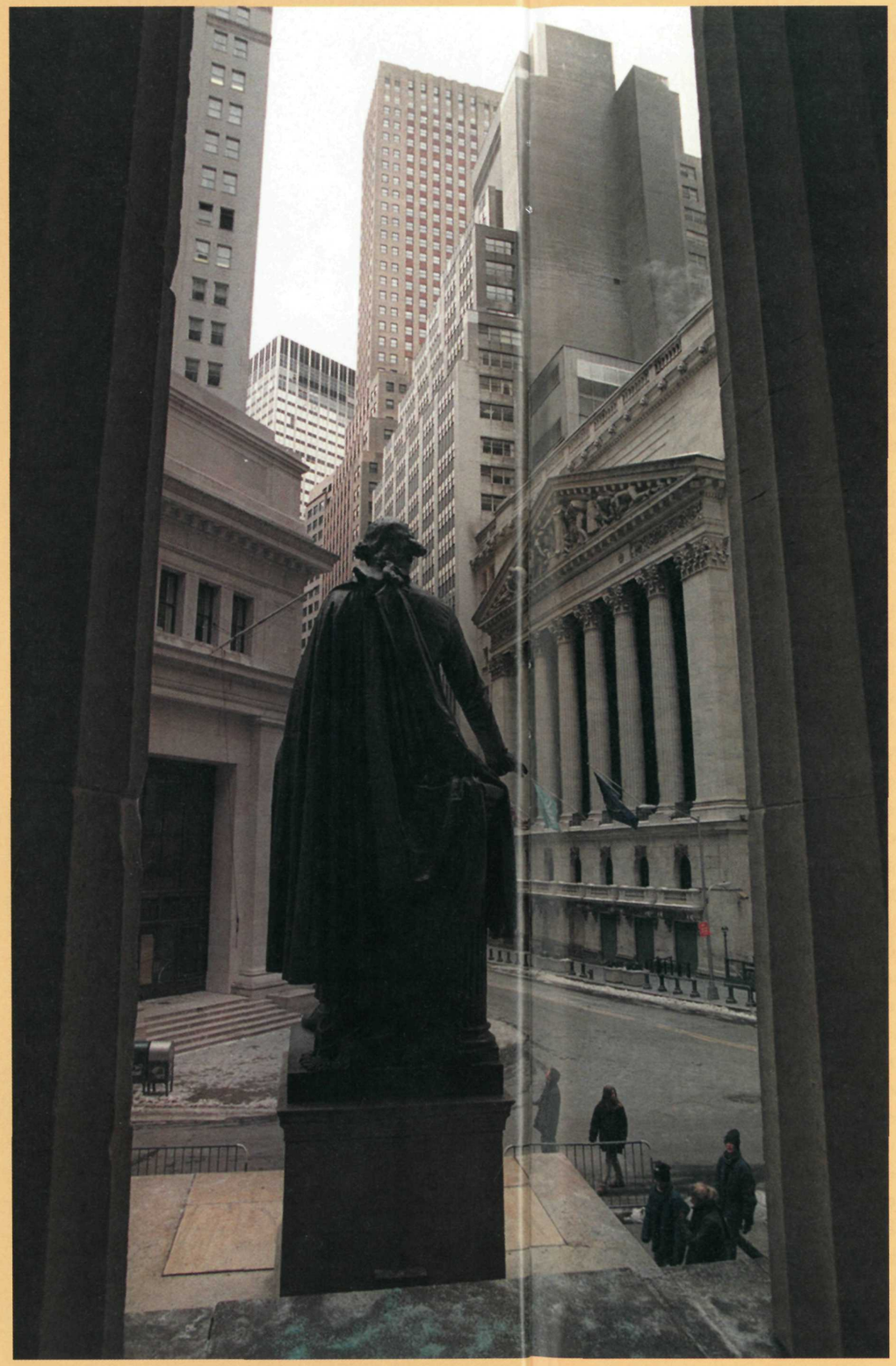
KRISTA SCHUYER/WAYFARER PHOTOGRAPHY

***Salmon, such as the chum shown in Alaska's Prince William Sound, historically helped to feed much of the wildlife along the Elwha River as well as the diverse ecosystem of Olympic National Park.***

# *Repairing Democracy's Birthplace*

AP/WIDE WORLD PHOTOS (2)

The collapse of the World Trade Towers in New York City deepened a crack in the walls of Federal Hall, home to the first Congress and birthplace to the Bill of Rights. This shrine to democracy is now receiving some much-needed repairs, thanks to a special appropriation from Congress.



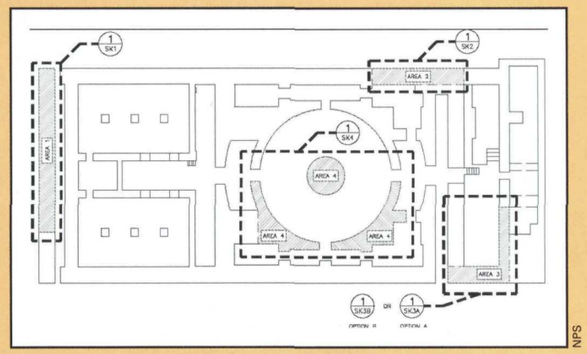
**By Phyllis McIntosh**

For more than 200 years, Federal Hall in Lower Manhattan has been witness to history. George Washington took the oath of office there in 1789. The original building on the site was New York's first City Hall and the nation's first capitol—home to the first Congress and birthplace of the Bill of Rights.

On September 11, 2001, Federal Hall was also witness to one of the darkest chapters in recent American history. Located at 26 Wall Street—just four blocks from the World Trade Center—it provided refuge for people fleeing the debris storm that followed the collapse of the Twin Towers. On the first anniversary of the terrorist attacks, Federal Hall would once again host the U.S. Congress, which convened there in special session to honor the victims and heroes of that fateful day.

But the cataclysmic events of September 11 left a permanent mark on the historic structure, weakening its foundations and intensifying cracking and sagging caused by decades of wear and tear. Now, Congress has come to the rescue with a special appropriation of $16.5 million to shore up the foundations and repair cracks in walls and floors. With some of the money earmarked for replacing exhibits damaged by dust and debris on September 11, the National Park Service is about to begin a much-needed update of Federal Hall and the fascinating story it has to tell.

Erected in 1842 to replace the original building, Federal Hall over the years has developed a number of cracks in the floor and walls as a result of uneven settlement. The most significant cracks, in the southwest corner, likely stem from installation of pilings to stabilize the building during construction of an adja-




NPS

***Backed by $16.5 million from Congress, Park Service officials are examining how to restore Federal Hall and the story it has to tell.***

cent subway line in the 1930s, says Douglas Porter, project manager for the Federal Hall repairs. In the 1950s, pilings were added on the east side as well, but the center of the building, which rests on a brick vault foundation atop a granite slab, continued to settle. The city's pumping of groundwater to keep the subway dry has lowered the water table and no doubt aggravated the settlement problem, Porter says.

On September 11, 2001, the collapse of the 110-story Twin Towers sent a seismic shock equivalent to a 6.3 earthquake through Lower Manhattan. The tremor widened existing cracks on the exterior of the building, in floor tiles, and above doorways, and new cracks up to an inch wide appeared in the brick vault supports in the basement. "Two bricks actually popped out of one of the cracks in a brick vault in the sub-basement, which indicated some active shaking," Porter says.

Most critical was a two-foot void under the foundation of the northwest corner, discovered during geotechnical investigations. Fearing a partial collapse, the National Park Service hastened to make emergency repairs, placing four piles about 40 feet deep under the weakened section.

Airborne debris from the fallen towers clogged Federal Hall's roof drains and exterior portions of the heating and cooling system and dispersed dust and ash throughout the ductwork. Debris also settled in one exhibit gallery, marring panels that explained the formation of the federal government from 1787 to 1790.

With the $16.5 million special appropriation from Congress, the Park Service plans to start repair work this fall and hopes to complete it within two years. The first phase, expected to take six months, will focus on mending brick vaults in the basement and augering additional piles to support the central rotunda and further stabilize other parts of the building. During this work, a third to half of Federal Hall's front steps will be disassembled and resupported, but the statue of George Washington that stands in front will remain undisturbed, Porter says.

In the second phase, the Park Service will replace the heating and cooling system and relocate it from the attic to the basement, upgrade the electrical system, pressure wash the entire building, and repair the cracks. "There are some cracks over doorways that have us concerned," Porter says. "Our plan for those is to drill rock bolts through the exterior façade, put in a steel rod, and grout it in place to re-establish the structural integrity in the arch over the doorway." Makeshift steel columns and beams now supporting doorways around the rotunda on the second floor can then be removed.

To level the uneven floor, workers may need to pop out some of the marble tiles, smooth the underfloor, and reset the tiles, Porter adds. On the exterior of the building, cracks exposed to the weather will be caulked to seal out moisture. Areas where stone has begun to flake away around cracks will be patched with material resembling marble to improve the appearance of both interior and exterior walls.

"We don't plan to replace stones,

***Most critical was a two-foot void under the foundation of the northwest corner, discovered during geotechnical investigations. Fearing a partial collapse, the National Park Service hastened to make emergency repairs, jacking four piles about 40 feet deep under the weakened section.***

NPS

***Four blocks from the World Trade Center, Federal Hall became a refuge on September 11.***

NPS (3)

***The Park Service plans to begin repairing Federal Hall this fall and have the work completed within two years.***

because those chunks of marble are huge, three to four feet square," Porter says. "Sliding out a piece of marble that size and putting in a new one is very difficult. Besides, a crack in a piece of marble does not prevent it from doing its job structurally."

Although the repair work won't solve all of Federal Hall's problems, it is an important start. In 2002 NPCA named Federal Hall National Memorial to American's Ten Most Endangered National Parks list, citing such problems as outdated 30-year-old exhibits that "do little to educate or inspire visitors," no permanent safety staff serving the park, and lack of an educational outreach coordinator to help teachers integrate the memorial's resources into classroom curricula. In 2003, NPCA removed the memorial from the endangered list, noting that Congress had approved "the largest increase ever for the operating needs of parks such as Federal Hall."

Indeed, the tragedy of September 11 has speeded up some improvements beyond just structural repairs. An internal security system has been installed, and a park safety officer and a park protection ranger now patrol the premises. Outdated exhibit panels damaged by debris on 9/11 are being replaced by an audiovisual presentation. "We're reaching an audience now in the 21st century, and we're hoping to do it with more contemporary technology," says Steve Laise, chief of interpretation. "Instead of telling in such laborious detail how the early government conducted its business, we want to provide more of an overview of the historic significance of the site." Federal Hall officials hope this is just the first step in implementing a seven-year-old plan for updating all of the memorial's exhibits.

Plans also call for Federal Hall to function as a visitor information center, with exhibits about other Park Service sites in the New York City area and the

***The seismic shock of the Twin Towers' collapse widened existing cracks at Federal Hall.***

# Federal Hall: Witness to History

- Original structure is built in 1700 as New York's City Hall.
- In 1735 Peter Zenger is tried and acquitted of libel for exposing government corruption in his newspaper—the *New York Weekly Journal*—an early victory for freedom of the press. Alexander Hamilton is eloquent for the defense.
- In 1765, the Stamp Act Congress assembles to protest "taxation without representation."
- After the American Revolution, the Continental Congress meets under the Articles of Confederation and in 1787 establishes procedures for creating new states.
- After the Constitution is ratified in 1788, the first Congress convenes on March 4, 1789, in what is now the nation's first capitol building, renamed Federal Hall. Here Congress writes and sends to the states for ratification the first ten amendments to the new Constitution—the Bill of Rights.
- On April 30, 1789, George Washington takes the oath of office as the nation's first president.
- After the seat of government moves to Philadelphia in 1790, Federal Hall again serves as City Hall until the building is demolished in 1812.
- The current structure is built in 1842 as a Customs House.
- In 1862, Federal Hall becomes the U.S. Sub-Treasury and houses millions of dollars of gold and silver in its basement vaults until the Federal Reserve Bank is created in 1920.
- The building is designated Federal Hall Memorial National Historic Site in 1939. In 1955, it becomes simply Federal Hall National Memorial.
- On September 11, 2001, New Yorkers fleeing the collapse of the World Trade Center just four blocks away seek refuge in Federal Hall.

AP/WIDE WORLD PHOTOS

- In summer 2003, designs for redevelopment of the former World Trade Center site are exhibited in Federal Hall for six weeks of public review. Some 17,000 people come specifically to see the designs and register their comments.

*—Phyllis McIntosh*

rich variety of national parks, monuments, and historic sites to be found throughout the rest of the country.

Park officials have not yet decided whether to allocate permanent space for an exhibit about Federal Hall's role in 9/11, says Joseph T. Avery, superintendent of six Manhattan sites, including Federal Hall. The wooden marker describing the 2002 special session of Congress held in the rotunda is on permanent display, and Avery plans to continue mounting a temporary 9/11 exhibit every year on the anniversary of the attacks.

Educational outreach at Federal Hall is also a bit uncertain. "In this huge metropolitan area of 20 million people or more, if we had two or three outreach rangers, we could get the word out, offer programs in the schools, and invite school kids to the six Manhattan sites, including Federal Hall," says Avery. Although he submits a request every year, not one such position has been funded. Shortfalls in both operations and maintenance budgets continue to challenge every park in the system, including ones like Federal Hall that receive special appropriations. NPCA has identified an annual operating shortfall of more than $600 million for the entire National Park System—a shortfall that NPCA is working to address through legislation and education.

Obviously, the problems at Federal Hall will not be solved overnight. But out of tragedy is emerging a renewed site better prepared to tell its unique story of the beginnings of a great nation.

**Phyllis McIntosh** is a freelance writer based in Bethesda, Maryland. She last wrote for *National Parks* about the importance of volunteers.

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# Going to the Chapel

## Hiking, swimming, or perhaps marriage? The national parks are vacation destinations for many, and some couples choose to exchange their vows there. Here are a few of their stories.

People hike in them, swim in them, and spend some of their precious family vacations in them. A few people even get married in them. Each year, couples throughout the country choose national parks as their wedding destination. Our members have a deep affection for these special places, and we imagined that a few had chosen these places to pledge love to a life partner.

Some time ago, we invited readers to share their wedding stories. Some of these stories are much more than that. The national parks play important roles in many people's lives. And their significance becomes even more important as our lives change. As award-winning mystery writer Nevada Barr wrote in *National Parks* magazine several years ago, "the parks are places we can go home to, places our children and grandchildren and their grandchildren can go home to and find a sense of who we are still in our innocence and youth."

Enjoy.

Sequoia National Park had been a part of my family for many years. My sister and I grew up playing among the majestic trees, hiking the many trails, learning how to distinguish the birds and where the bears lived. We would sometimes stop at the lodge to buy a candy bar for a special treat. Then, bundled comfortably against the night chill, we would walk over to the Giant Forest Amphitheater for the campfire program.


CORBIS

***A bride emerges from a camper, ready to take her vows at Grand Teton National Park.***

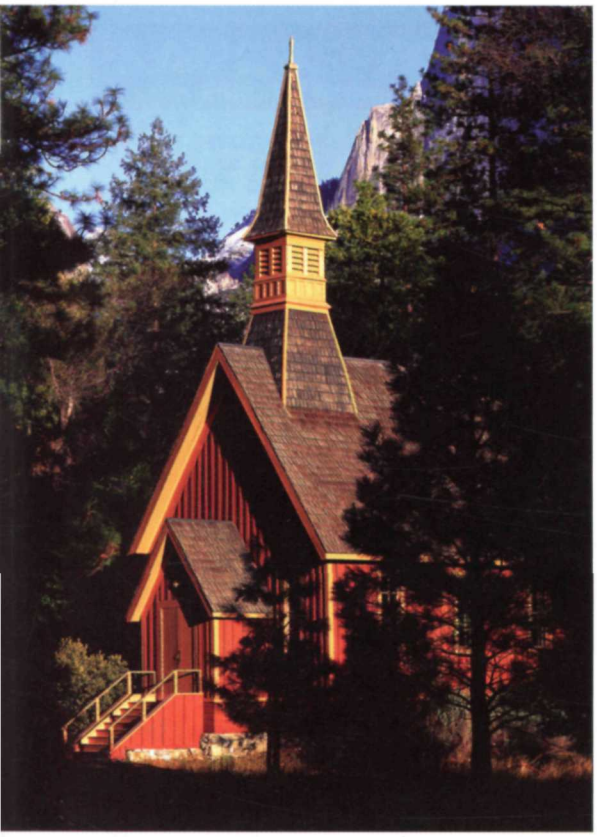
If we were really lucky that night, Ranger Naturalist Brown would lead the program. His beautiful deep voice, his extensive knowledge of all things living, and his obvious love of the park made his programs very special.

When my fiancé and I started planning our wedding, there was little doubt where it would be. Fortunately, we had more than a year to plan it. That was 1967, when weddings were rarely held in the park. I accumulated a notebook nearly an inch thick full of letters, seeking permission, completing forms, satisfying concerns.

Our wedding was held in the Giant Forest Amphitheater under the auspices of the Church of the Sequoias, an interdenominational church located in the park. Ranger Naturalist Brown had retired by then, but he and his wife had also become family friends. Once again his deep voice reverberated among the trees, accompanied by his wife on a portable organ and answered by a clarinet echoing from a nearby sequoia tree. Ground squirrels scurried about behind the altar, where a giant log formed a backdrop to the ceremony. The reception was at Beetle Rock. We spent our honeymoon camping in the park.

During the honeymoon, I was hand-washing some clothes in the bathroom. I told a woman there that we had just been married. I still remember her words: "A marriage begun in such a lovely place should last forever."

Three years later, my sister also was married in the park. Both of us have brought our own children, separately and as an extended family, to enjoy the park. We have all hiked the trails together, laughing and remembering old campfires and new, sharing with this new generation our love of the park and of the wild world it preserves.



CORBIS

***Yosemite Chapel at Yosemite National Park is a popular site for weddings.***

A few years after our weddings, the Park Service realized that the sequoia root systems could not withstand the continued pounding of intense human use. The process of removing the visitor impact from Giant Forest was begun.

Today, the lodges where we bought candy bars and where we held the reception are gone. The campgrounds where I played among the trees are gone. Ranger Naturalist Brown and his wife are both gone. Sunset Rock is still there, accessed only by the traces of roads long unused.

All those human-made things are gone, but the trees are still there. My own children have come to camp, to hike the old trails, and to marvel at the beauty of the trees. Already they are bringing their own families. There will be new children born to toddle down the trails of the park, to climb the rocks, to learn family ties and self-reliance, to strive toward goals as yet undreamed. And the trees will still be there.

*Irvin and Marilyn Ailes of Chincoteague, Virginia, members since 2001*

---

Mark and Margie Harwich of California booked the chapel, acquired the permits, and made reservations for accommodations a year ahead. They knew Yosemite National Park would be a popular place to stage a wedding. After all, Mark had proposed to Margie a year before atop Half Dome. They returned exactly one year later in 1997 to take their vows at Yosemite Chapel, "this time with their feet firmly on the ground."

We wanted the day to have a seamless feel, unlike some weddings where you tend to wait too long between ceremony and reception. The reception room was elegantly decorated, and as requested, our buffet was ready on arrival. The opportunities for dancing at the Ahwahnee were limited. This made for a very conservative wedding environment, which was exactly what we wanted.

We had continuous CD music playing, which ahead of time is carefully reviewed by the staff so the selections do not disrupt the ambiance of the hotel. Just good friends, family, and incredible scenery set the stage for one of the most special days of our lives.

We cherish our wedding in Yosemite National Park. Our friends have told us that our wedding remains one of the most enjoyable weddings they've experienced. We couldn't agree more.

We wanted this day never to leave the forefront of our minds. The spirit of this day lives on in a unique way. To ensure a constant reminder, we chose to put a slogan on our personalized Yosemite National Park, California, license plate that exemplifies our love for this beautiful time in our lives. "Wed Here."

*Mark and Margie Harwich of Rancho Cucamonga, California, members since 1993*

---

Herb and Elaine Heiman chose to tell the story of a wedding that was not their own, but in which they played a significant, if unexpected, role.

It was Thanksgiving time about 15 years ago. We were camping at Big Bend National Park in Texas. We wanted to explore a creek we had heard about that ran for about half a mile through a small gorge and then simply flew over a precipice, plummeting hundreds of feet straight down.

We moved cautiously along the rocks and outcroppings, enjoying the scenery, when about 15 minutes into the journey, we heard a voice call out to us, "Thank goodness, oh thank goodness you're here. We need help. Right now!"

Fearing we'd come on someone with a broken bone or worse, we rushed to his side. Wide-eyed, we asked what was wrong, what could we do to help.

"My lady and I are down at the end of the creek with a minister, waiting to get married...and we don't have anyone as a witness!"

Hiding our relief and our smiles, we followed him to the tiny wedding party. We exchanged names and addresses and took photos. But time has a way of eroding even the best of intentions, and all are gone—all but the memory. We'd love to hear from that couple, if they are still a couple. This seems like the only opportunity we will ever have.

*Herb and Elaine Heiman of Talent, Oregon, members since 1990*

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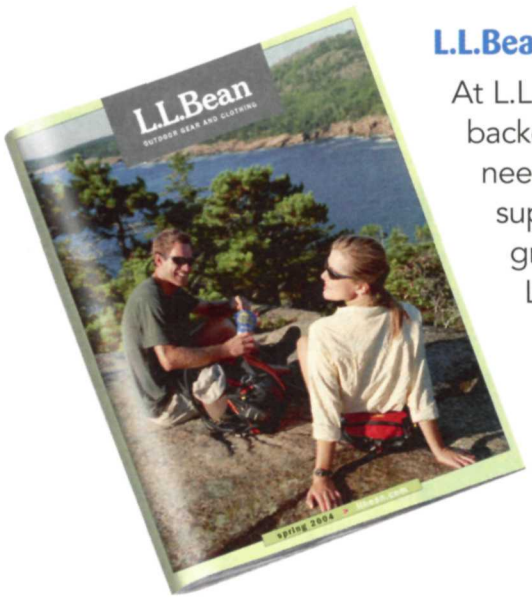


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# All Aboard with Lewis and Clark

***From the Plains to the Pacific, retrace the incredible journey of the Corps of Discovery by train while visiting parks that preserve the truly wild West.***

By Kim A. O'Connell

JAY THOMSON

***The* Empire Builder *with the Rockies as a backdrop.***

With the soothing expanses of the Great Plains behind you and the jagged teeth of the northern Rocky Mountains ahead of you, it is easy to imagine the stark fear—and exultation—that Meriwether Lewis and William Clark felt during their famed expedition across this landscape 200 years ago. As your conveyance huffs and heaves its way across the Rockies, you can sense the difficulty of their travails, as they abandoned their canoes to cross what they called the "formidable mountains." Instead of riding a horse as they did, however, you are following their journey by train.

As the nation celebrates the bicentennial of the Lewis and Clark expedition, now through 2006, the National Park Service and Amtrak have teamed up to offer several Lewis & Clark Discovery trips as part of their nationwide Trails & Rails Partnership Program. Modern trains—with storybook names like the *Empire Builder* and the *Coast Starlight*—retrace the route of Lewis and Clark from the expedition's beginnings in St. Louis (via two short routes in Missouri) to its triumphant climax in the Pacific Northwest. Along the way, travelers can visit scenic and historic sites associated with the journey, as well as parks that preserve other significant events such as the 19th-century fur trade and gold rush. On board, historians, naturalists, and other interpreters offer multifaceted presentations that bring the story to life, connecting the distant past to the vistas just outside the window.

## Knife River Indian Villages National Historic Site

This Empire Builder route begins in the town of Minot, North Dakota, which sprang to life with the arrival of the Great Northern Railroad in 1886. Railroads once heralded a new, high-speed age, and Minot residents nicknamed their town the "Magic City" because of its rapid development. This leg of the route is sponsored by the nearby Knife River Indian Villages National Historic Site, which preserves historic and archaeological resources related to the Northern Plains Indians. More than 50 archaeological sites at the park have revealed a period of human settlement spanning thousands of years, most recently marked by five centuries of Hidatsa earth lodge habitation. The park features 11 miles of trails through natural and cultural areas.

During summer months, the Knife River program on the *Empire Builder* operates round-trip from Minot to Malta, Montana, three days a week. A rotating roster of interpreters—including cowboy poets, local historians, and even a Mandan-Hidatsa flutist—hold programs in the train's lounge car, which features extra-high windows that offer panoramic views of the Dakota and Montana landscapes. Travelers can also watch part of Ken Burns' and Dayton Duncan's acclaimed documentary, *Lewis & Clark: The Journey of the Corps of Discovery*, as well as a video about trail stewardship produced by the Lewis and

JOHN ELK III

***A reconstructed Northern Plains Indian earth lodge at Knife River Indian Villages.***


WAYNE MUMFORD

MATT KANIA

WAYNE MUMFORD

***Cultural artifacts of the Northern Plains Indians at Knife River Villages.***

Clark Trail Heritage Foundation. For more details, visit www.nps.gov/knri.

Knife River Indian Villages is about 22 miles from the Fort Mandan historic site and the North Dakota Lewis & Clark Interpretive Center. Now reconstructed, Fort Mandan interprets Lewis and Clark's memorable 1804-05 winter encampment there, where the two first met their Shoshone companion and guide, Sacagawea. The Interpretive Center hosts exhibits related to the entire expedition, with a special focus on the Fort Mandan period. Visit www.fortmandan.com for details.

## Fort Union Trading Post National Historic Site

After wintering at Fort Mandan, Lewis and Clark moved on to the confluence of the Yellowstone and Missouri rivers near Williston, North Dakota, spending several spring days at "this long wished for spot." Today, Fort Union Trading Post National Historic Site sponsors a one-day journey on the *Empire Builder* between Williston and Shelby, Montana, which traces one of the most notable sections of the Lewis and Clark trail. As Lewis and Clark journeyed west along the Missouri, traveling with Sacagawea and the rest of their party, they began to experience immense difficulties. The Rocky Mountains loomed ahead of them, and the Missouri River's current was so strong that the crew towed their heavy canoes with ropes while walking along the shoreline. Towing soon gave way to wading, with the men pushing and pulling their canoes upstream by force of muscle and sheer will. Near Great Falls, Montana, the team portaged their canoes for 18 miles around a series of cascades before they could travel by river once again.

Although the *Empire Builder* is able to bypass these difficulties, travelers can

WAYNE MUMFORD

***Fort Union Trading Post National Historic Site.***

RANDY BEACHAM

***A replica of the canoe landing of Lewis and Clark at Fort Clatsop, Oregon, where the crew recorded the area's variety of plants and wildlife.***

still witness the dramatic landscape changes that confronted Lewis and Clark along this route. As with the Minot-Malta route, on-board programs range from interpretive talks to "traveling trunk shows" with pelts and other pass-around artifacts, which are offered seven days a week.

At Shelby, travelers can detrain to visit the Great Falls Lewis and Clark Interpretive Center, which is open from 9 a.m. to 6 p.m. daily during the summer. The center offers films, interpretive programs, and permanent exhibits about the expedition and local Native American tribes.

### Klondike Gold Rush National Historical Park

In the Pacific Northwest, travelers on certain *Empire Builder* and *Coast Starlight* routes can relive the joyous moments, in November 1805, when Lewis and Clark first felt the tides shifting beneath their canoes on the Columbia River. "Great joy in camp," Clark famously wrote, "we are in View of the Ocian [sic]...this great Pacific Octean [sic] which we been so long anxious to See."

Today, Klondike Gold Rush National Historical Park is sponsoring Trails & Rails programs on the *Empire Builder* between Seattle and Havre, Montana, and on the *Coast Starlight* between Seattle and Portland and Eugene, Oregon. On-board programs focus on the latter period of the Lewis and Clark expedition, when the Corps faced fierce winter storms along the coast and a scarcity of game. The situation was so dire that the crew voted to move their operation to the Oregon side of the Columbia, where elk and deer were reportedly numerous. Significantly, Lewis and Clark counted the votes of all present—including those of a woman, Sacagawea, and a black man, York, a slave who accompanied the expedition. Once in Oregon, the crew established Fort Clatsop, recording numerous plant and animal species and other data before breaking camp and heading east the following spring.

At the terminus of the journey in Seattle, visitors can stop in at Klondike Gold Rush National Historical Park, which preserves artifacts related to the 19th-century gold rush that transformed the city. In 1897, news that gold had been found in the Canadian Yukon sent tens of thousands of people to Seattle's commercial district, where they stocked up on supplies before striking out for the Klondike Gold Fields. Today, park visitors can watch gold-panning demonstrations and take a walking tour of the nearby Pioneer Square Historical District.

JOHN ELK III

***A park ranger holds a gold-panning demonstration at Klondike Gold Rush National Historical Park.***

More information can be found at www.nps.gov/klse. For more information about parks in Seattle, visitors can stop in at NPCA's Park Information Center at Pioneer Square.

**Kim A. O'Connell** is a freelance writer based in Arlington, Virginia. She last wrote about a settlement of a long-standing dispute in Great Smoky Mountains.

## SIDETRIP: *Where the Yellowstone Meets the Missouri*

NPS

***The confluence of the Missouri and Yellowstone rivers, whose wildlife dazzled Lewis.***

In the spring of 1805, near the confluence of the Yellowstone and Missouri rivers, Meriwether Lewis observed "immence herds of Buffaloe, Elk, deer & Antelopes feeding in one common and boundless pasture." Two decades later, Fort Union would be built on the site by John Jacob Astor's American Fur Company. The confluence was an ideal location for a trading post, attracting many American Indian tribes from the surrounding areas, including the Assiniboin, Crow, Mandan, Hidatsa, Chippewa, and Sioux. During and after the Civil War, the fort was retooled as a Union stronghold, and the site was later inhabited by a group of Hidatsas.

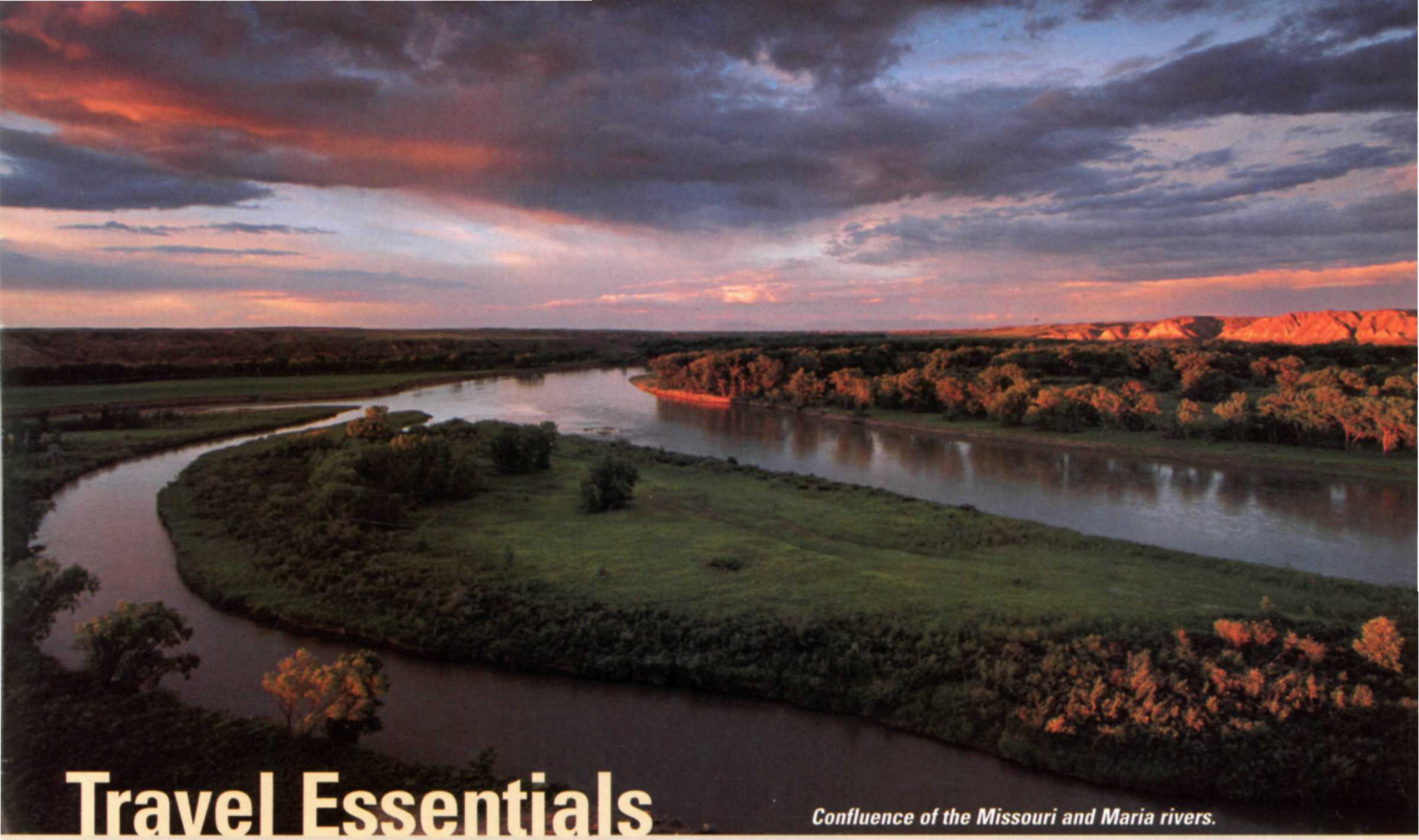
Today, the *Empire Builder* rumbles past Fort Union Trading Post National Historic Site on its long journey west, making this the perfect side trip for the Lewis and Clark traveler. Visitors can stay in one of several hotels and inns available in Williston, North Dakota, and rent a car or motor coach for the 25-mile trip southwest to the park (visit www.willistonndtourism.com for more information about lodging and transportation). The park is open from 8 a.m. to 8 p.m. every day in the summertime. In addition to the restored fort, the site features the historic Bourgeois House, which now serves as the visitor center and museum, as well as the 1850s-era Indian Trade House. Special events include the annual Indian Arts Showcase in August and the Labor Day Living History Weekend. (Visit the park web site at www.nps.gov/fous for details.)

Two miles away, Fort Buford State Historic Site, an 1866 military supply depot, features a museum and annual reenactment, a picnic area and a campground (www.state.nd.us/hist/buford/buford.htm). Nearby, the new Missouri-Yellowstone Confluence Interpretive Center highlights the area's geology and history, covering Lewis and Clark, the fur trade, and modern settlement. Call 701-572-9034 for more information. ❖



JOHN ELK III

***A reconstructed lodge at Oregon's Fort Clatsop.***



# Travel Essentials

*Confluence of the Missouri and Maria rivers.*

To plan a Lewis and Clark train trip, or for more information on other trains nationwide that are taking part in the Trails & Rails program, your first stop on the web should be www.nps.gov/trails&rails/. This Park Service site includes brief descriptions of the various trains and routes, as well as the parks that sponsor on-board programs. Through this program, visitors can ride the rails to parks in the desert Southwest, the Deep South, and the revolutionary Northeast. The Trails & Rails site also links to park web sites that offer in-depth information on history, visitor services, and other accommodations at Fort Union Trading Post National Historic Site (www.nps.gov/fous), Knife River Indian Villages National Historic Site (www.nps.gov/knri), Jefferson National Expansion Memorial (www.nps.gov/jeff), and Klondike Gold Rush National Historical Park (www.nps.gov/klse), among others.

Some of these sites, such as Fort Union, are fairly isolated, so visitors should check on accommodations and services beforehand. Nearby towns and recreation areas usually offer a range of lodging options, including hotels, inns, and campgrounds.

The Trails & Rails site also links to Amtrak's web site, www.amtrak.com, where visitors can make reservations online. Travelers may browse for possible itineraries by clicking on "Trains & Destinations" and choosing the part of the country they want to visit or the specific train they want to travel on, such as the *Empire Builder* or the *Coast Starlight.* Reservations also can be made by calling 1-800-USA-RAIL (872-7245), although you will have to navigate through an automated menu to speak with a representative. Costs vary widely depending on accommodations and length of travel, but check the Amtrak web site regularly for special offers and discounts. The variety of choices means that affordable trips are possible; depending on the day, a one-way trip from Williston, North Dakota, to Shelby, Montana, can cost about $50 for an adult traveling in coach.

NPCA's web site also offers links to parks, as well as information about its Parkscapes travel program. Space is still available on two special trips this fall: Olympic and Mount Rainier national parks in Washington, September 12 through 18; and the Hudson Valley of New York, September 25 through October 1. Visit www.npca.org/travel for more information, or for reservations, call 1-800-628-7275, ext. 136.

To learn more about the expedition and trail stewardship, visit the Lewis and Clark National Historic Trail web site at www.nps.gov/lecl or the Lewis and Clark Trail Heritage Foundation site at www.lewisandclark.org. A clearinghouse of Lewis and Clark bicentennial information can be found at www.lewisandclark200.org.

*–Kim A. O'Connell*

# Going, Going, Gone?

**By Jenell Talley**

Habitat loss and fragmentation are rapidly reducing the number of Sonoran pronghorns in the Southwest.

ERWIN & PEGGY BAUER

***The Sonoran pronghorn has keen eyesight and can reach speeds up to 60 mph.***

Even though the Sonoran pronghorn is the fastest land mammal in North America, capable of speeds up to 60 miles an hour, the endangered animal may not be swift enough to outrun the imminent threat of extinction.

The Sonoran pronghorn, *Antilocapra americana sonoriensis*, is a desert subspecies. Only about 30 of the animals remain in the United States—and another 350 to 400 in northern Sonora, Mexico. They are found in two areas of the Sonoran Desert of southwestern Arizona and northern Mexico, areas that include Organ Pipe Cactus National Monument and Cabeza Prieta National Wildlife Refuge in Arizona and coastal plains and bajadas in Sonora, Mexico.

For most of the 19th century, the Sonoran population numbered in the thousands. Then, in the late 1800s, as settlers arrived in the Southwest, land was cleared for farms and homes, fences were erected, and habitat and range disappeared. Hunters also killed the animals for food. By 1915, the Sonoran pronghorn population had dwindled to about 1,500. In 1967, the animal was listed as endangered. Today, factors such as habitat loss and fragmentation, disturbance by human activities such as illegal immigration, smuggling, interdiction efforts, other land uses, and a recent drought continue to keep the animals' numbers low. Unlike white-tailed deer, pronghorns do not jump fences, and fawns also fall prey to coyotes, mountain lions, and bobcats.

The Sonoran pronghorn is one of five subspecies that include the American or common, which is widespread throughout the West, the peninsular, the Chihuahuan or Mexican, and the Oregon. Smaller than a white-tailed deer, the Sonoran pronghorn stands less than three feet at the shoulders. Its overall body length, including the tail, is

**Jenell Talley** is a freelance writer for *National Parks* magazine.

between 48 and 57 inches. Males can weigh 90 to 130 pounds, and females, 75 to 110 pounds. The upper part of the pronghorn is a rich tan color. Its underpart, rump, and two bands across the neck are white. A short two- to four-inch black mane runs down the back of the neck, and males have a black mask and black cheek patches.

The animals have eyes that are set high on their heads and are very large. They can see something moving as far as four miles away. Pronghorns can sustain a speed of 35 miles an hour for long distances. Their speed and keen eyesight help them to avoid predators, although both Euro-American and American Indian hunters used the animals' natural curiosity to lure them into traps.

Pronghorns live in broad, subtropical desert valleys and rugged mountain ranges. Daytime summer temperatures can exceed 110 degrees, and winter nights can drop close to freezing. Sonorans feed on various plants, including forbs, grasses, shrubs, and cacti.

Despite what may seem like tough odds, the U.S. Fish and Wildlife Service, National Park Service, Arizona Game and Fish Department, U.S. Air Force, U.S. Marine Corps, and Bureau of Land Management are working to rebuild the population. The Fish and Wildlife Service is trying to establish a second Sonoran population that can remain stable for five years. The challenge is that 30 pronghorn are needed from the current population—a substantial number from an already diminished group. The recovery team is trying a semi-captive breeding effort to rear enough pronghorns to repopulate the U.S. range.

Timothy Tibbitts, a wildlife biologist at Organ Pipe Cactus National Monument, says the Sonoran's removal from the endangered list is doubtful in the foreseeable future. Increasing the number of Sonoran pronghorn, Tibbitts says, requires the reduction of human activity in the animal's current range and protecting existing habitat. "Border-related activity is most damaging—illegal immigration, drug smuggling, and related interdiction activities—all while the animals are stressed by a significant drought," he says, adding that even recreation and some military training probably contribute to the problems.

The same threats endangering the pronghorn landed Organ Pipe Cactus on NPCA's list of America's Ten Most Endangered National Parks this year.

Even though recovery will not be easy, Tibbitts sees benefits to reestablishing the animals. "If Organ Pipe can no longer support the species, then [it] can no longer provide the healthy ecosystems and wilderness environment that [it] is charged to provide to the public. It would be like Grand Canyon without all those rocks." ❖

# Culture Shock

## Jean Lafitte National Historical Park and Preserve in Louisiana tells the story of how the Mississippi River Delta's unique blend of cultures came to be.

**By Ryan Dougherty**

What do alligators, gumbo, live jazz, a historic battlefield, Mardi Gras masks, and a shadowy pirate have in common? They represent a few aspects of the rich culture of the Mississippi River Delta region of Louisiana interpreted at the six separate sites of Jean Lafitte National Historical Park and Preserve. Together these sites weave a story of how a remarkable place came to be over thousands of years.

Widely known for Bourbon Street revelry, live music, and Creole-inspired food, the Mississippi Delta region oozes history and beauty. The National Park Service describes it as "a world shaped by a dynamic, centuries-old relationship between humans and a still-evolving land," where a succession of peoples "has both altered and adapted to the environment as they interacted with other cultures—changing and being changed."

The story begins with the formation of new Delta lands along the Mississippi River about 2,500 years ago—lands dotted by marshes, bayous, channels, levees, barrier islands, and swamps. The river deposits sediment gathered from 40 percent of the United States. It's a fitting symbol of the Delta region, which blends a variety of cultures and people to forge an identity.

JOHN ELK III

LAURENCE PARENT

***The park offers visitors a rich variety of experiences, from the relics of historic battlefields to alligators roaming swampland.***

At the turn of the 18th century, European settlers and enslaved Africans joined American Indians who had inhabited the Delta. The settlers encountered earth mounds and ancient shell middens, distinct cultural aspects of the Indians, and added their own cultural flourishes. France and Spain as well as displaced French Acadians from Nova Scotia would add their own unique contributions to the diverse mix. The influence of France, the founder of the colony in 1699, loomed especially large, from its food and music to its language and religion.

Spain ruled the area from 1763 to 1800, when Spanish-speaking islanders and French-speaking free people of color from the Caribbean began arriving in the Delta. France regained control of the area for a few years before selling it to the United States through the Louisiana Purchase in 1803.

The purchase sparked an influx of Americans and immigrants to the area. The French-speaking residents started calling themselves "Creoles," a term meant to distinguish them from the outsiders and their strange native tongues and ways. Today, several groups in Louisiana call themselves "Creole," which

**Ryan Dougherty** is news editor for *National Parks* magazine.

characterizes the food, music, and customs of the French colonial period, as well.

Another group to add their flavor to the region were displaced French Acadians, who were forced from Nova Scotia by the British. They settled on the bayous and came to be known as "Cajuns." They were small farmers and craftspeople who created a distinct way of life, thriving on swampland, staying loyal to family, and preserving a dialect. Urban residents of New Orleans often laughed at the backcountry Cajuns, but today the Cajun culture is admired worldwide.

During the Battle of New Orleans (the final battle of the War of 1812), the area's diverse groups came together to support Gen. Andrew Jackson and drive back the British.

BETTMANN/CORBIS

***Jean Lafitte was a controversial pirate turned Delta legend.***

That victory saved the Louisiana Territory for westward expansion, sparked a national pride, and earned the United States respect abroad. The battle took place on land that is now Chalmette National Battlefield and Cemetery, one of the park's sites.

A considerable factor in the Battle of New Orleans was help that Gen. Jackson received from Jean Lafitte. Lafitte, the park's namesake, was the notorious leader of a contingent of smugglers and pirates (or "privateers," as Lafitte preferred to call them) that plundered ships and sold the goods, including slaves, on the black market. Although constantly threatened by U.S. authorities, Lafitte was tolerated by local citizens who benefited from the goods he provided. In exchange for a pardon, Lafitte promised to stop his smuggling activities along the Delta.

Today, Lafitte is a mysterious figure pushed to the margins of American history, considered heroic for his help to Jackson, villainous for his piracy in the Gulf of Mexico. Lafitte's adventures inspired books and movies, such as *The Buccaneer*, and a poem by Lord Byron: "He left a corsair's name to other times," Byron wrote, "linked one virtue to a thousand crimes." ❖

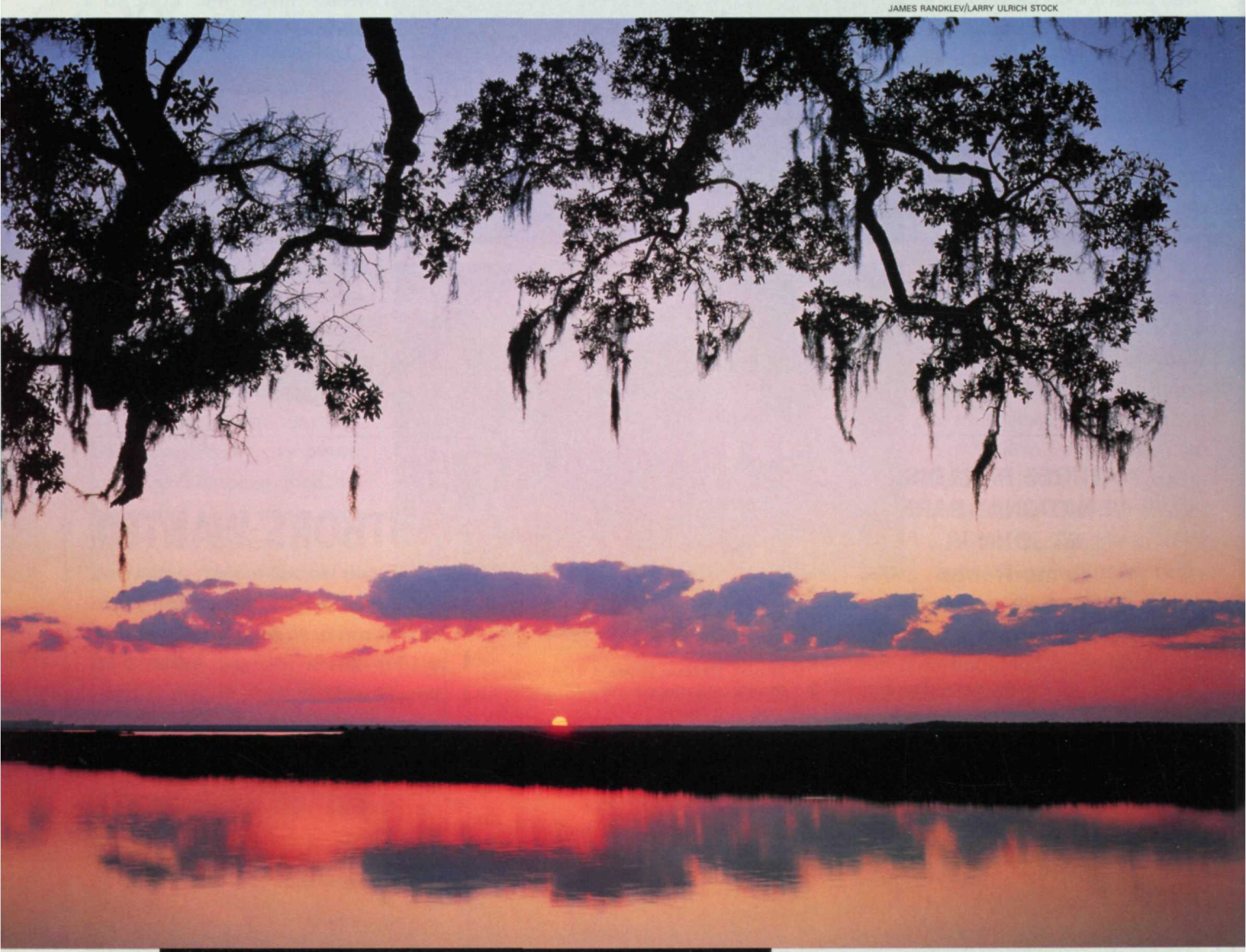
***Web link:*** For more information on the park's sites, which interpret the development of cultural diversity in the Mississippi River Delta, visit www.nps.gov/jela.

# Golden Isles

## *Unspoiled beaches and dunes, marshes, and historic sites make up the largest of these islands off the southern coast.*

Humans began to occupy this island off the coast of the "Peach State" some 4,000 years ago. There are several historic districts here, including High Point-Half Moon Bluff Historic District and Plum Orchard Historic District, which features a small cemetery and ruins of a 19th-century plantation home. The park, the state's largest barrier island, harbors an array of animal and plant communities within its complex ecological system: whitetail deer, armadillo, fiddler crabs, loggerhead turtles, resurrection ferns, and Spanish moss. Have you visited this park? See answer below.

JAMES RANDKLEV/LARRY ULRICH STOCK



Answer: Cumberland Island National Seashore, Georgia

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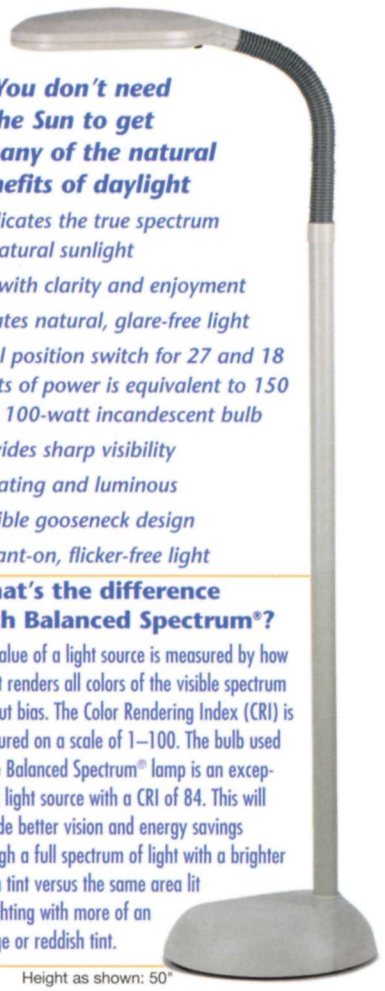

Height as shown: 50"

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To pay tribute to this momentous event, the Shawnee Indian nation has issued a large, 4-oz. silver Proof coin that is one of the most significant coins in American history. Not only is it the first officially authorized Proof to celebrate the 200th anniversary of the Lewis & Clark Expedition, it's also the FIRST-EVER $100 silver Proof legally authorized by a sovereign American Indian nation!

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***The Louisiana Purchase of 1803 acquired from France more than 800 million acres of land—doubling the size of the United States. And at less than 3 cents an acre, it had to be one of the greatest real estate deals in history!***

### Experts Marvel At Stunning Design

The intricate design of this coin is nothing short of fantastic. While the reverse shows the Shawnee Tribe's Coat of Arms, the obverse features a design of Lewis and Clark standing on a cliff surveying the way west as their guide George Drouillard points the way. It's an incredibly fitting design since Drouillard was half French Canadian and half Shawnee. Measuring 2½" wide, this large 4-oz. silver Proof was struck in .999 fine silver and it's so detailed that you can see the fringe of their buckskin jackets. It's struck to flawless Proof condition to really bring out the amazing detail. Many coin experts agree that it's one of the most beautiful Proofs struck in American history.

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