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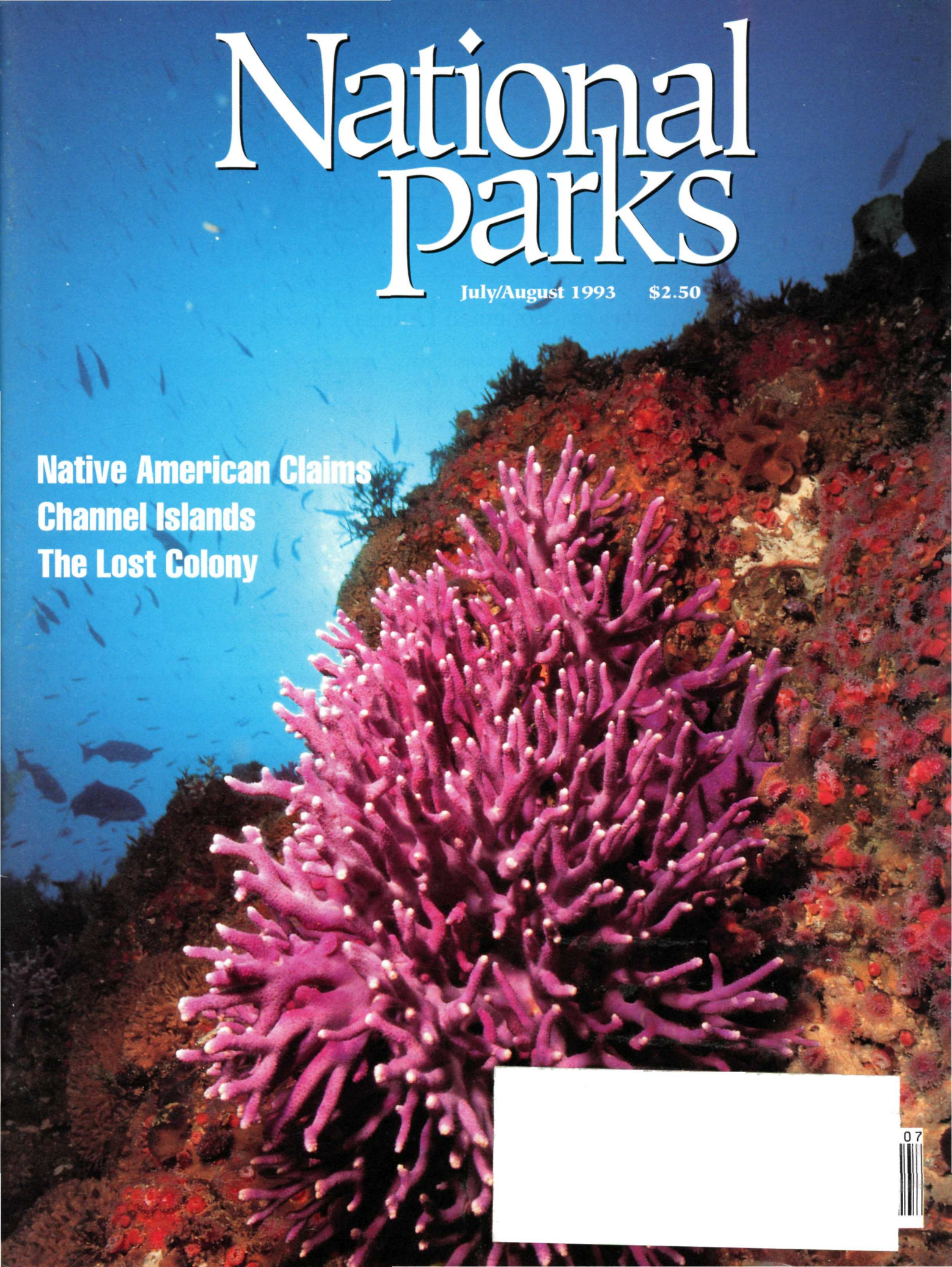

Native American Claims
Channel Islands
The Lost Colony

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Marjory Stoneman Douglas Award

Presented by NPCA and the Faultless Starch/Bon Ami Co., this award recognizes outstanding efforts resulting in protection of a unit or a proposed unit of the National Park System. The award is named in honor of Marjory Stoneman Douglas, who devoted many years to preserving the fragile ecosystem of the Florida Everglades.

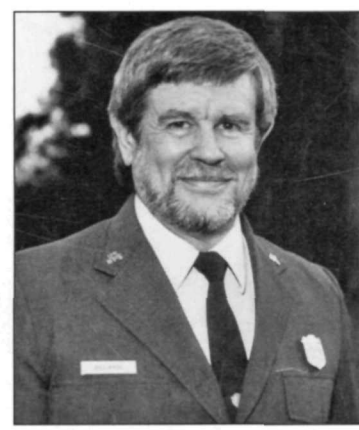
Dr. Liane Russell, the 1992 recipient, led efforts to establish the Big South Fork National River and Recreational Area in 1974 and to designate the Obed River as a Wild and Scenic River in 1976. For 25 years, she and the group she formed, Tennessee Citizens for Wilderness Planning, have successfully fought off a variety of threats to both rivers.

Liane Russell

Stephen Tyng Mather Award

The Stephen Tyng Mather Award, named for the first director of the National Park Service, is presented by NPCA and the Faultless Starch/Bon Ami Co. in recognition of a Park Service employee who has risked his or her job or career for the principles and practices of good stewardship.

The 1992 recipient is **Bill Wade**, superintendent of Shenandoah National Park. He used every means at his disposal to gain more stringent air pollution controls on power plants surrounding the park. Despite limited funds, he has built a strong research and monitoring program and has established cooperative planning efforts with surrounding counties.

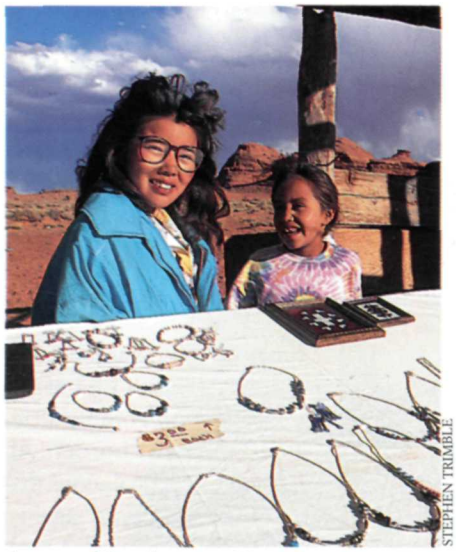


RICK FOSTER, *WINCHESTER STAR*

Bill Wade

The Faultless Starch/Bon Ami Company wishes to congratulate the recipients of these awards and thank them for the excellent contribution they have made to the protection of our environment.

The Faultless Starch/Bon Ami Company has actively supported the efforts of organizations such as NPCA for more than 100 years and will continue to work toward the goal of preserving our natural resources for future generations.



STEPHEN TRIMBLE

Ancestral Lands, page 30

EDITOR'S NOTE

Most residents of the United States regard the national parks as treasures, but Native Americans have a stronger connection to some parklands, one that is rooted in their traditions and religion. For centuries, Indians worshipped and subsisted on lands that are now part of the National Park System, and today some of these tribes are pushing for restoration of treaty rights to use the sites for religious and other purposes. A 1992 lawsuit filed by the Blackfeet tribe against NPS, if successful, could set off a series of similar lawsuits, forcing NPS to re-examine its policy on Indian use of park resources. In "Ancestral Lands", page 30, we examine this sensitive and complex issue.

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National Parks

THE MAGAZINE OF THE NATIONAL PARKS AND CONSERVATION ASSOCIATION

Vol. 67, No. 7–8
July/August 1993
Paul C. Pritchard, Publisher

OUTLOOK

FEATURES

DEPARTMENTS

COVER: *Purple hydro coral, by Julie Veitch. A variety of marine life can be found at Channel Islands National Park in California.*

Established in 1919, the National Parks and Conservation Association is the only national nonprofit membership organization that focuses solely on defending, promoting, and improving our country's National Park System while educating the public about the parks.

Life memberships are $1,000. Annual memberships: $250 Guarantor, $100 Supporter, $50 Defender, $35 Contributor, $25 Active, $22 Library, and $18 Student. Of membership dues, $7 covers a one-year subscription to *National Parks*. Dues and donations are deductible from federal taxable incomes; gifts and bequests are deductible for federal gift and estate tax purposes. Mail membership dues, contributions, and correspondence to NPCA, 1776 Mass. Ave., N.W., Washington, DC 20036. When changing address, please allow six weeks' advance notice and send address label from your latest issue plus your new address.

Negotiating NAFTA


DOMINIC R. TIDMARSH

THE CLINTON Administration is now embroiled in debate over the future of the nation's trade policies with Canada and Mexico. The North American Free Trade Agreement (NAFTA) has already been approved by Canada and Mexico but has not yet been sent to the U.S. Congress for ratification. As currently written, NAFTA is missing two basic elements: a mechanism for public participation and a means for protecting critical habitats along the border.

Public participation has been woven into the fabric of environmental protection since passage of the National Environmental Policy Act (NEPA) in 1970. NEPA requires that major projects involving federal funds first conduct environmental impact reviews and provide an opportunity for public comment on those impacts. This requirement represents the best of our founding principles of informed, public participation and is integral to our concern for quality of life.

NAFTA, however, was negotiated largely behind the closed doors of politicians, and significant environmental elements were overlooked in the process. First, NAFTA does not assure that businesses operate by the same environmental standards in Mexico and Canada as in the U.S. Just as important, NAFTA leaves open the possibility that hard-won environmental standards imposed by states will be negated or ignored as unfair barriers to trade. The term "border ecology," implying a lower standard of protection, was coined of the polluted drinking water and open waste pits of the *maquiladora* communities along the U.S. border. Although it seems obvious that we must safeguard against the spread of "border ecology," senior public officials are still unable to answer these basic concerns regarding NAFTA. The environmental community is working to install a side agreement establishing a structure, the North American Commission on the Environment, that will have the power to at least discuss these issues.

The second fundamental element missing from NAFTA—a mechanism for the protection of critical habitats—is made all the more critical by the development pressures along the border that NAFTA will bring. Mexico's Sierra del Carmen, proposed since 1942 as a sister park to Big Bend National Park, remains unprotected despite repeated efforts to bring the dream to reality. Now, unless Mexico takes action, the site will become another target for vacation-home developers. Many other areas face the same fate: NPCA and other conservation groups have identified at least 15 potentially threatened natural areas along the borders that could qualify as parks, refuges, and wildernesses.

Concern for the environment is more than a concern for quality of life. At a minimum, NAFTA should honor the basic right of the people to participate in decisions involving the public welfare. NAFTA and other treaties will serve our best interest only when they fully involve the American people.

Paul C. Pritchard

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This majestic picture-within-a-picture by Western artist Julie Kramer Cole has now been re-created on fine porcelain. And like exceptional collector's plates that command hundreds of dollars on the plate market, "Running with the Wind" appears to have what it takes to go up in value once the edition closes.

Some exceptional plates appreciate in value; some plates go down, and many remain at or near issue price. But the edition of "Running with the Wind" is strictly limited to a maximum of 95 firing days, and demand is expected to be strong. So if you wish to obtain this plate at the $29.50 issue price, the time to act is now. To order your plate—fully backed by our unconditional 365-day guarantee—send no money now, simply complete and mail the coupon at right.

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LETTERS

Oil and Politics

That the oil spilled in Alaska caused the deaths of birds and other animals is truly regrettable. However, a letter to the editor entitled "Persistent Poison" [Jan./Feb. 1993] claims that after the spill Exxon deliberately oiled clean sea otters to determine the effects of petroleum on the animals. This is a totally false and irresponsible allegation. The truth is that Exxon conducted an unprecedented sea otter rescue and rehabilitation program and never intentionally harmed otters or any other wildlife in its spill response.

In late April, a team of scientists working on behalf of Exxon will present their evaluations of current conditions in Prince William Sound at an American Society of Testing and Materials symposium in Atlanta, Georgia. Their research shows that the Sound and the Gulf are almost fully recovered and there is no credible scientific evidence of long-term effects.

D.L. Guttormson
Manager, Public Affairs
Exxon Company, U.S.A
Houston, TX

Know Thine Enemy

I was pleased by the sensible note struck by Richard Stapleton in "A Call to Action" [March/April 1993]. He pointed out that the Wise Use Movement is working to isolate "tree hugger" conservationists from mainstream America. He also points out that conservationists, by their own actions, have unwittingly helped in this isolation process, because they focus too much on ecological problems and have lost sight of the human part of the equation.

He is absolutely correct, but he did not go far enough. I believe that we, as lovers of the national parks, shoot ourselves in the feet when we support the view that we are "loving our parks to death," or that automobiles should be excluded from parks, or that existing roads should be closed. Many conservationists are deeply committed to such views, but they cause too many members of the public to believe that conservationists are their enemies and are working to their detriment. In espousing such views, conservationists have alienated many members of the public who would otherwise be their strongest allies.

We, as conservationists, need to protect the parks from real threats, such as from those people who attempt to privatize the parks for conventional development purposes. Our parks are precious. We need all the help we can get.

John D. Kemper
Woodland, CA

Write: Letters, NPCA, 1776 Massachusetts Ave., N.W., Washington, DC 20036. Or call 1-900-835-6344. All calls and letters are subject to editing.

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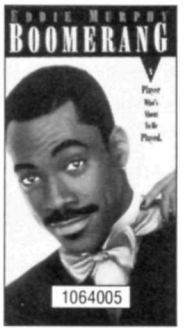

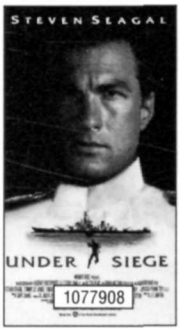

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N • P • C • A
NEWS

Budget Sparks Debate About Park Fees

The problems of the national parks are receiving new attention under the Clinton Administration. But many of those problems cannot be addressed without the funds to do so. The question of how to generate more funds in a time of fiscal austerity is therefore gaining new attention as well.

The administration's 1994 budget attempts to reverse years of neglect of the National Park System. To help provide the necessary funding, the administration would boost fees for visitors to the parks. NPCA is arguing that it should first look at the rules under which private companies make use of the parks. "We believe," said NPCA President Paul Pritchard, "that a better return to the government from commercial use of the parks should come before an increase in fees for the general public."

Shortly after he took office, Secretary of the Interior Bruce Babbitt stated that he planned to give a greater portion of Interior Department funds to the national parks. The budget released this spring proposes a record $1.5 billion for the parks, nearly $120 million more than they received last year. "For too long, we've let these national treasures fall into disrepair," Babbitt said.

One area of increase is the Park Service operating budget. These are the basic funds that allow each park to hire rangers, maintain trails, campgrounds, and buildings, and protect natural resources. In recent years, operations funds have lagged behind inflation, forcing parks to cut back on employees and forego maintenance and equipment replacement. A $48-million shortfall in operation funds for 1993 forced many parks to make deeper cuts, slashing funding for studies, closing campgrounds, and further reducing staff.

The 1994 budget provides $188 million more than last year's for operations, including a 7 percent boost for each park and another $40 million to be spread among the parks with the most serious needs. The Park Service would have $25 million to begin chiseling away at a maintenance and repair backlog estimated at $2.2 billion.

For years, report after report, issued by the Interior Department, NPCA, and the National Academy of Sciences, has stressed the need for better research and study in the parks. The budget contains $13 million for study efforts and $14 million to hire new scientists and historians.

Action on another problem will be slowed, however. There is an estimated $2-billion backlog in lands that Congress has added to the park system on paper but has never given the Park Service the money to buy. The budget provides for land purchases at Everglades National Park, Big Cypress National Preserve, and Saguaro National Monument but would cut total land-acquisition funds from $81 million last year to $41 million.

To help fund the overall park budget, the administration is recommending higher entry and recreation fees for national parks and other public lands.

"Before the Interior Department hits up the public," said William Chandler, NPCA director of conservation programs, "it needs to change the rules that allow businesses to use the parks for profit and give little or nothing back." Each year, hundreds of air, sea, and land tour operators charge tourists for trips into the parks but pay the Park Service, at

ART WOLFE

Congress has authorized expansion of parks in the Everglades to help Florida panthers and other wildlife, but funds to buy land are needed.

most, a license fee of $50. Each year, 12,000 bus tours enter Yosemite with no compensation to the park. NPCA estimates that commercial bus tours of parks may generate $150 million annually for their operators, cruise ship tours $20 million, and air tours $35 million.

Meanwhile, the parks must pay for the burden placed on their sanitation facilities and the wear and tear on their roads, as well as suffer more air and noise pollution and crowding.

The House and Senate agreed with NPCA's arguments. In budget legislation approved in June, they included fees of $25 for tour buses entering national parks that hold 25 or fewer people and fees of $50 for buses that hold more. The House also applied these rates to air tours, but the Senate did not; a conference committee will make the final decision. Neither house approved higher entrance fees to national parks.

NPCA is also pushing for reform of the national park concessions system. In 1991, private businesses who provide food, lodging, and other services to park visitors returned just 2.9 percent of $618 million in total gross receipts to the government. If they paid an average of 10 percent in fees, Chandler said, there would be $44 million more in available funds. He also called for concessions fees to go back to the park system rather than to the general treasury.

Sen. Dale Bumpers (D-Ark.), chair of the Senate subcommittee on national parks, introduced reform legislation, S. 208, this spring, as he did in the last Congress. Rep. Jan Meyers (R-Kans.) has put forward a companion bill, H.R. 1493, in the House. But without backing from Bumpers' colleagues on the Senate Energy Committee, the reform proposal will not become reality.

✍ *Your letters are important, especially if you are from one of these senators' home states. Write senators Malcolm Wallop (Wyo.), Mark Hatfield (Ore.), Pete Domenici (N.Mex.), Frank Murkowski (Alaska), Don Nickles (Okla.), Larry Craig (Idaho), Robert Bennett (Utah), Arlen Specter (Pa.), or Trent Lott (Miss.) at the U.S. Senate, Washington, DC 20510. Ask them to explain their position on concessions reform.*

Steps Taken to Protect Yellowstone Geysers

The geysers, hot springs, and other geothermal wonders of Yellowstone National Park may receive a new level of protection, after much controversy over their safety.

A recent compact between Montana and the National Park Service sets new safeguards, and a bill now before Congress would expand them to the other states bordering the park. Both measures are meant to prevent drilling for or pumping of groundwater near Yellowstone from altering the complex subsurface "plumbing" of the geysers and other geothermal features. This underground system is known to extend beyond the park's boundaries.

Elizabeth Fayad, NPCA staff attorney, told Congress in April that the bill, the Old Faithful Protection Act, is "necessary" for "the preservation of the natural wonders of Yellowstone."

Yellowstone contains more geothermal activity than the rest of the Earth combined. Within the park, hot subterranean water bursts forth into 300 geysers, including world-famous Old Faithful. There are nearly 10,000 other thermal features, such as hot springs, mud pots, and brilliantly colored pools.

LARRY ULRICH

The intricate underground "plumbing" of Yellowstone's geysers is little understood.

But Yellowstone and the Krontoski Biological Reserve in Siberia are the only major areas of geothermal activity left intact. The rest have been destroyed by attempts to tap their geothermal energy.

Concern for Yellowstone arose in 1986 when the Church Universal and Triumphant, a group based in Mon-

NEWSUPDATE

▲ **Permission denied.** The Tennessee Valley Authority has denied permits to three companies seeking to construct barge terminals on the Tennessee River. The companies wanted to cut 2 million tons of timber a year in the scenic hill country near Chattanooga, process it at chip mills they would build, and then transport it by barge. TVA concluded there would be significant environmental damage to the area, which includes Russell Cave National Monument.

▲ **Call of the wild.** Wolves may soon roam Yellowstone for the first time since the 1930s, when the last ones in the park were killed in anti-predator campaigns. This summer the U.S. Fish and Wildlife Service is releasing a draft report on the proposed reintroduction of wolves to Yellowstone. They need to hear strong support from citizens for reintroduction. To comment or receive a copy, write Gray Wolf Environmental Impact Statement, P.O. Box 8017, Helena, MT 59601.

▲ **Correction.** To contact the American Resources Information Network, call Catharine Gilliam at 800-846-2746 (846-ARIN). ARIN is a cooperative project of national, state, and local public interest groups organized to better respond to the increasing backlash against environmental planning and protection and to share information, research, and strategies.

tana, drilled a well into an area of hot springs just north of the park. In response, Congress called for a study of connections between the area and Yellowstone's geothermal features and temporarily banned drilling and pumping there.

In 1991, the Interior Department sent Congress a U.S. Geological Survey study concluding that the area was "probably not" connected to the park and recommending that limited geothermal development be allowed there. Interior did not send an accompanying Park Service report, which argued that lack of scientific certainty on the issue made the risk too great.

Rep. Pat Williams (D-Mont.) then introduced a bill renewing the ban and extending it to portions of Wyoming and Idaho that border the park. The bill passed the House in November 1991. It became bogged down in the Senate when several senators argued that the prohibition constituted a "taking" of the church's property. Meanwhile, the ban on drilling and pumping north of the park expired in April 1992.

By regulating drilling and pumping in zones north and west of the park, the water compact gives Yellowstone back the protection it lost. Williams' new bill expands these protections into the other states and mandates further Park Service research into the effects geothermal, oil and gas, or other development near the park could have on its geothermal features.

The goal, Williams said, is "an ironclad, copper-riveted no-risk policy toward Yellowstone Park."

✍ *Write to your members of Congress (U.S. House of Representatives, Washington, DC 20515 and U.S. Senate, Washington, DC 20510), asking them to support the Old Faithful Protection Act, H.R. 1137.*

New Efforts Could Aid Parks on U.S. Borders

National parks and other wildlands along the Mexican and Canadian borders of the United States are likely to benefit from a new interest in international conservation efforts.

Secretary of the Interior Bruce Babbitt is examining ways to protect important border areas, such as the North Cascades of Washington State and British Columbia.

GEORGE H.H. HUEY

Cross-border conservation efforts would benefit Organ Pipe Cactus National Monument.

NPCA and other groups also want conservation efforts among the United States, Mexico, and Canada included in the North American Free Trade Agreement (NAFTA) if it is passed.

If NAFTA is ratified on all sides, one likely result would be increased industrial development along the borders. At the same time, the agreement could bring about better cooperation on conservation issues. A proposed panel made up of experts from the three countries would foster joint preservation projects.

After a meeting with NPCA and other groups this spring, Rep. Richard Gephardt (D-Mo.) requested a list of important natural areas that could benefit from such efforts.

The North Cascades, a 10-million-acre expanse of mountains, waterfalls, and lush forests, is one area cited by the groups. Currently, North Cascades National Park and two other U.S. park units preserve part of the region. But massive clearcutting, especially on the Canadian side, and air pollution are serious problems. Prospects for the area's wildlife are also uncertain.

"To bring back salmon populations that have plummeted and to ensure a future for grizzly bears and wolves and lynx here, we need to start looking at the North Cascades as one whole and managing it that way," said Dale Crane, NPCA Pacific Northwest regional director. Crane and other U.S. and Canadian conservationists have formed the Cascades International Alliance to push for the establishment of an international park in the region.

Another international park idea has been talked about for at least 50 years, since the time Big Bend National Park in Texas was established. Just across the Rio Grande from Big Bend is Mexico's spectacular Sierra del Carmen mountain range. Peregrine falcons, black bear, and other wildlife move constantly between the two countries. "They don't recognize the boundary," said Howard Ness of the Park Service's newly established Mexico Affairs Office.

Along with the possibility of an international park, clean-up efforts are needed. Both sides of the Rio Grande suffer from serious air and water pollution, much of which comes from heavy industry in the region.

Despite such problems along the border, the Mexican government is moving forward with environmental action of its own. In early June, President Carlos Salinas de Gortari declared the creation of several new "biosphere"

reserves in northern Mexico. There will be a special effort to preserve these areas and to make existing uses of them, such as farming and ranching, compatible with conservation.

One of the new reserves is in the Pinacate, a forbidding but magnificent volcanic region in the Sonoran desert. Just to its north is Organ Pipe Cactus National Monument in Arizona. Both areas rely on the same body of groundwater, and both will benefit from Mexico's new conservation efforts.

"The protection of resources is an investment for all on both sides," said Ness. "We both win."

New Director Selected For Park Service

President Clinton announced in late May the selection of Roger Kennedy, former director of the Smithsonian's National Museum of American History, to head the National Park Service.

"Roger Kennedy has the vision, commitment, and experience to provide the strong leadership to redirect and reinvent the National Park Service during this time of great challenges and opportunities," said Secretary of the Interior Bruce Babbitt. "He understands the responsibility for preserving national treasures while affording people access to them."

Noting that "the Park Service has been without a leader for the longest period in many years," NPCA President Paul Pritchard said, "We look forward to working with Director Kennedy to address the many urgent problems facing our national parks. They need leadership now like never before." The new director visited NPCA headquarters in June to meet with Pritchard and other NPCA staff.

Kennedy, 67, ran the American history museum from 1979 to 1992. He has also been a White House correspondent and producer for NBC; served as an attorney in the Justice, Labor, and Health, Education, and Welfare departments under several administrations; was a vice-president of the Ford Foundation; and hosted television programs and edited book series on American history and architecture.

Babbitt has said that his Interior Department will give the park system a new level of attention. While Kennedy is likely to receive more support from above than previous Park Service directors, he also faces an enormous array of problems.

"Today, the ability of the National Park Service to achieve the most fundamental aspects of its mission has been compromised," the agency stated in the Vail Agenda report, a self-evaluation conducted in late 1991. "The agency is beset by controversy, concern, weakened morale, and declining effectiveness." Reports by NPCA have made the same points.

Park Service budgets have not kept up with either the skyrocketing number of visitors to the parks or the new units added to the system. There is an estimated $2.2-billion backlog in infrastructure repair and maintenance. A recent Interior Department report found that parks often have not had the funds to prevent serious environmental damage. In other cases, they have not had the research or monitoring programs to detect problems before they become serious. One of the most-needed changes, the Vail conference report and

MARKUP

Key Park Legislation

Bill	Purpose	Status
Old Faithful Protection Act H.R. 1137	Prohibits geothermal drilling and pumping around Yellowstone and mandates research on the risk geothermal and other energy development poses to the park's geysers. NPCA supports.	NPCA testified at an April hearing on H.R. 1137. The bill is now before the House subcommittee on energy and mineral resources.
Glacier Bay H.R. 704	Permit commercial and subsistence fishing at Glacier Bay National Park and Preserve in Alaska. NPCA opposes.	The House Merchant Marine Committee approved H.R. 704 in May. It is before the House subcommittee on national parks.
Land and Water Conservation Fund S. 721	Use $1 billion a year for the next five years from the Land and Water Conservation Fund for land purchases and other conservation projects. NPCA supports.	NPCA testified at a May hearing on S. 721. The bill is now before the Senate Energy and Natural Resources Committee.
Concessions H.R. 1493 S. 208	Increase concessions fees and return them to the park system; establish competitive bidding for concessions contracts; reform possessory interest. NPCA supports.	H.R. 1493 is before the House Natural Resources Committee. S. 208 is before the Senate Energy and Natural Resources Committee, where a late June hearing is planned.
California desert S. 21	Create Mojave National Park, expand Death Valley and Joshua Tree national monuments and redesignate them as national parks, and designate 4.4 million acres of Bureau of Land Management wilderness. NPCA supports.	The Senate subcommittee on national parks held hearings in late April on S. 21.
California desert H.R. 518	Create Mojave National Monument, expand Death Valley and Joshua Tree national monuments and redesignate them as national parks, and designate 4.1 million acres of BLM wilderness. NPCA supports.	H.R. 518 is before the House subcommittee on national parks.

NPCA is currently working on more than 40 bills.

NPCA studies agree, is a stronger science program for the parks.

Within the Park Service, morale has suffered in part because of poor housing conditions and salaries much lower than those paid by similar agencies. During the past decade, employees have also been discouraged from addressing air pollution, development, and other threats that come to parks from outside their boundaries.

NPCA May File Suit To Protect Grizzlies

NPCA and other groups notified the National Park Service this spring that they may file suit over the continued death and displacement of grizzly bears in Yellowstone National Park.

In spring and early summer, the bears gather at streams along Yellowstone Lake to feed on spawning cutthroat trout, an important food source. The Lake and Bridge Bay visitor complexes are located on the shore of Yellowstone Lake in this prime bear habitat.

So many bears and people in the same place is dangerous for both. It means the Park Service must sometimes move grizzlies ranging through the area to other locations. In some cases, the situation has resulted in dead bears.

According to a recent U.S. Fish and Wildlife Service finding, the Lake and Bridge Bay developments have led to six grizzly mortalities and a total of 25 incidents of trapping and relocation in the last decade. These add up to 50 percent of all such actions in the park.

In their notice to the Park Service, the groups argue that the agency is violating the Endangered Species Act by allowing this "taking" of grizzly bears, a threatened species, to continue in the Lake and Bridge Bay areas without formal authorization from the Fish and Wildlife Service.

The Lake and Bridge Bay complexes already include a lodge, hotel, cabins, stores, a 420-site campground, office buildings, post office, boat rental and repair facilities, employee housing, a hospital, and an amphitheater. The Park Service recently approved plans to add a service station, auto repair shop, employee dormitories and parking lots, a fire station, and other structures. Many of these are being moved to Lake and Bridge Bay from the nearby Fishing Bridge area, in compliance with a 1988 plan, in order to protect critical habitat for grizzlies in that area.

The Fish and Wildlife Service decided the proposed new developments at Lake and Bridge Bay would not jeopardize the continued existence of the grizzly if the Park Service took measures it had outlined to reduce their effects.

NPCA and other conservation groups support these measures. However, they also want the Park Service to postpone the opening dates of the Lake and Bridge Bay complexes until the end of the spawning season, which is usually in late June or early July. The Fish and Wildlife Service identified this as a step that would reduce bear deaths and recommended, but did not require, delaying the opening of certain facilities. At present, the Park Service plans to keep some lodging closed until bears have left the area but to open other facilities as early as May.

"The obvious solution is to delay opening the resorts until spawning is completed," said Terri Martin, NPCA Rocky Mountain regional director. "As the Fish and Wildlife Service has pointed out, 'While the NPS has alternatives to where and how they operate park facilities, the bears do not have many other places to go.'"

NPS Scales Back Crater Lake Plans

The National Park Service backed down this spring from plans for a major new tourist development at Crater Lake National Park in Oregon.

In a step urged by NPCA, Congress refused last fall to provide the park with money to build a massive hotel complex. Instead, it ordered Crater Lake to rethink its development proposal.

In 1988, the Park Service began work on plans to upgrade the park's historic lodge and to move roads and buildings away from the edge of Crater Lake, the

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PAT O'HARA

The Park Service has pushed for a major increase in tourist development at Crater Lake.

deepest lake in the country. But those plans grew to include new development on the lake's rim, and the cost escalated from the original $30 million to more than $90 million.

Most of this increase came from a 60-room, $34-million hotel the Park Service proposed building on the rim of the lake. A gift shop, cafeteria, rental equipment center, and other visitor services currently operating on the rim of the lake would have been consolidated into a new activity center within the hotel complex.

The Park Service also planned to build a 90,000-square-foot, $18-million headquarters for the park concessioner in another part of the park.

When the Park Service asked Dale Crane, NPCA Pacific Northwest regional director, to participate in the restudy, he urged that the new plan be more consistent with protection of the park's natural resources. Crane suggested dropping the hotel proposal and making employee housing a priority. The park has a critical shortage of housing for both seasonal and permanent employees, making it difficult to hire and retain qualified personnel.

The new plan does drop the hotel proposal and reduces the size of the concessioner headquarters by 20 percent. It retains aspects of the old plan, such as the removal of roads and a 450-car parking lot from the rim of the lake. It would also build new employee housing in a less sensitive part of the park and eventually remove an employee dormitory on the rim of the lake.

The new plan would still consolidate

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RICHARD P. SMITH/TOM STACK AND ASSOC.

A landfill near Great Smoky Mountains would mean trouble for the area's black bears.

the gift shop and other visitor services into one activity center. But other than this activity center, Crater Lake Lodge, and a viewing area, there would be no intrusion on the view of the lake.

Congress will decide this fall whether to provide funding for the revised development plans for the park.

—Laura P. McCarty

Ruling Issued on Dump Near Great Smokies

A North Carolina judge ruled in May that a 104-acre landfill proposed near Great Smoky Mountains National Park cannot be blocked on legal grounds, despite its likely effect on the park's black bears.

NPCA and local members of the Izaak Walton League of America filed an appeal last year after the state issued Haywood County a preliminary permit for the dump. The appeal presented evidence that the landfill would be a dangerous lure to black bears. It also argued that the plans violated North Carolina solid waste management regulations, which prohibit construction of landfills within 50 feet of streams.

After examining the landfill site, hydrogeologist Ellen Smith told the court that, in her professional opinion, the body of water that flowed across the site constituted a stream. Haywood County had argued that it was merely groundwater seeping up from the earth.

Dr. Michael Pelton, a University of Tennessee bear expert, testified that the smell of garbage would attract omnivorous and keen-nosed bears to the dump. The site is between Pisgah National Forest, which includes the Harmon Den Bear Sanctuary, and Great Smokies. Further, it is close to one of the remotest parts of the park, the Cataloochee area, where officials have traditionally relocated bears with a record of seeking out garbage or campers' food.

To reach the dump site from the national forest, bears would have to cross Interstate 40, greatly increasing the risk of accidents that could injure or kill both bears and people.

Once bears have developed a taste for garbage and other sources of human food, they begin to seek out rather than avoid populated areas. These might include private land near the dump site, heavily visited areas of the park, and neighboring towns.

Pelton and other bear experts estimate that such habits cut a bear's life expectancy in half. The animals may swallow broken glass, metal scraps, or poisonous substances from the garbage they feed on. In some cases, they are killed by officials as a threat to human safety. They are also much more vulnerable to hunting and poaching, because they have lost their natural wariness of people. Poachers kill an estimated 45 to 80 bears in and around Great Smoky Mountains every year. This number is especially worrisome because of the slow rate at which black bears reproduce.

Administrative Law Judge Thomas R. West stated in his ruling that he found himself "affected" by Pelton's testimony. He also said the evidence presented by Smith was "particularly credible." However, West ruled that by law the county's plan to divert the stream into a culvert made it technically no longer a stream. He also found the county had fulfilled state requirements by developing a plan to keep bears from the site, even if there was evidence that its success would be limited.

"This is still a completely inappropriate site for a landfill, and placing one here will create serious problems," said Don Barger, NPCA Southeast regional director. "We will continue to do whatever is possible to oppose construction and operation of the dump at this site."

Road Endorsed Across Ancient Rock Art Site

An advisory commission to the Albuquerque, New Mexico, city council is recommending construction of a six-lane highway across Petroglyph National Monument.

The decision, which now goes to the city council, is another chapter in the long story of struggle for the park. Petroglyph preserves between 15,000 and 17,000 ancient rock carvings, etched along a 17-mile escarpment on the city's west side. Since its establishment in 1990, the monument has faced a variety of development proposals in and around its borders. "This is a tragedy in the making, that one of our newest National Park System units is being shot down before it is even fully airborne," said Russ Butcher, NPCA Pacific Southwest regional director.

The Environmental Planning Commission, appointed by Mayor Louis Saavedra, voted 8-0 in April in favor of building the six-lane Paseo del Norte through the park. Albuquerque is

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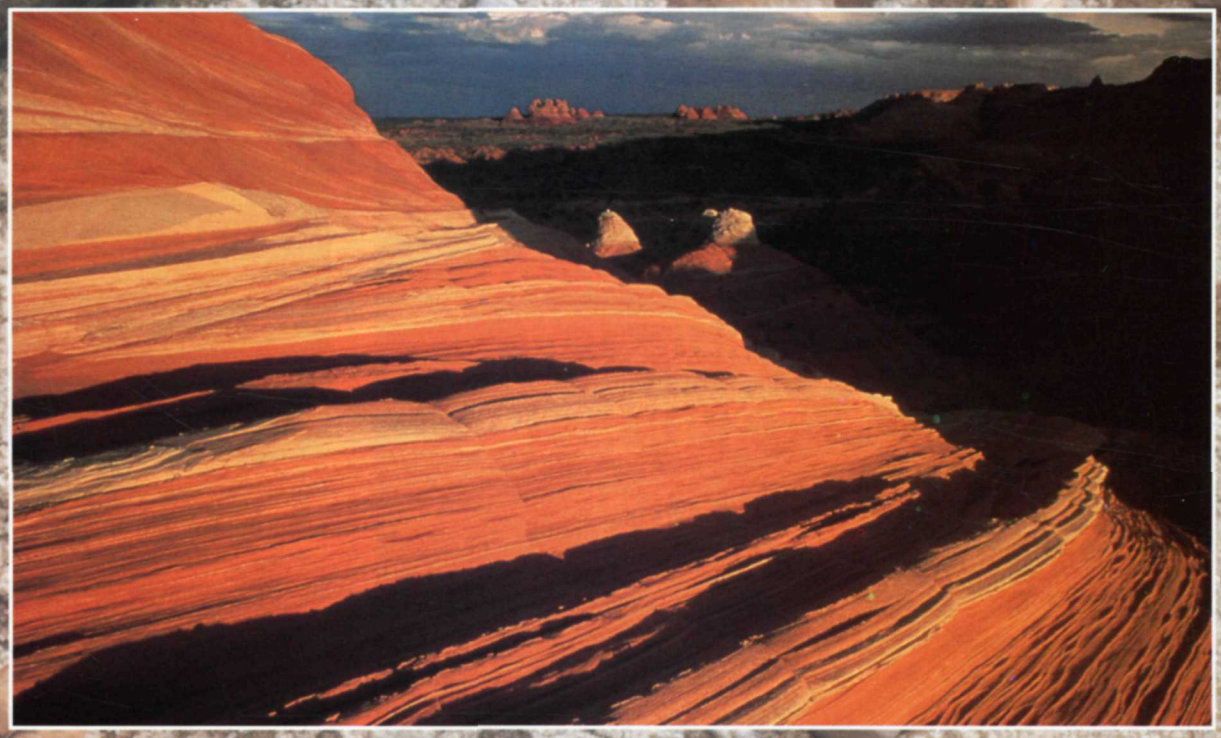

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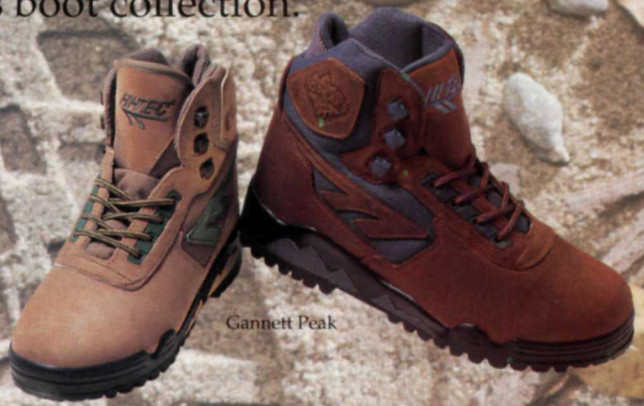

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searching for a way to extend its road network to areas slated for housing development west and northwest of the city. The commission rejected alternatives that would divert traffic around the park, including one proposed by the National Park Service.

The city's favored route cuts through the Piedras Marcadas area, one of the least disturbed parts of the monument. "There are approximately 1,000 superb petroglyphs that would have their environmental setting and historical character degraded" by the road, said Ike Eastvold, president of Friends of the Albuquerque Petroglyphs.

Local Pueblo Indians strongly oppose the road project and have spoken out against it. They consider the petroglyph area sacred and make use of sites within the monument for prayer.

The Paseo del Norte would also increase access to a small airport west of the park. The city hopes to turn the Double Eagle II airport into a jet maintenance facility and to expand its hangars and runways to allow it to accept large commercial planes. The result could be heavy air traffic over the park.

Albuquerque is already moving ahead with plans to build another four-lane road, Unser Boulevard, cutting through the monument and bordering it for much of its length. NPCA and Friends of the Albuquerque Petroglyphs filed suit in 1991 in an unsuccessful attempt to block the highway plans.

One-half mile from the southern boundary of the park, developers hope to build a 20,000-capacity open-air amphitheater for concerts. Eastvold's group and two neighborhood associations have gone to court saying that noise and traffic from the amphitheater would seriously disrupt the area.

NPCA is also concerned about Park Service management of Petroglyph. This spring officials released proposals for development and management of the park. Two of the three options emphasized horseback riding and mountain biking. "This kind of intensive recreation should not be the emphasis of a park set aside to protect ancient and fragile sites, a place that is an outdoor church for the Pueblo Indians," Butcher said. NPCA opposes in particular one Park Service proposal for a road running north to south through the length of the monument.

IKE EASTVOLD

Petroglyph National Monument has faced a long list of threats in its three-year life.

A major concern about road-building in the park is that easy public access would jeopardize survival of the petroglyphs. Vandalism is already a serious problem at the park. Petroglyphs have been found marked with bullet holes, spray painted, or smashed with rocks.

Write to Superintendent Stephen Whitesell, Petroglyph National Monument, 123 Fourth Street, SW, Albuquerque, NM 87102, urging him to limit development in the monument and not to promote intensive recreation there.

Virginia Parks Face Landfill, Power Plant

A proposed Virginia power plant could worsen air pollution at Shenandoah National Park and other sites nearby.

The plant, and an ash landfill planned next to it, are also creating concern for water quality in the area, which includes George Washington Birthplace National Monument.

"What we want to prevent," said Bruce Craig, NPCA Northeast regional director, "is damage to the ecological health of these two parks."

The SEI Birchwood Power Facility, a $300 million coal-burning plant

planned in King George County, Virginia, would generate energy for the regional utility, Virginia Power.

Emissions of sulfur dioxide and nitrogen oxide from the plant are likely to reduce visibility and increase acid rain and ozone pollution in the region. Shenandoah, 60 miles away, already has some of the highest levels of sulfur dioxide and ozone in the park system.

The National Park Service has officially declared its opposition to the power plant unless the problem of its emissions can be resolved. "We're not opposed to a particular project per se, we're opposed to the pollution," said Julie Thomas, air quality program manager at Shenandoah.

In 1990, before the Birchwood plant was proposed, Shenandoah identified 15 new power plants planned within 120 miles of its borders that it said would worsen the park's air quality. So far, 12 of those plants have received permits from the state. But the park's assertive stance has resulted in better emissions controls on those plants. "We haven't stopped the increase in air pollution, but we've slowed it down a heck of a lot," Thomas said.

The emissions could also worsen water quality in nearby Chesapeake Bay. King George County occupies a neck of land bordered by the Rappahannock and Potomac rivers as they flow into the Chesapeake.

The Birchwood plant would draw 4.4 million gallons of water a day from the Rappahannock. Some of the water would then be released back into the river. The discharged water could raise the temperature of the river, affecting its plant and animal life. The U.S. Fish and Wildlife Service is working on plans to preserve sites along the Rappahannock, one of the East Coast's most pristine rivers, as part of a national wildlife refuge. The plant is within a few miles of some of the sites.

The water withdrawal would occur near the point where the Rappahannock charges local aquifers. If enough fresh water is pulled from the aquifers, local citizens fear, saline water from the Potomac River could take its place. The result could be salt water pulsing into

the creeks and wetlands of George Washington Birthplace, which are fed by the aquifers. The national monument preserves the little-changed area along the Potomac where the first president's early boyhood home stood.

The landfill proposal is also creating concern about water quality at the historic site and surrounding area. The King George County Board of Supervisors issued a permit in April for an ash dump on land adjoining the power plant site. County residents have formed a group, Pride of King George, to fight the plan.

The 538-acre landfill would accept ash from municipal incinerators in the Washington, D.C., and New York City areas, as well as conventional trash.

The dump site is near Caledon State Natural Area, where as many as 60 bald eagles can be spotted at once in summer.

✍ *NPCA urges readers to write to Richard Burton, director of the Virginia Department of Environmental Quality (4900 Cox Road, Glen Allen, VA 23060), asking that permits for the landfill and power plant be denied.*

REGIONAL REPORT

News Briefs from NPCA's Regional Offices

ALASKA

Chip Dennerlein, Regional Director

Members of Congress from Alaska are once again pushing legislation to authorize commercial and subsistence fishing within Glacier Bay National Park and Preserve. Despite opposition from NPCA and other conservation groups, the House Merchant Marine Committee approved the bill in May. Readers are urged to write to Rep. Bruce Vento, chair of the House subcommittee on national parks (U.S. House of Representatives, Washington, DC 20515) and Sen. J. Bennett Johnston, chair of the Senate Energy Committee (U.S. Senate, Washington, DC 20510), asking them to oppose the current legislation authorizing widespread commercial fishing within the park.

NORTHEAST

Bruce Craig, Regional Director

General Grant National Memorial, better known as Grant's Tomb, is the largest mausoleum in the nation. It was dedicated in 1897 as the final resting place of President Ulysses S. Grant, who led the Union to victory in the Civil War. Since then, the tomb, located on a bluff above New York City's Hudson River, has fallen on hard times. The site reeks of urine, and graffiti and vandalism have grown into desperate problems. Readers interested in efforts to preserve Grant's Tomb should contact Craig at NPCA, 1776 Massachusetts Ave., N.W., Washington, DC 20036.

PACIFIC NORTHWEST

Dale Crane, Regional Director

NPCA, other conservation groups, and Native American groups filed suit this spring to block oil and gas drilling in the Badger-Two Medicine area bordering Glacier National Park, Montana. To the Blackfeet, the Badger-Two Medicine is sacred land. It is also at the heart of the most important habitat in the nation for the threatened grizzly bear and links Glacier with wilderness areas to its southeast.

The Montana wilderness bill that was passed by Congress in 1988 but vetoed by President Reagan would have made the Badger-Two Medicine a wilderness study area, prohibiting energy exploration there. Sen. Max Baucus (D-Mont.) put forward the proposal again in a bill he introduced this spring.

◆

NPCA has intervened on the side of the National Park Service in a lawsuit filed by bicycling groups. The groups want more trails opened to bikers at Golden Gate National Recreation Area in California than the 65 percent a park plan specifies. NPCA agrees with the Park Service that biking should be barred in some sensitive areas.

PACIFIC SOUTHWEST

Russ Butcher, Regional Director

A bill introduced by Rep. Michael Andrews (D-Tex.) would add nearly 25,000 acres to the National Park System, connecting Carlsbad Caverns National Park in New Mexico with nearby Guadalupe Mountains National Park in Texas. The expansion would give park protection to one of the world's largest exposed ancient fossil reefs. NPCA recommended the expansion in its 1988 National Park System Plan.

◆

NPCA is enthusiastic about a plan at Pinnacles National Monument in California to reduce environmental impacts on the park. The park would move its visitor center and headquarters to a less sensitive area. The plan also includes a monitoring program for overcrowding or damage and a shuttle bus system to prevent congestion.

ROCKY MOUNTAIN

Terri Martin, Regional Director

NPCA's battle against a giant water diversion project above Black Canyon of the Gunnison National Monument seems to have ended in success. This spring the Army Corps of Engineers declined to issue a permit for the AB Lateral hydropower plant.

Black Canyon, located in western Colorado, contains 12 miles of the Gunnison River and the dramatic, sheer canyon it has carved. The plant would have meant the diversion of 60 to 70 percent of the flow of the Gunnison above the park. "This should be the death knell for an unneeded and destructive project," said Martin.

◆

In a step urged by NPCA, Yellowstone is examining ways to prevent overcrowding and environmental damage as the number of winter visitors to the park skyrockets. Snowmobile congestion is one major problem. Winter visitation is growing so quickly that it is already at the level Yellowstone predicted it would reach in the year 2000.

SOUTHEAST

Don Barger, Regional Director

Operators of helicopter sightseeing rides over Great Smoky Mountains National Park have taken the state of Tennessee, Sevier County, and the city of Pigeon Forge to court. The lawsuits challenge a new state law and a city ordinance curbing flights over the park. State legislators and Pigeon Forge cite the hazards and volume of noise created by regular helicopter traffic. NPCA agrees that the volume of sightseeing overflights has become a serious problem at the Smokies and other parks, and believes that better regulation by the Federal Aviation Administration, in consultation with NPS, is needed.

The Evolution Time Bomb

National parks and other protected areas may hold the key to survival of species...including our own.

By Paul C. Pritchard

THE TRADITIONAL FUNCTION of parks has been to provide inspiration, recreation, and resource protection. But today parks must serve a new role as well, one we are just beginning to understand, and one that could help humanity survive the consequences of its own actions.

Ample evidence exists to suggest that humankind is interrupting the Earth's natural ability to heal. But for perhaps the first time in evolutionary history, the most dominant force affecting change has the potential to control its impact. The nine-mile-wide meteor that is believed to have caused the extinction of the dinosaurs could no more stop its trajectory toward the planet than a volcano could stop its eruption, but humankind has the ability to make constructive choices to halt the loss of species. And national parks can, and must, play a crucial role toward this end.

Our parks, forests, and refuges hold the keys to species' survival, including our own. Although in the past not much attention has been paid to the crucial role parks play in preserving the habitat necessary for any species' survival, they are the only areas we have that come close to being large enough to support natural selection and evolution. And these areas may need to be even larger to ensure the long-term survival of many of the species in the parks, as suggested by noted biologist Michael Soulé.

Despite the important role national parks and other protected lands play, not enough research is conducted with long-term public objectives in mind. These areas are perhaps the only places left that can serve as laboratories to teach us how to cope with acid rain, ozone exposure, industrial pollution, global warming, and toxic runoff. In the past, the national parks have not had an organized endangered species program except in isolated cases, and there is limited integration of research within a park or refuge, let alone among management units.

Humankind has the ability to make constructive choices to halt the loss of species. And national parks can play a crucial role toward this end.

The newly proposed federal Biological Survey program shows promise for the national parks; however, in addition to a concomitant purpose for research, these habitats must be protected to ensure the survival of species and of the evolutionary process.

As part of international environmental goals, each nation has agreed to strive to protect as parkland at least 5 percent of its land mass—a goal that the United States has yet to meet. The United States has set aside roughly 170 million acres of its 3.6 billion square miles as national parks and wildlife refuges, land that could be called protected habitat. This total does not include land within the national forests, still under the control of the Department of Agriculture, which has only a token commitment toward preservation, nor does it include a representation of all of the types of ecosystems found in this country.

We know that evolution is the process by which all living organisms' chances of survival are enhanced in a changing world. These natural changes have occurred for millions of years, creating the untold numbers of species that exist now and have existed in the past. Unfortunately, however, humankind has accelerated the rate of change and disturbed and manipulated the environment to such a degree that the ingredients necessary for evolution as described by Darwin are disappearing, endangering the process itself.

Scientists project that 15 million species will vanish in the next few decades because of destruction wrought by *Homo sapiens*. In the United States alone, more than 600 species are listed by the federal government as endangered. Of that number, recent studies indicated 38 percent were in decline and only 10 percent were improving. More than 3,000 "candidate species" are waiting to be listed.

Scientists also predict that the rapid rate of climate change—brought on by an increase of carbon dioxide from automobiles and other industrial pollution—will inhibit, if not prohibit, the ability of trees and plants worldwide to adapt. Trees are weakened by pollution, subjected to water diversion, and attacked by natural and exotic diseases and insects. Witness the loss of the American chestnut and the slow disap-

pearance of the American dogwood.

Everywhere, species are coming under increasing stress from pollution, habitat change, competition, exploitation, and predation from introduced, alien species. Elsewhere in the world, the same patterns are emerging, whether the nation is "developed" or "developing." If stressed species are to survive, natural selection must be allowed to assist them in adapting to changing conditions. Scientists such as Soulé and Mark Shaffer have shown that for such adaptations to occur, threshold levels of population and habitat size must be achieved. If the numbers of individuals are not sufficient, extinctions become more likely.

One way to understand what has happened to Earth's biological diversity is to look at Madagascar, a developing country, which is probably the richest biological environment on the planet. There are 150 species of frogs alone, 148 found only on the island. There are 40 kinds of lemurs, 160 genera of palms. The plants and animals of this island nation off the east coast of Africa evolved for more than 180 million years without *Homo sapiens'* influence. Then, about 1,000 years ago, traders settled the island and thus began the extermination of species. Population growth, poaching, the demand for firewood, destructive agriculture practices, and other human actions continue to take a toll.

Today, less than 10 percent of the forest habitat remains, and that small area is under constant pressure. In effect, it is reasonable to conclude that humans have stopped the evolution of Madagascar's plants and animals by eliminating their habitat, by polluting the waters the species depend on, and by cutting up the ecosystems into tiny "islands" with few connecting corridors.

Survival of species is not an esoteric issue, such as the spiritual benefit of a beautiful landscape. Daniel Janzen, professor of biology at the University of Pennsylvania, is already working with the people of Costa Rica to understand the benefits that could be derived from the more than 500,000 species of plants and animals that live in this Central American country. Any knowledge gleaned through this research effort will be made available to pharmaceutical companies and scientific communities to provide both health and economic benefits to Costa Ricans.

How do we ensure survival of species and allow for their continued evolution? We cannot do it by collecting all endangered species in zoos or botanical gardens.

And there are many discoveries to be made. Of 1,500 plants from Costa Rican rainforests, 225 of them could produce life-saving drugs. Yet, we are still burning rainforests at such an alarming rate that we may never know what species we have lost, let alone understand how they evolved. Along with the loss of species will be the loss of knowledge that could benefit humanity, and this may be the greatest loss of all. For example, the Pacific yew of our Northwest was treated as a "trash" tree until it was found to contain taxol, an ingredient that has proved effective in treating cancer.

The 21st century may well be a time when millions of plant and animal species are no longer vigorous enough to adapt naturally to change or to undergo splitting into additional species (speciation), let alone survive.

How do we ensure survival of species and allow for their continued evolution? We cannot do it by collecting all endangered species in zoos or botanical gardens. Although these are valuable locations for human understanding and study, they do not have the resources to propagate the plants or breed the thousands of vertebrate and millions of invertebrate species that are becoming endangered.

The only way to ensure survival of species and continuation of evolution is to preserve sufficient habitat. Even if critics do not agree with saving each and every species, they cannot argue with the logic behind the prudent philosophy that the art of intelligent tinkering begins with saving all the pieces. Our survival and quality of life depend on it.

DOUGLAS MACGREGOR

Paul C. Pritchard has been president of the National Parks and Conservation Association since 1980.

Sanctuary at Sea

A proposal by Channel Islands National Park may allow marine life in California's overfished waters to replenish itself.

By Ebba Hierta

CHANNEL ISLANDS National Park, off the coast of southern California, is an uncommon place, starkly beautiful and rich in natural resources. A unique combination of latitude, water currents, and terrain has created a biologically diverse marine environment, one that scientists consider among the most important in the country.

The islands—actually peaks of extensive offshore ridges—are in the Southern California Bight, an area south of Point Conception where the mainland coast curves to the east. It is a climatic transition zone, where two major biogeographic coastal provinces intersect, and species from both northern and southern waters overlap. Two coastal currents collide here as well. The cold-water California Current and the warmer Southern California Counter Current converge to create a periodic upwelling of nutrient-laden water that fosters exceptionally high production of phytoplankton and other plant growth.

More than 800 species of plants and animals are year-round or transient residents of the park's 250,000 acres, including many that are listed as endangered by either the U.S. Fish and Wildlife Service or the California Department of Fish and Game.

At least 33 species of marine mammals, including 27 species of whales and dolphins and six species of seals and sea lions, can be found in the park. Endangered whales that are occasionally spotted include Pacific right, sperm, finback, sei, humpback, blue, and gray. The park is home to one of the largest pinniped populations in the world and the only remaining pinniped rookery in Southern California. About 100,000 seals and sea lions produce nearly 15,000 pups here each year. More than 200 kinds of fish—about 44 percent of all species reported in California's coastal waters—can be found in the waters that surround the park, along with 40 percent of the kelp in Southern California, representing some of the most highly developed submarine forests in the world.

In addition, the park boasts one of the most abundant and diverse collections of marine birds in the United States—64 species are regular visitors and 11 species have established breeding colonies, including the only one in California of the endangered brown pelican. Other endangered terrestrial birds that have been spotted on the islands include California condors, peregrine falcons, and bald eagles. And four endangered plant species can be found here: island barberry, Santa Cruz island bush mallow and silver lotus, and Santa Barbara live-forever.

Although Channel Islands National Park may seem an idyllic sanctuary, beneath the surface a crisis is brewing. Whereas marine mammals are protected by virtue of the Marine Mammals Protection Act, fin fish, crustaceans, and kelp are not, and commercial interests, along with confusing administrative boundaries, threaten to interfere with the natural order of the park and its inhabitants.

In an attempt to protect all of the park's resources, scientists are proposing a new and relatively untried method of fisheries management. Gary E. Davis, a marine biologist at Channel Islands, would like to set aside portions of the park waters as marine refugia, or zones of replenishment. The term "refugia" refers to the scattered pockets of terrain left untouched by the frozen fingers of glacial ice that scoured the Earth two million years ago. As the glaciers retreated, the Earth was repopulated by the plants and animals that emerged from the refugia.

In the marine refugia Davis envisions, all harvesting would be prohibited. Marine animals and plants would live and grow unmolested, reaching a bal-

Sunrise from Inspiration Point on East Anacapa Island, part of Channel Islands National Park off the California coast.

JEFF GNASS

ance of natural densities and sizes. With reproduction at optimum rates, the excess populations would move outside the refugia boundaries, filling the adjacent harvest zones.

Channel Islands National Park, which consists of five islands and waters one mile from their shores, is close to the most heavily urbanized area on the West Coast—Oxnard, a suburb of Los Angeles, is just 11 miles from Anacapa, the easternmost island in the chain. The fertile park waters have spawned burgeoning commercial and recreational fishing industries, which are regulated by the state of California, not the National Park Service. Overfishing threatens several commercially important fisheries including abalone, which is near collapse. "It's a desperate situation," says Russ Butcher, NPCA's Pacific Southwest regional director. "The waters around a national park seem to be a natural place to begin to look at protective management alternatives."

Fifteen percent of the coastal fish caught commercially for the entire state are taken from inside park boundaries, an area that makes up just 3 percent of California's coastal waters. Traditional fisheries management programs control harvesting with limits on catch, animal size, gear, and seasonal closures and do not work for most species, Davis says. For instance, the California abalone catch has declined from a high in the 1960s of 2,000 tons a year to 200 tons a year today. In some areas of the park, abalone density has declined from an optimum of 15,000 per acre needed to sustain reproduction to just 15 per acre. Because abalone are broadcast spawners—males and females release clouds of sperm and eggs independently of each other and fertilization occurs by chance in the water—they must be near each other to reproduce.

In the 1970s, many of the commercial abalone harvesters switched to hauling sea urchins, once considered a nuisance species. The value of the sea urchin catch—primarily for export to the Far East—rose in proportion to the abalone's precipitous fall. The sea urchin population appears stable for now, but increased pressure on urchins as

JEFF GNASS

INSETS, FROM TOP: JULIA B. VEITCH; GARY MILBURN/TOM STACK & ASSOC.; JULIA B. VEITCH; BRIAN PARKER/TOM STACK & ASSOC.

A pod of gray whales navigates through the Outer Santa Barbara Channel near Santa Catalina Island. The gray is one of seven endangered whale species found in Channel Islands National Park. With half of its 250,000 acres composed of water, the park is rich in other marine life as well, including (insets, top to bottom): Spanish schall; spiny lobster; rose anemone; and abalone, in severe decline because of commercial overharvesting.

the abalone catch continues to decline could lead to a similar problem with this species. Throughout history, overharvesting has prevailed in the commercial fishing industry. As one cash-producing species is depleted, another replaces it. "We're reaching the end of the line," Davis says. "There are not many species left to exploit."

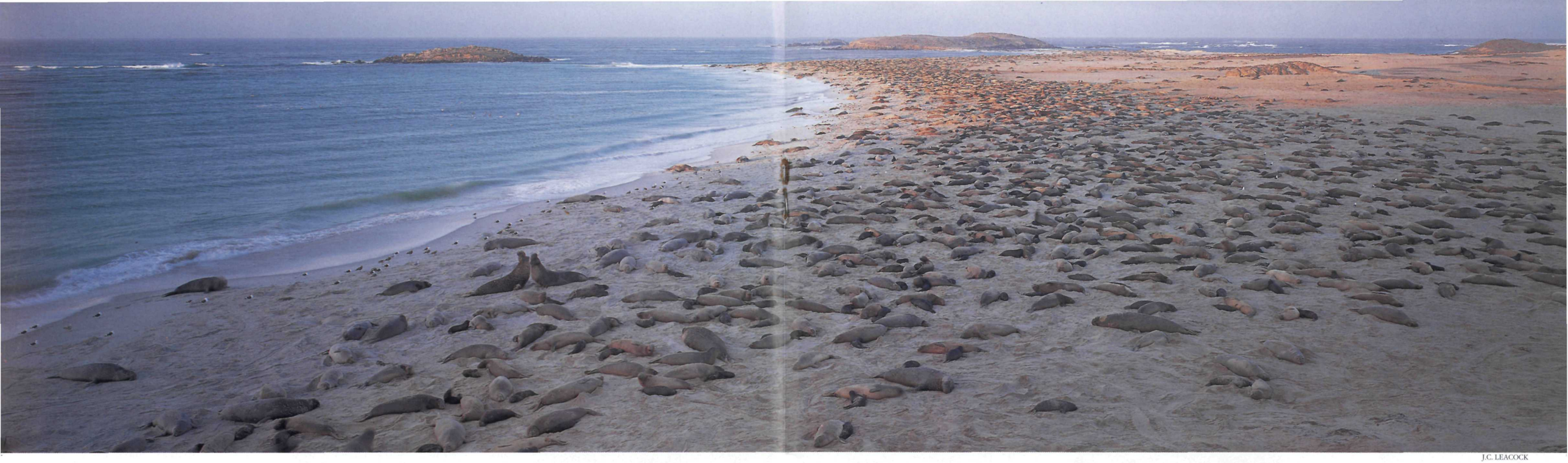
Even so, Davis faces an uphill battle in securing approval for his refugia proposal, starting with the complex maze of administrative agencies with jurisdiction in the Channel Islands. Established as a national monument in 1938 and redesignated as a park in 1980, Channel Islands encompasses the four northern islands—San Miguel, Santa Rosa, Santa Cruz, and Anacapa—and Santa Barbara Island farther south. (The Nature Conservancy owns 89 percent of Santa Cruz Island, which is administered in its entirety by the National Park Service.) The park's 250,000 acres are split evenly between land and water. The charter calls for a low-intensity, limited-entry park, and although its boundaries extend one mile from shore, park administrators have no jurisdiction over the submerged resources. The park is also part of the National Oceanic and Atmospheric Administration's (NOAA) 1,252-square-mile Channel Island Marine Sanctuary, with boundaries extending six miles from shore. But in establishing the sanctuary, NOAA also relinquished control of fishing and kelp harvesting to the state.

California's jurisdiction extends three miles from shore. The state has established ecological reserves around San Miguel, Santa Barbara, and Anacapa islands that extend one mile from shore and are administered by the California Department of Fish and Game, which also regulates all commercial and recreational fishing and kelp harvesting. As a result, Davis needs approval from California officials to prohibit harvesting in park waters. Although he has support in some quarters, the issue has created considerable controversy, and the fishing industry has a strong lobby.

Compounding the problem is a lack of scientific research and data on the refugia idea. Most existing marine reserves were established as a conservation measure for a threatened species, not as a fisheries management tool. Research pertaining to the reserves generally focuses on populations within the reserve boundaries, not on the impact on nearby harvest zones. Anecdotal evidence suggests that the concept works, Davis says, but scientific proof has yet to be established.

For example, three national parks in south Florida—Everglades, Biscayne, and Dry Tortugas—have joined together to establish a conservation program for the spiny lobster. The three national parks combined provide the kinds of habitat the crustaceans require, says Davis, who worked to establish the program as a staff scientist at Everglades National Park in the 1970s. Although there are few adults in Everglades, both adults and juveniles are protected in Everglades and Biscayne national parks. There is a large adult population in Dry Tortugas. The lobster fishermen who set pots around the parks say their catch has increased since harvesting was banned in juvenile nursery areas and adult habitats. Yet, no scientific data exist that compare the size of the lobster harvest before and after the program was enacted.

The same situation exists in New Zealand, where several national marine reserves have been established that operate in a fashion similar to Davis' refugia concept—taking of any natural resources is prohibited. Fishermen who work the boundaries of the reserves report increases in fish size and numbers, according to William Ballantine, a marine biologist at the University of Auckland. But in "strict scientific terms, it is difficult to be certain that these



J.C. LEACOCK

Hundreds of elephant seals and sea lions blanket the beach at Point Bennett, San Miguel Island. The park is home to some 100,000 seals and sea lions—one of the largest pinniped populations in the world.

differences are due solely to the protection of the reserve," Ballantine wrote in 1991 on the subject.

Commercial fishing is an occupation bound to tradition and resistant to change, and without concrete proof the California industry will be reluctant to support closure of any existing harvest zones. John Colgate, president of California Abalone Divers' Association, agrees. Professional abalone divers do not want another layer of bureaucracy overseeing their fishery. "We're a bit miffed," says Colgate. "When the National Park [Service] came in, the agreement was they would deal with the land, not the water. We don't want too many hands governing our fisheries.... And I want to see some hard facts before they do something like shut down our more productive areas."

The association disagrees with the scientists on the causes of the abalone decline, the best solution, and the overall health of its fishery. "We don't believe our fishery is in imminent danger of collapse," Colgate says. "There are problems. Of course we're worried about it; we make our living as abalone divers." The biggest problem is not overfishing, he maintains, but proximity to Los Angeles and its pollution.

The divers are convinced that enhancement, or seeding the abalone beds with juvenile animals grown in hatcheries, is the best management method. Association members now contribute 5 percent of their profits to enhancement programs. "He's trying to do a good thing," Colgate says of Davis' proposal. "We just don't agree on the concept."

Davis says enhancement is not a cost-effective solution. Abalone have a very high annual mortality rate. The value of the catch that survives the five to seven years needed to reach market size is less than the cost of buying hatchery-grown juveniles and seeding the beds. Some scientists who study fisheries management on a global scale are inclined to agree with Davis.

According to reports issued by the United Nations, a third of the important commercial species around the globe currently are either overexploited or severely depleted, says Michael Sissenwine, senior scientist with the National Marine Fisheries Service. "The traditional resistance to control will have to change," Sissenwine says. "It's a different world now. There are a lot of people and a lot of demand for fish. Society has to balance its needs with respect to limited resources."

Sissenwine sees the biggest problem in the world's fisheries as overcapitalization—too many boats are engaged in active harvest. Although certain fisheries are still profitable, average costs of harvest around the world are 20 percent more than revenues. In other words, global fisheries are operating at a deficit.

One traditional management tool, catch quotas, seems to work for many species, he says, but as fishing becomes uneconomical, tremendous political pressure is brought to bear to boost the quotas. The refugia concept has promise, Sissenwine says, especially for nearshore species. With wide-ranging, deep-ocean species, the refugium would have to be extremely large, and consequently it would be difficult to manage and enforce, and the political pressure to allow harvest would be too great.

Convincing politicians and the fishing industry of the seriousness of the problem has been difficult, because the total tonnage of the world harvest increased steadily for years. But the bottom line is deceiving, because the tonnage has increased as a result of more boats engaged in fishing, better gear, electronic navigation equipment, and serial depletion—exploiting a new species when an old one is used up. After years of increase, 1991 was a turnaround year; the worldwide harvest is decreasing. "The reality now is there aren't many places left to go," Sissenwine says.

In an effort to gain support for the refugia concept, Davis has scaled back his proposal. NPS will use existing state of California ecological reserves in the park to test refugia concepts, and carefully measure the impact on the populations of about a dozen important commercial species, such as kelp, abalone, sea urchin, spiny lobster, sheepshead, angel shark, halibut, kelp bass, and several species of rockfish.

The size of the experiment is so small, it will have little effect on the overall health of those fisheries, Davis says. But if he can prove with scientific certainty that the populations of the target species increase outside the refugia, he may have the necessary evidence to persuade California authorities to try the experiment on a larger scale. Davis' supporters in the Fish and Game Department say it will not be easy, even with substantial evidence.

JOHN D. BROOKS

Island fox, San Miguel Island.

But Peter Haaker, a department marine biologist, is already convinced. "We're going through our ocean habitats and taking out species without regard to anything else. We're in a serious state of imbalance. The only hope is to set aside areas where there is no fishing. We have to protect the biodiversity and the gene pool." Convincing the decision makers is another story. "Fisheries management in California is controlled by lobbies," Haaker says. "Regulations are made by the legislature. They get input from the department, but they don't always follow it."

Davis hopes to find more support for his proposal as the extent of problems in California's fisheries becomes more evident. In a move he calls "a very positive sign," the California Department of Fish and Game last spring recommended a statewide ban on harvesting black abalone, the most severely depleted of the four species. "It will get easier for people to accept change as their resource collapses," Davis says. "We're running out of new species. We've got to make do with what we've got."

Ebba Hierta is a writer based in New London, Connecticut.

ANCESTRAL LANDS

NATIVE AMERICANS SEEK TO RESTORE TREATY RIGHTS TO WORSHIP AND HUNT IN MANY NATIONAL PARKS.

BY TODD WILKINSON

Ask the Ojibwe to tell you about the legends of Apostle Islands in Lake Superior, or the Miwok to recall their ancestral roots in Yosemite, or the shy Havasupais to describe prayers they still offer spirits in the Grand Canyon. Ask them, or dozens of other Indian nations across the United States, to articulate their connections to national parks, and all will reveal the same answer: Native Americans do not need national park boundaries to remind them that certain places are holy and inviolate. They know this as part of their religion.

"Kinship with all creatures of the Earth, sky, and water was a real and active principle," Chief Luther Standing Bear of the Lakota Sioux said in 1933. "The old Lakota was wise. He knew that man's heart away from nature becomes hard; he knew that lack of respect for growing, living things soon led to lack of respect for humans, too. So, he kept his youth close to its softening influence."

STEPHEN TRIMBLE

Many Native Americans live next to national parklands and continue to use them to worship, to hunt, and to gather native plants. A Navajo hogan, left, and a boy outside his home in New Mexico.

For tens of centuries, Indians throughout the country worshiped and subsisted on lands that are now included within national parks, and today some of those tribes want to restore rights to more actively use the sites for religious and other purposes.

Michael Turek, a land-use historian who has investigated past relationships between Indians and the National Park Service (NPS), says some tribes carry a festering resentment about insensitive treatment at the hands of NPS as well as the federal government. Among the more prominent examples of mistreatment was the banishment from Yellowstone of aboriginal peoples when the world's first national park was created.

Though few would argue that past relationships with the government have been ideal, kinship with the land and spiritual fulfillment are not the only reasons Indians are seeking to expand rights to use the parks. According to Turek, the majority of tribes with claims to park sites believe these lands could yield opportunities for co-management,

STEPHEN TRIMBLE

operation of lucrative concessions, and perhaps the chance to bargain for a share of the money generated through gate receipts. Some tribal activists see the assertion of land claims within national parks as one means of improving the standard of living at reservations, which are among the poorest communities in North America.

In 1992 the Blackfeet of northern Montana filed a lawsuit against the Park Service and the Department of the Interior, asking to restore the tribe's rights as outlined in an 1895 treaty. The Indians have sued to regain the ability to hunt, fish, log, and graze livestock, as well as to operate tourist ventures in Glacier National Park, which abuts their reservation. The lawsuit, which is still pending, could have ramifications for many Western national parks, where treaties never clearly stated what would happen to Indian land if it became part of the National Park System. In the past, Congress has had the authority to change agreements made in these treaties. According to *Natural Resources & Environment*, a journal of the American Bar Association, "An established principle of Indian and non-Indian law alike is that governments have the *power* to change their minds; treaties may be abrogated by one side acting alone. [However,] that is not to say that abrogation of Indian treaty rights imposes no liability on the government."

The Park Service potentially could be dealing with as many as 120 different Indian tribes, and a ruling that favors the Blackfeet could open a Pandora's box for the agency. Although the Park Service generally has prevented Indian subsistence and development activities on parklands in the lower 48 states, subsistence is legislatively permitted on most parklands in Alaska.

"At the time national parks were established, no one foresaw that there would someday be conflict," says Turek, who studied the issue for the Native American Fish and Wildlife Society. "Late in the 19th century, when the groundwork was being laid for national parks, it was assumed by park architects that Indians were a vanishing race and wouldn't be around long enough to argue with the taking of their land."

NATIONAL PARK SERVICE

Stephen Mather, the first Park Service director, greets a leader of the Blackfeet at Glacier National Park, circa 1916.

But Indians, Turek says, have proved the government wrong. By visiting Indian reservations bordering parks, Turek found that many tribal societies have continued using these areas as spiritual sites, to harvest native plants, and to hunt. "Hunting goes on secretly in a number of parks. It's as much a part of tradition as it is necessity."

Some people contend that the National Park Service should face up to this issue squarely. John Cook, NPS Southwest regional director and the highest-ranking Park Service administrator with Indian blood, has suggested that NPS issue regulations to permit limited Indian use of park resources. Cook delivered an address during a George Wright Society conference last fall suggesting that such a proposal was well meaning. "However, [NPS] must carefully weigh any proposal that lessens the protection afforded the resources of the National Park System."

For the Indians, regaining use of parklands concerns more than policy or economics. It is a matter of maintaining a culture that has been assailed relentlessly for the past three centuries. Tribal elders say that religion cannot exist without access to sacred homelands, such as those contained within parks, and without religion, native rituals and languages will not survive into the next century.

Some rituals involve collecting plants for medicines and herbal remedies. Native Americans have used plants in medicinal mixtures for thousands of years, and the parks—which, for the most part, have escaped cultivation and the use of

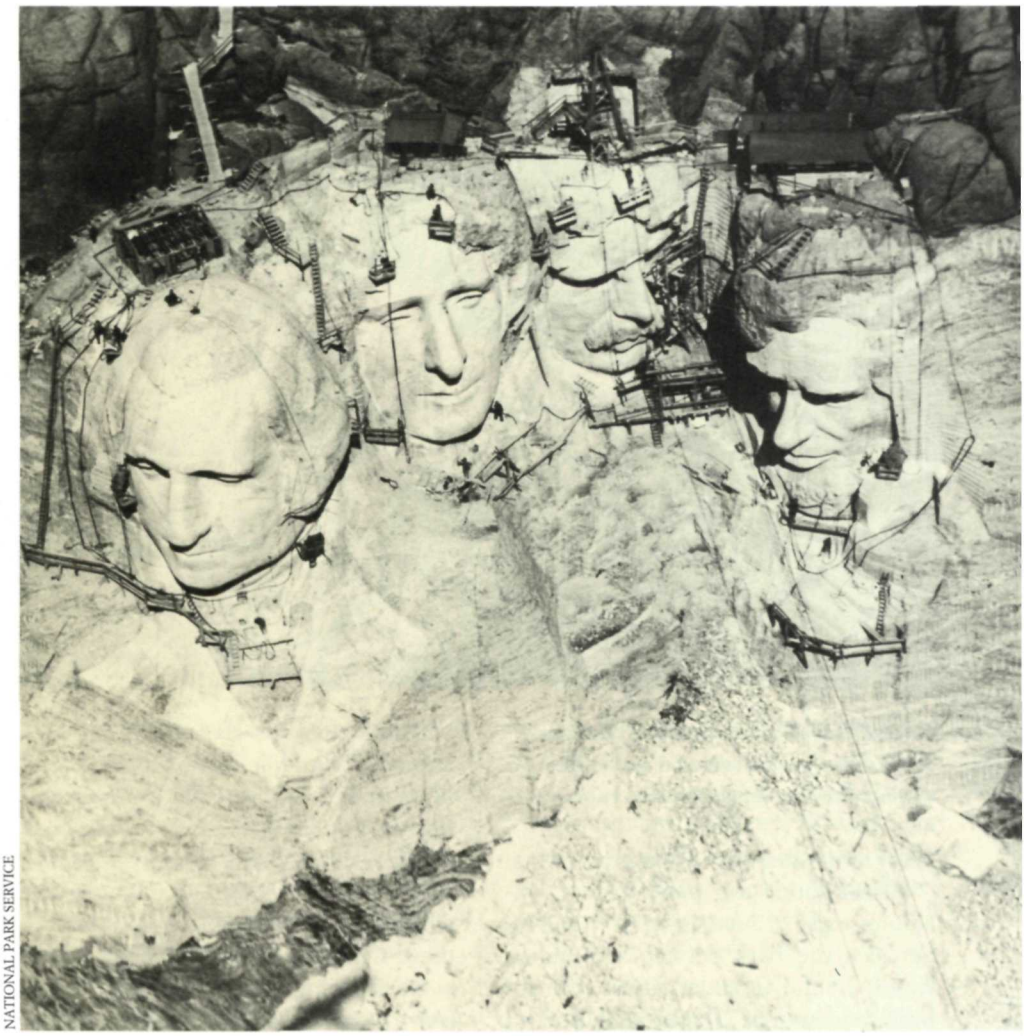
herbicides—are among the few places the plants thrive. They play an important role in preserving Indian culture, not only because of their healing power, but because each carries an Indian name, providing a link to the language.

"There are close ties between our languages, our religion, and the land. If we don't have our languages, we can't sing our sacred songs and practice our religion," says Patricia Locke, a member of both the National Congress of American Indians and the Native American Language Institute.

The Worldwatch Institute estimates that one-third of all native languages in North America have disappeared, most of them since the beginning of this century. Some ethnographers suggest a connection exists between the loss of language and the forced removal of the Indians from homelands. Of the 187 remaining native languages, 45 are "in a state of morbidity," Locke says. "There may, in some cases, be only three elderly speakers left and once they die the language is gone forever. We think we may be losing as many as six languages a year."

The U.S. government did not actively engage in exiling native peoples from Western lands until 1872 when Yellowstone became a national park. During the three decades before that, the government established a series of treaties with the Blackfeet, the Shoshone-Bannock, and the Crows, guaranteeing each tribe the right to hunt and subsist within parklands. For many years, the only reminders to visitors of the indigenous peoples who once inhabited park areas were cheap goods sold in gift shops, such as war bonnets and rubber tomahawks.

Another, more troubling, issue for Indians has been the exploitation of places they perceive as sacred. Indian activists consider Mount Rushmore National Memorial—where stone visages of four U.S. presidents are carved into a granite mountainside—a desecration and an insult. The Black Hills of South Dakota, where the memorial is located, are considered by the plains Indians to be the center of their religion. "That was really like pouring salt into an open wound," said Tim Giago, a Sioux Indian and publisher of the *Lakota Times*.



NATIONAL PARK SERVICE

The faces of four presidents were carved into the Black Hills of South Dakota, an area considered sacred by plains Indians.

And Mount Rushmore is not an isolated example. The rights of native peoples over homelands have been ignored for a long time by a variety of official agencies around the world. According to an article by Alan Thein Durming that appeared in *Guardians of the Land: Indigenous Peoples and the Health of the Earth*, a Worldwatch publication, "Few states recognize indigenous peoples' rights over homelands, and where they do, those rights are often partial, qualified, or of dubious legal status."

As recently as six years ago, the National Congress of American Indians—the oldest and largest organization of Indian peoples in the country—attacked the Park Service for not addressing matters of religious freedom, particularly in protecting graves and artifacts on federal land. The National Parks and Conservation Association has also pressured the Park Service to be more responsible in interpreting Indian culture, involving Native Americans in planning and managing the parks, and in protecting Indian spiritual interests.

Similar issues are being raised around the globe, generating enough attention among world leaders that the United Nations has declared 1993 "The International Year of Indigenous Peoples."

Although the Park Service's record on Indian relations may not be exemplary, attempts have been made to improve them. Park Service officials say more than 40 park units currently feature as a primary theme Native American culture, which is highlighted at

STEPHEN TRIMBLE

Navajo beadsellers in Arizona. Members of the Navajo tribe serve on specialized work crews that repair Anasazi ruins.

many more sites through interpretation.

Throughout the park system, examples exist of increasing cooperation between the Park Service and Indian tribes. In the Grand Canyon, the superintendent has a special liaison to Native Americans; at Chaco Culture National Historical Park in New Mexico, Navajos constitute specialized work crews that repair Anasazi ruins; and in Everglades National Park in Florida the Seminoles have been partners with NPS and environmentalists in defending the park's water rights.

The Park Service also has made efforts to hire more Native American rangers, involve Indians in planning and management, develop programs to accommodate Indians who want to use parks for religious worship, and aggressively prosecute vandals who damage or desecrate sacred sites. Otis Halfmoon, a member of the Nez Perce tribe, says sentiments between the Park Service and Indians have vastly improved within the past decade. As a youth, he heard stories about the agency refusing to heed warnings from Nez Perce elders and bulldozing a road through a tribal graveyard.

Halfmoon was recently hired as a ranger at Big Hole National Battlefield in Montana, where Chief Joseph and the Nez Perce succeeded in driving back the U.S. cavalry sent to move the tribe to a reservation. "It's about time that we have Indians here to help interpret these sites," he says. "There have been some emotional bruises and black eyes, but I have become impressed with the Park Service because it is helping us save our history."

For Michael Turek, the idea of bringing together national parks and native cultures goes back 160 years. In 1832, painter George Catlin imagined the lands west of the Mississippi River serving as a refuge where indigenous peoples "were preserved in their pristine beauty and wildness, in a magnificent park, where the world could see for ages to come, the Native Indian." Although Catlin's vision was dehumanizing because it sought to turn Indians into living artifacts preserved in a vast outdoor museum, it nevertheless conveyed the inseparability of native peoples and the land.

Four years ago, 40 Park Service rangers, many of them Native Americans, founded the Council for American Indian Interpretation to try to meld the differing philosophies of the Park Service and the various tribes. "The mission

RELIGIOUS RIGHTS

NATIVE AMERICAN groups are working to amend the American Indian Religious Freedom Act (AIRFA) of 1978. Under changes proposed by the Native American Rights Fund and the National Congress of American Indians, at least 44 sacred sites—including some in or near national parks—would have greater protection from exploitation and development.

The amendment would require any federal agency proposing an activity that would affect a designated spiritual site to consult with the affected tribe and offer a public review of the action.

Another provision of the amendment would make it easier for practitioners of traditional Indian medicine to acquire eagle feathers as well as other animal parts and plants essential to certain ceremonies. Currently, the U.S. Fish and Wildlife Service strictly regulates the distribution of bald eagle feathers because the bird is an endangered species. As a result, elders in many tribes say it is extremely difficult to acquire the bird's feathers legally.

Other portions of the amendment would extend protection to members of the Native American Church who use the drug peyote as part of their worship.

Although religious freedom is guaranteed under the Constitution, "Indians have had freedom for only 10 years [since AIRFA was first passed]," says Patricia Locke of the National Congress of American Indians who is part Ojibwe and Sioux. "We have so many members of Congress who are members of the Congressional Human Rights Caucus. They recognize religious freedom as a fundamental human right."

Write to your representatives, U.S. House of Representatives, Washington, DC 20515, and to your senators, U.S. Senate, Washington, DC 20510 and ask for support of changes to AIRFA.

STEPHEN TRIMBLE

In at least one instance, American Indians have sued to regain the ability to hunt, fish, log, and graze livestock on parklands.

of the Park Service is remarkably parallel to the attitudes of the Indian people," says Ailema Benally, a Navajo and a ranger at Petroglyph National Monument in New Mexico. "But there needs to be greater awareness of who the Park Service is. Many Indian people see it as merely another layer of government bureaucracy."

NPS Southwest Regional Director John Cook is part Cherokee, and under his charge the Southwest region hired the first NPS Indian liaison officer. "A lot of people say this country was founded on liberty, and they suggest the best idea America ever had was [its] national parks," says Cook. "But for the people who occupied the continent when Columbus arrived, it has taken a long time for them to experience liberty and to truly enjoy the national parks."

Of the 41 park units in the sprawling Rocky Mountain region, every one holds some historic significance to some 51 different nations that occupy the inner West, says Robert Baker, NPS regional director based in Denver, Colorado. Baker says his agency is sincere this time in its attempt to acknowledge Indian needs. To back up his promise, he recently hired Barbara Booher, former superintendent at Little Bighorn National Battlefield Park in Montana, to serve as a liaison to tribal governments. A Ute-Cherokee, Booher is the highest-ranking Native American woman in the Park Service. "She is a role model who makes the parks more accessible to Indian people at a time when they sometimes feel left out," says Sen. Ben Nighthorse Campbell (D-Colo.).

As a park superintendent, Booher was instrumental in persuading Congress to change the name of Custer Battlefield National Monument to Little Bighorn National Battlefield Park. Although the battle at the Montana site was a legendary triumph for the Indians, the battlefield was named in honor of General George Custer, who along with many in the Seventh Calvary, was killed here. Despite resistance, Booher and Campbell—himself a Cheyenne whose great-grandfather fought in the battle—took their pleas to Congress. NPCA supported the name change, which Booher and Campbell say is a small step toward making amends.

As part of a continuing move toward redress, the Park Service recently completed a $120,000 study at the request of the Lakota Sioux tribe to outline options for managing Wounded Knee in South Dakota as part of the park system. At this spot in 1890, the U.S. cavalry killed more than 300 Sioux in a tragic episode widely regarded by historians as a seminal event in American history. Legislation to establish a cooperative NPS-Sioux park site has been introduced in Congress.

"Wounded Knee could be a model for NPS-tribal cooperation in a national park," says David Simon, NPCA's natural resources program manager. "It's an opportunity for the tribe to decide what happens at this extremely sensitive place and to capitalize on the expertise of NPS and the prominence of the National Park System to help preserve Sioux culture."

Sen. Campbell says he believes the cooperation begun during the past few years will become even more evident in the future. "I'm absolutely convinced you will see more thoughtfulness with regard to Indian issues than what we have seen during the Reagan-Bush years. There will be an open-door policy for Indians in the White House," Campbell says. "I think national parks can be helpful tools. In many ways, it's a rare chance for tribes to control their own destiny."

Todd Wilkinson lives in Bozeman, Montana, and writes regularly about national park issues.

New Findings at the Lost Colony

At Fort Raleigh, archaeologists unearth clues about the settlements that disappeared more than 400 years ago.

By Laura P. McCarty

IT IS 1585 IN ENGLAND, and Sir Walter Raleigh—poet, warrior, and scholar—has persuaded Queen Elizabeth to help finance a colony in the New World. The queen is eager to claim the land before the Spanish do, and Sir Walter Raleigh's vision of expansion and material riches is well received. Raleigh dispatches seven ships, 107 colonists, and Sir Richard Grenville, one of England's finest captains, to sail across the ocean to an untamed and primitive land. After a three-month journey, they reach a place between the mainland of what is now North Carolina and its sandy barrier islands, an ideal site protected from attack.

It is 1991 on Roanoke Island, North Carolina. Ivor Noel Hume, senior retired archaeologist at Colonial Williamsburg and current director of archaeological digs at Fort Raleigh National Historic Site, discovers what he believes may have been America's first scientific laboratory. Hume unearths pieces of high-fired ceramic crucibles on this windswept island that date from Raleigh's 1585 colony.

The first site of English colonization in what is now the United States is not Jamestown, Virginia, as many believe, but Roanoke Island, a place often forgotten because it remains shrouded in mystery. More than 400 years after initial attempts to settle the area, questions remain about what happened to the three different groups of people who over a three-year period attempted to establish a colony here. The questions remain, in part, because clues that could help formulate answers have been obliterated by time or development.

BETTMANN ARCHIVE

A primary force behind colonization of the New World, Sir Walter Raleigh sought material gain for the crown of England.

Any hope of unraveling the mystery seemed lost until a 1991 dig sponsored by the National Geographic Society and conducted by the Virginia Company Foundation, a nonprofit archaeological research organization based in Williamsburg, Virginia. The dig at Fort Raleigh revealed pieces of smelted lead, pottery, crucibles, charcoal, and distilling apparatus used in metallurgy. Hume excavated 15 spots within a 70-foot square that had been dug 44 years earlier by J.C. Harrington, now a retired National Park Service (NPS) archaeologist. Working with a team of experts, Hume was able to identify the dirt floor of a 1585 laboratory, the site of what he considers the "birthplace of American science."

Two colonists who accompanied the 1585 expedition were German scientist Joachim Ganz and mathematician Thomas Hariot, who in 1588 wrote *A Brief and True Report of the New Found Land of Virginia*. According to Hume, who has studied this document, one of the primary purposes of the 1585 trip was to find copper and other precious metals. Hume believes Ganz and Hariot used the recently unearthed crucibles as well as other artifacts, which date back to this period, to conduct their experiments.

Today, the land around Fort Raleigh is similar to what the colonists found more than 400 years ago. Cedar, live oak, holly, and other trees grow on the island and may have been used to build boats, houses, or furniture. The historic site includes a small earthen fort reconstructed in 1950 by Harrington, who determined the location based on available evidence. Additional information discovered last year altered the Park Service's interpretation that this earth-

JOHN ELK III

The kinds of vegetation found today at Roanoke are similar to what colonists would have encountered 400 years ago.

work was the fort used by Roanoke's first colonists in 1585. Hume now believes the reconstructed fort actually represents a structure used by a group of 15 men left on the island in 1586, the second unsuccessful attempt at colonizing Roanoke.

Little information exists concerning the day-to-day life of the three separate groups of people who attempted to settle this 11-mile-long island from 1585 to 1587, although enough is available to reconstruct part of the picture. The futile forays began with Raleigh's cousin Sir Richard Grenville, who sailed to the new land with Ralph Lane, governor of the new settlement, and 107 colonists. The group arrived in July 1585 and found a temperate climate and a wooded island inhabited by Algonkian Indians, whose initial relations with the colonists were good. Because Roanoke was to serve as a lookout for Spanish and French ships, the colonists built a fort.

From the outset, the group faced some seemingly insurmountable challenges. They began with fewer supplies than they had provisioned, because their flagship, along with a significant portion of the goods, had been lost on the ocean voyage. Most of Lane's men were soldiers and knew little about farming. As a result, shortly after they arrived, the colonists began to rely on the Indians for food. In the beginning, the natives gladly provided trout, sturgeon, and other fish as well as maize, a native corn. But as food became scarce, and Lane's men began to demand rather than simply to expect food from the Indians, relations soured.

Meanwhile, Sir Grenville, who had returned to England for relief supplies and was expected back by Easter of the following spring, was late returning, and Lane suspected treachery from the tribe's Chief Wingina. Lane's men attacked the tribe and beheaded the chief, exacerbating an already deteriorating situation. Lane and his men were desperate, facing starvation, and expecting further conflicts with the natives. With Grenville gone and the Indians now

VIRGINIA COMPANY FOUNDATION

Archaeologist Ivor Noel Hume, right, and others have sought to unearth new clues and unravel Roanoke's mystery.

hostile, the colonists did not wish to remain at Roanoke. When privateer Sir Francis Drake arrived in June 1586 from preying on trade ships in the Caribbean, he intended to leave additional supplies for the colonists before returning to England; however, severe storms ruined many of these provisions shortly after his arrival.

Despairing and fearful, the colonists insisted that Drake take them back to England. The departure was chaotic and so hasty that three men who had been traveling inland were left behind and never heard from again. Hariot and artist John White lost many of the writings and drawings that documented the 11-month stay in Roanoke—papers that may have helped Harrington or Hume locate more of the site, including a detailed drawing of the fort.

Only two days after Drake's departure, one of Grenville's ships arrived with relief supplies. Grenville followed with 600 men, but Lane and his party had already abandoned the colony. Grenville left 15 men to hold the area with enough supplies to last them two years. This second party is believed to have built a smaller fort for protection. Many historians believe this second group was massacred; however, only one skeleton was found a year later when John White returned with 116 settlers. The number of colonists lost at Roanoke had now grown to 18.

Raleigh and White, who served as governor of the third group, had decided that the success of establishing a colony depended on a commitment to the land. White, a trained surveyor as well as an artist, wanted families, not soldiers for his settlement. As an enticement, Raleigh promised the colonists 500-acre tracts of land and a voice in the government, and 116 people traded their lives in England for the unknown in the New World.

The colonists may have been doomed from the start. They, too, lost much of their food supply when one of their ships was wrecked in severe weather. While their intention was not to stay in Roanoke, but to check on Grenville's 15 men and then settle in the Chesapeake area, the ship's captain refused to take the colonists farther north. It was late summer, storm season had set in, and the captain and his crew were eager to travel to the Caribbean and begin privateering. No better than pirating, privateering involved preying on ships engaged in the lucrative West Indies trade. More often than not, the captain and crew shared in the stolen bounty.

The colonists had no choice but to endure a winter in Roanoke until a representative was able to return to England for more supplies. They sent Governor John White because he had influence with Raleigh and Queen Elizabeth. Unfortunately, White returned to a country at war with Spain and for three years was unable to come back to Roanoke, where he had left his daughter and granddaughter along with the others.

In 1590 White returned aboard a privateer's ship to an abandoned colony. Because the original destination was the Chesapeake, White was not surprised. He found that the colonists had built a palisade around their houses; however, the fort had been razed. Historians believe the colonists were aware of the previous relations with the natives and built the palisade for protection. White also found the word "Croatoan" carved on either a tree or a post that served as part of the palisade. The Croatoan were a friendly Native American tribe that lived on an island of the same name. The island, which today makes up most of Ocracoke Island and part of Hatteras Island, is about 50 miles south of Roanoke.

One theory suggests that a contin-

JOHN ELK III

Elizabeth II, on display at Fort Raleigh, is similar to the type of vessel that would have carried settlers to the New World.

gent of the 1587 colonists made their way in a small vessel to Croatoan to watch for ships, while the rest left for the Chesapeake area. White wanted to sail to Croatoan to investigate, but the ship's captain refused, again because he and the crew wanted to move on to the Caribbean. Forced to leave, White returned to England in November 1590 to find that Raleigh's attention and enthusiasm for the colonists had diminished. Raleigh also had lost favor with the queen.

The colonists were never heard from again. Despite his continued efforts to find them, White died not knowing the fate of his daughter, granddaughter, or colony. Some historians speculate the people of the third group were massacred, but White never found a Maltese cross, the distress sign he and the colonists had agreed upon should disaster befall them. And Hume notes that there is no archaeological evidence of a massacre. With the disappearance of this third and final group of colonists, the number of those lost at Roanoke rose to 134.

Nearly 400 years passed before archaeologists returned to look for clues. In 1941 Harrington began some of the first official excavations when the Park Service took over the site. Harrington and his team dug at various times during more than two decades. Some of the findings include an iron sickle, a glass bead, wrought-iron spikes, and a tiny cup from what is thought to be an apothecary's balance weights. The team dug trenches—a method which is used to find fixed structures but which archaeologists now know can destroy smaller evidence—to look for vestiges of the colonists.

Nearly 50 years later, with the benefit of improved methods, unburned charcoal was found five feet down in a pit that Harrington had located in 1947. Using carbon dating techniques, archaeologists determined that the charcoal dated back to the 1585 period. Because of the amount of charcoal found, archaeologists believed this area may have been used by Ganz and Hariot as a pit to heat metal. Some surmised that the pit, no more than 150 feet from the fort, may have been used as a dumping ground by the 1587 colonists. What has become clearer to archaeologists through recent digs is that the reconstructed earthwork at Fort Raleigh today is more than likely from the second group of 15 men.

Visitors often wonder why archaeologists have found so little, but many years of disturbance make it difficult to trace the events of the past. Hume says modern intrusions have destroyed 90 percent of the site and, along with it, the evidence an archaeologist needs to draw conclusions. These disturbances have included everything from a Civil War fort to a 1920s movie set. Union and Confederate encampments had

been located on Roanoke Island, and soldiers pocketed inkwells and other artifacts from the site, evidence that may have offered valuable clues. The Freedman's Colony, a village of freed slaves, inhabited the island from 1863 to 1865. Although no archaeological evidence from the village has been found, it is recorded that 3,000 ex-slaves lived in the area until the federal government's Freedmans Bureau was abolished in 1865.

Nick Luccketti, executive director of the Virginia Company Foundation, points out that archaeological remains are fragile and usually not very far beneath the surface. "Modern impacts go well into the subsoil, and they would have destroyed any evidence," he said. Alan Smigielski, NPS historian at Fort Raleigh, explained that any clues found at the site would be just a fraction of an inch long, and unlike Jamestown, where permanent structures were built, colonies at Roanoke never existed longer than 11 months.

Hume said to find the villages, forts, or other structures would take a major excavation, not just one or two digs. "We don't know where to look. With the expense of digging and putting everything back, you can't just go on a fishing trip." Hume points out that Harrington was permitted to dig in 1965 only because colonial-era bricks—believed to have been made by the colonists and used by the metallurgists for a furnace—were found when utility work was being done that year. Although Harrington succeeded in finding post holes and bricks that seemed to be connected to the fort area, his digging was restricted.

In the past, the Park Service was reluctant to allow digging. But a changing consciousness about historical sites and objects has encouraged the Park Service to alter its priorities from visitor access to preservation. In fact, the visitor center, which was built in 1966, may be sitting on top of the fort, palisade, or other clues to this unsolved mystery. In May, Hume and his team continued to search for the vestiges of the settlement. Excavation on the pit turned out to be disappointing when no further evidence surfaced.

JOHN ELK III

The story of Roanoke still captures the imagination and draws hundreds of visitors to this historic site each year.

The future of Fort Raleigh is as unclear as its past. The Park Service may choose to include a variety of interpretations for various periods and uses, although not everyone agrees with this approach. The site offers a portrait of American history. Here, the English first came into contact with Indians, Confederates built a Civil War fort, and freed slaves established a village. Algonkian Indians also lived on Roanoke, an aspect of the island's history that has been ignored in the past. The site also may have a role, albeit a small one, in the history of radio. It includes an area linked to Reginald Fessenden, an American pioneer in radio communications. But, Dr. Bennie C. Keel, NPS archaeologist at the Southeast Archaeology Center, says Fort Raleigh may not be the place to record American Indian history, nor the place to define the antebellum era, Civil War forts, or a slave community.

NPCA's Northeast Regional Director Bruce Craig, who also is former director of cultural resources, agrees. "While there is a place for aboriginal history, certainly the story of the continuum of history must take a back seat to the story of the 'lost colony.' The reason for including Fort Raleigh in the National Park System is its significance to England's earliest attempts at establishing colonies in the New World."

Today's most accepted theory about the third and final group, that the colonists went north to the Chesapeake Bay area where Raleigh wanted them to settle, may never be proved. "The area is now part of Norfolk, and excavators would have to dig up people's basements to find any clues," Smigielski said. One aspect of the theory contends that the colonists intermarried with the Chesapeakes, an Indian tribe, and later were massacred by a confederacy of Native Americans led by Powhatan.

Whichever approach the Park Service chooses for interpretation, it must present the Roanoke colonies as the foundation for Jamestown's success 22 years later. The Roanoke colonists had the courage and the will to journey to a new world. And it is important to recognize that the colonists would not have survived without the Algonkian Indians, who helped feed the English and taught them about the land. The site represents America today, a country of many backgrounds and many races dependent on each other.

Laura P. McCarty is editorial assistant for National Parks *magazine.*

The Road to Independence

Sites in the National Park System trace significant events of the Revolutionary War.

By J. Charles Swift

"I HAVE BEAT THEM! I have beat all the Americans!" King George III allegedly exclaimed when hearing of General John Burgoyne's victory over the American forces at Fort Ticonderoga in New York in June 1777. King George had reason to be confident about his army's chances for a quick victory in the war with the Americans. The capture of Ticonderoga was the first objective in a campaign designed to divide the American army by separating New England from the rest of the colonies. Ticonderoga lay at the entrance of the Hudson River Valley, and the Hudson River led to Albany, and then to New York City. Upon reaching New York City, Burgoyne's forces would join with other British troops stationed there, and the separation of the American army would be complete.

Winning the war would not prove to be so simple, however, for American grievances against the British Crown had strengthened resolve to fight until complete separation from Britain had been achieved. The war began April 19, 1775, when General Thomas Gage's British regulars marched from Boston, Massachusetts, to Concord to seize American munitions reportedly stored there. Most of the fighting would not end until the Americans routed General Charles Cornwallis at Yorktown on October 19, 1781. The war did not officially end for another two years, following peace negotiations between the British and the Americans.

Thirty-seven park system units mark the War for Independence, including some that are considered affiliates, such as the Benjamin Franklin National Memorial at Independence National Historical Park in Philadelphia, or secondary sites, such as the Washington Monument in Washington, D.C.

Minute Man NHP

The first military action of the Revolutionary War occurred in April 1775 when Massachusetts militia exchanged fire with the British at North Bridge. This skirmish would turn into a prolonged assault by the colonists, who besieged the British regulars for 20 miles along the road to Boston. Minute Man National Historical Park follows the road from Lexington to Concord, and encompasses several sites associated with the fighting.

Visitors to Minute Man can begin at the North Bridge Visitor Center and view a reconstruction of the bridge where colonial militia first exchanged fire with British troops, or at the Battle Road Visitor Center, which is a little more than a mile from Lexington Common. Stops between the two visitor centers along the battle road include the site where British troops apprehended Paul Revere, who was spreading the word of the British advance toward Concord; the Wayside, home of Samuel Whitney, the muster master of the Concord militia; and Bloody Angles, where colonial militia ambushed British troops retreating toward Boston.

The fighting at Lexington and Concord provided vivid evidence of the depth of colonial discontent with the Crown. Approximately 3,500 Massachusetts militia men quickly assembled

North Bridge at Minute Man National Historical Park, Massachusetts.

NATIONAL PARK SERVICE

to meet 1,700 British troops, who had expected disorganized resistance at most. Although Massachusetts had borne the brunt of British occupation in the year before the battle, other colonies quickly joined the fight. Colonial grievances with British rule, previously expressed through words, had been translated into action. For more information, write to Minute Man National Historical Park, P.O. Box 160, Concord, MA 01742.

LEO DE WYS INC./STEVE VIDLER

Independence Hall, Independence National Historical Park, Pennsylvania.

Independence NHP

Just as the shots fired at North Bridge were "heard 'round the world," so too were the words of the Declaration of Independence. The Second Continental Congress ratified the document that officially created the United States of America in the Pennsylvania Statehouse. Today known as Independence Hall, it is the focal point of Independence National Historical Park in Philadelphia, Pennsylvania.

The park preserves a variety of sites important in the early history of the United States. The First Continental Congress met in Carpenter's Hall in 1774 to discuss the colonies' grievances against King George III. When a suitable resolution to those grievances could not be reached, and a year later armed conflict had started at Lexington and Concord, drastic action was the result. In June 1776, Richard Henry Lee, a delegate to the Second Continental Congress from Virginia, initiated a call for independence from Britain. Work then began on the document that would become the Declaration of Independence. Thomas Jefferson wrote the rough draft of the Declaration while boarding in the Jacob Graff house, a reconstruction of which is located a block and a half from the Liberty Bell Pavilion. While holding a session in the Pennsylvania Statehouse, delegates from the colonies adopted the Declaration on July 4, 1776, and introduced it to the world four days later with a public reading in Independence Square.

Visitors should not forget the park's portrait gallery, located in the building that housed the Second Bank of the United States. The gallery displays the portraits of many individuals involved in the Revolutionary War and the early Republic. It is important to note that Independence Hall is open by tour only, and that visitation peaks between May and Labor Day, so lines are common. For more information, write to Independence National Historical Park, 313 Walnut Street, Philadelphia, PA 19106.

Saratoga NHP

Saratoga National Historical Park preserves the tract of gently rolling farmland overlooking the Hudson River Valley where the Battle of Saratoga was fought. To reach Albany, British troops needed to negotiate a narrow stretch of the River Road running along the Hudson that is now part of the park border. By passing Saratoga on the River Road, British troops would expose themselves to American cannon fire from the bluffs; to stray from the road meant facing a series of fortifications in the nearby fields that would significantly slow their advance. The British chose to fight in the fields.

The Battle of Saratoga was actually a series of attacks and counterattacks throughout the months of September and October in 1777. A tour through the park begins at the visitor center and consists of several battle sites, including Freeman's Farm, owned by a loyalist who joined General Burgoyne's invasion force, the American fortifications overlooking the Hudson, and redoubts constructed by British and American troops. A reconstruction of the house used by American officers as quarters during the battles is located near Bemis Heights, where American troops constructed a fortified line to repel the British advance. The exhibits on the

NATIONAL PARK SERVICE

British General John Burgoyne, Saratoga National Historical Park, New York.

battlefield give the visitor insight into the difficulties faced by troops because of the hand-to-hand nature of war in the 18th century. In addition in nearby Stillwater, the home of General Philip Schuyler, who raised troops to oppose Burgoyne's forces in the months preceding the battle, is open from mid-June to Labor Day. The house is about eight miles north of the park and is the site of living history demonstrations presented by volunteers in period dress. For more information, write to Saratoga National Historical Park, R.D. 2, Box 33, Stillwater, NY 12170.

Ninety Six National Historic Site

By 1780 the war in the North had slowed considerably, but fighting in the South continued. The British occupied Georgia and began to make significant inroads in South Carolina. In May of 1780, the British army seized Charleston and soon started to solidify its position by moving inland. The British planned to renew fighting in the North after victory in the South.

Ninety Six National Historic Site marks the economic and political center of South Carolina's backcountry. Traders out of Charleston thought that this stopping place was 96 miles from the Cherokee town of Keowee in the Blue Ridge foothills. The village began its life in the 1730s as a frontier settlement centered around a major trading route. As such, it attracted the interest of both American and British military strategists. In November 1775, colonists still loyal to the Crown and those seeking independence fought to a standstill at Ninety Six. An uneasy cohabitation of the backcountry, marked by periodic violence, continued until 1781. In May of that year, American troops led by Nathanael Greene attempted to wrest control of Ninety Six from the British and American loyalists by attacking the Star Fort, hoping to break the chain of British outposts stretching across South Carolina.

Visitors to Ninety Six will see one of the best examples of 18th century siegeworks in this country. The Star Fort held by the British at Ninety Six presented problems for the American forces, who could not approach the well-protected fort using traditional tactics. Thaddeus Kosciuszko, who was responsible for many of the American fieldworks at the Battle of Saratoga, devised a plan to dig a zigzag trench toward the fort and construct a rifle tower to provide cover for the trench diggers, or sappers. The sappers eventually reached the base of the fort, where they engaged in hand-to-hand combat with loyalist troops. The plan was interrupted when the American commander learned that British reinforcements were approaching, forcing the American troops to storm the fort. The assault failed, but the British ultimately relinquished the fort a few weeks later and returned to the coast. Loyalists in the area burned the village of Ninety Six and attempted to destroy the Star Fort as well. Fortifications connected the stockade fort, the village, and the Star Fort. When American troops began their siege, they cut off the water supply, forcing the British soldiers to dig a well within the fort that can be seen today.

Along with the siegeworks and fort, the park interprets the components of an 18th-century village. About 100 people lived in the vicinity of Ninety Six, the site of a jail and a courthouse, both important symbols of political authority. The walking tour through the park follows a portion of the 18th-century trading path, the jail, and the reconstructed stockade fort that protected the water supply. For more information, write to Ninety Six National Historic Site, P.O. Box 496, Ninety Six, SC 29666.

J. Charles Swift is a historian who lives in Chevy Chase, Maryland.

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Fiona McDougall, NYT

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Leopold's Essays

"The practice of conservation must spring from a conviction of what is ethically and aesthetically right, as well as what is economically expedient. A thing is right only when it tends to preserve the integrity, stability, and beauty of the community, and the community includes the soil, waters, fauna, and flora, as well as people."

ALONG WITH Henry David Thoreau and John Muir, Aldo Leopold is among the most frequently quoted authors in conservation circles today, even though the public has had limited access to his work.

Except for *A Sand County Almanac and Sketches Here and There*—a slender volume of natural history vignettes and philosophical essays that was published posthumously—most of Leopold's articles were available only through a scattering of outdated magazines, until now.

With the publication of the paperback edition of *The River of the Mother of God and Other Essays*, scholars Susan L. Flader and J. Baird Callicott have distilled into a single volume the breadth and penetration of Leopold's thought. From the pretentious celebratory writing of an adolescent to the reflective and vivid prose that characterized his mature works, *The River of the Mother of God* offers the reader the best and most representative of Leopold's more than 500 articles, essays, speeches—and yes, even poems.

Editors Flader and Callicott have selected, and organized chronologically, 59 examples from Leopold's published and unpublished works that best reflect the gradual unfolding of his thoughts on a variety of topics, including conservation ecology and economics, wilderness preservation, wildlife management, natural aesthetics, and environmental ethics.

For example, "The Varmint Question" (1915) illustrates his early ecological thinking. In this essay, Leopold advocates eradication of all predators in Southwestern forests as a way to pro-

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tect game. This essay contrasts sharply with "Conversation in Mexico" (1937) in which a shift in attitude toward predators and fire is most evident. In each of these essays, readers will see the seeds of thoughts brought to full flower in Leopold's intellectual milepost, "The Land Ethic," which deals with the interdependence of people and nature. In his later years, Leopold himself wrote: "No important change in human conduct is ever accomplished without internal change in our intellectual emphasis, our loyalties, our affections, and our convictions."

Of particular interest are Leopold's reflections on the national parks. As a Forest Service employee and strong advocate of multiple-use stewardship, Leopold criticized the National Park Service's early emphasis on the preservation of only the nation's superlative "natural and scenic wonders." In "A Criticism of the Booster Spirit" (1923), Leopold also took NPS to task for its propensity to sacrifice "quality to gain quantity" to meet the desires of local tourism boosters who, he believed, should not drive public policy. He also had little regard for the Park Service's wildlife program, as he considered it "befogged with the abstract concept of inviolate sanctuary." As people still do today, Leopold also bemoaned the destruction of parks and forests through overuse. Writing in 1937, he wryly lamented "the condition of the national parks and forests, which are so badly damaged that only tourists and others ecologically color-blind can look upon them without a feeling of sadness and regret."

This book should do much to enhance Leopold's popular reputation, as it gives new inspiration to the man's legacy. It is a must-have for land managers or naturalists and a must-read for any dedicated conservationist.

The River of the Mother of God and Other Essays by Aldo Leopold; softcover, $14.95, hardcover $24.95; published by University of Wisconsin Press, Madison, Wisconsin.

—Bruce Craig

NOTICES

New Director

NPCA's new Alaska regional director, William "Chip" Dennerlein, will work full time on issues threatening national parks in the state. More than 60 percent of the acreage in the National Park System is located in the 16 park units of Alaska. Dennerlein, a long-time Alaskan, will focus on fishing in Glacier Bay National Park and Preserve, development of grassroots support for concessions reform, and right-of-way claims through national park units.

Citizen Action Day

On May 19, Cathy Beaham of the Faultless Starch/Bon Ami Co. presented the Marjory Stoneman Douglas award to NPCA ParkWatcher Dr. Liane Russell in Knoxville, Tennessee. Russell was honored for her successful efforts in protecting national parks, including the Obed Wild and Scenic River in Tennessee and the Big South Fork of the Cumberland River on the Kentucky-Tennessee border. Victor Ashe, NPCA trustee and Knoxville mayor, declared May 19 "Liane Russell/ NPCA Citizen Action Day" in Knoxville in recognition of NPCA's efforts to mobilize citizen action to preserve and protect parks.

NPCA Wins Award

In May NPCA received the Roundtable Associates 1993 Distinguished Supporter Award. The Roundtable Associates is a professional organization dedicated to ensuring that the parks, recreation, and conservation profession and its practitioners serve the best interests of African-Americans and other underserved populations. The award honored NPCA's commitment to involving minorities in park issues.

From Rio to Louisville

The state of Kentucky hosted the national conference, "From Rio to the Capitols: State Strategies for Sustainable Development," in Louisville May 25–28, 1993. NPCA President Paul Pritchard led a panel discussion addressing conflicts in the management of public lands. The conference was designed to educate participants on state issues and to highlight case studies from around the country.

Double Your Dollars

NPCA relies on the generous donations of its members to protect and preserve national parks. Many companies will match, double, or even triple their employees' contributions to NPCA, making member donations that much more effective. Check with your personnel office to see if your company will match your donation to NPCA. Many companies will match spouse and retiree do-

nations to NPCA as well. For more information on NPCA's matching gift program, please call 1-800-NAT-PARK, ext. 255.

"See the World, Save the Parks"

See Grand Canyon, Zion, and Bryce Canyon national parks by the light of the full moon. River-raft through Glen Canyon National Recreation Area. Casey Travel is offering an eight-day tour of seven national parks and historic sites in Arizona and Utah. The tour includes a meeting with Terri Martin, NPCA's Rocky Mountain regional director.

Casey Travel offers discounts to NPCA members. The "See the World, Save the Parks" program offers a 5 percent rebate on all tickets purchased. Members may donate the rebate to NPCA to help save the parks. Funds generated through the program will go toward NPCA's National Park Restoration Fund. For more information, call Casey Travel at 1-800-825-NPCA.

Sounds of Music

If you live in Los Angeles, Miami, New York, San Francisco, or Seattle, look for the "In Concert with Nature" tour this July and August. The tour, sponsored by Sterling Vineyards and the Windham Hill recording label, will benefit NPCA through sales of the concert's compact discs and tour poster.

Say Cheese

NPCA has joined with TDK Electronics to benefit the national parks. For each TDK camcorder tape sold this summer, a portion of the purchase price will be donated to NPCA. NPCA's corporate partnerships with concerned businesses such as TDK have raised more than $150,000 for NPCA and the national parks.

Wild Art

Maruri Studios, a porcelain collectible figurines company, has created a National Parks Collection to benefit NPCA. The collection's hand-painted porcelain statuettes represent wild species native to the national parks. Sales from the collection will benefit NPCA.

Making Strides

With the help of corporate sponsors and community involvement, this year's March raised $1.5 million for park projects across the country.

NEARLY 75,000 CITIZENS nationwide joined NPCA on April 16–18 for March for Parks 1993—NPCA's annual Earth Day walk for parks and open spaces. The fund-raising event brought hikers to the deserts of Arizona and Utah, schoolchildren to Central Park, llama riders to Wisconsin's Ice Age Trail, outdoor enthusiasts to the wilds of Alaska, and members of the Sioux Nation to the country's largest natural urban park in Washington, D.C. NPCA organizes March for Parks each Earth Day to raise the profile of park issues at the national level and to involve citizens in fund-raising efforts for specific local park projects. This year's march raised nearly $1.5 million for tree plantings, environmental education programs, historic preservation, trail maintenance, and expansion of existing park units.

Some 480 march organizers—called March Partners—volunteered their time and expertise at events from Florida to Hawaii to campaign for local park funding. For example, the Tucson Mountains Association raised funds to create trails and expand Saguaro National Monument, home to the giant cacti found only in the Sonoran Desert of southern Arizona and Mexico. The local event was recognized nationally in Congress, where Sen. Dennis DeConcini (D-Ariz.)—member of the powerful Appropriations Committee, which earmarks funding for park expansion—stated for the Congressional Record, "As a native of Tucson and a proponent of preserving our natural resources and the lifestyle which we have grown to love, this event was very important to me.... Mr. President, I ask that my colleagues join me in offering their support to the March for Parks effort to preserve and protect the precious resources contained at Saguaro National Monument as well as...throughout the entire country."

	Marches	Marchers & Donors	Funds Raised
1990	120	22,000	$175,000
1991	150	40,000	$250,000
1992	215	100,000	$500,000
1993	480	264,000	$1.5 million
1994 (projected)	1,000	525,000	$2.5 million

NPCA's corporate partners helped underwrite national organizing costs and offered a variety of resources to March Partners:

- National sponsor MasterCard International hosted three press conferences and tree-planting ceremonies as part of its reforestation program.
- Presenting sponsor Foghorn Press organized a flagship march to save Angel Island State Park in San Francisco, scheduled to close as a result of cuts in California's state parks budget.
- Product sponsor NAYA—a Canadian natural spring water company—provided cases of its bottled water to thirsty marchers at more than 30 events nationwide.
- Retail sponsors Nordstrom and Nordstrom Rack worked with their regional stores to provide on-site coordination and recruitment for marches in their areas.
- Product sponsor Polaroid encouraged teachers in its education program to participate in the Earth Day march, resulting in more than 150 participating school groups.

"March for Parks provides corporations a unique opportunity to make an environmentally responsible investment in a national Earth Day event while securing a local presence for their company and brand," said Elliot Gruber, NPCA's director of marketing.

NPCA's East Coast flagship march in Washington, D.C.'s, Rock Creek Park attracted a diverse crowd of more than 600 people to raise funds for four sites in the century-old park. In keeping with

Left: Schoolchildren in southern Utah marched to raise funds for environmental education programs at Arches National Park. Middle row: Left, NPCA President Paul Pritchard defined park protection as a quality-of-life issue; center, scores of children marched to protect parks for their and future generations; right, members of the Sioux Nation offered music and a prayer for the Earth in keeping with the 1993 Earth Day theme honoring indigenous peoples.
Bottom: Kids from a New York City classroom formed a "recycle band" and marched to raise money for recycling projects in Central Park.

the Earth Day 1993 theme of "Working with the Earth—Honoring Indigenous Peoples," members of the Sioux Nation were present to offer a prayer for the Earth. Individuals and groups across the country worked with their Native American neighbors in signing the Earth Day "Pledge to the Earth and the Children of the Seventh Generation to Come." Signed copies of the pledge will be presented to a convocation of elders through the Seventh Generation Fund.

"The awareness and funds raised by March for Parks for protection of Rock Creek Park and the hundreds of other natural areas nationwide allow us to contribute to a positive future for the next generation," said NPCA President Paul C. Pritchard.

Left, celebrity/activist Mike Farrell showed his support for March for Parks by participating in a tree-planting project at a flagship march held in San Francisco. Below, marchers hiked through the Sonoran Desert to raise funds for expansion of Saguaro National Monument, Arizona. Bottom, the flagship march held in Washington, D.C.'s, Rock Creek Park brought out hundreds of people, including city council member Jim Nathanson, NPCA trustee Jerome Paige, and park superintendent Bill Shields.

Top left, local park advocacy groups brought a grassroots element to marches nationwide. Top right, product sponsor NAYA donated water for distribution to thirsty marchers at selected events. Above, marchers of all ages participated in festivities following the Rock Creek Park event in Washington, D.C.

Help Sponsor
MARCH FOR PARKS 1994
Earth Day Weekend
April 22–24, 1994

Next year's March for Parks will mark the fifth anniversary of this annual Earth Day event and the 75th anniversary of the National Parks and Conservation Association. NPCA is looking for a select group of corporate sponsors for 1994. For more information, call Elliot Gruber at 202/223-6722, ext. 140.

If you would like to organize a March for Parks in your community, write:

NPCA
Attn: March for Parks
1776 Massachusetts Ave., N.W.
Washington, DC 20036

March for Parks® 1994
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Yankee Ingenuity

PARK PURSUIT tests your knowledge of the history and the natural resources represented within the National Park System. Clues can be found in past issues of the magazine, in books, or in literature about the parks.

The July/August quiz focuses on sites that commemorate important discoveries or achievements, and information has been provided to aid you in identifying the sites depicted.

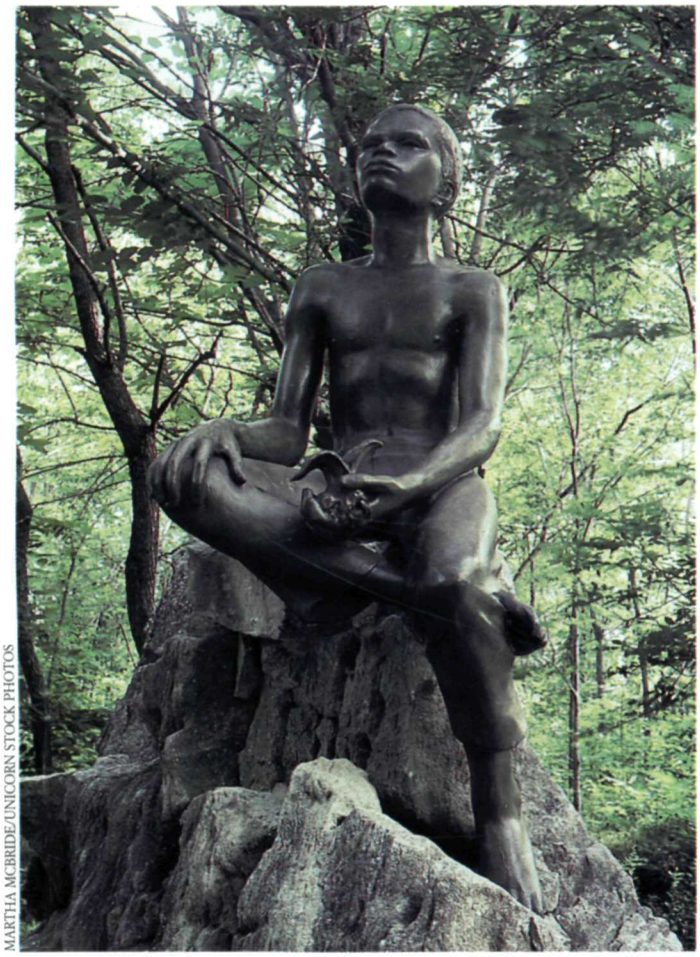
Many inventions have transformed modes of transportation and communication as well as leisure time. The automobile revolutionized travel in the same way that the telephone changed forever the way we communicate. The handheld camera, the moving pictures, and the phonograph changed the way we viewed the world and made the pleasures of art and music accessible to greater numbers of people.

Great changes have taken place in other areas as well. In this century, scientists developed vaccines to guard against once-debilitating diseases and tapped into the power of petroleum and uranium, and new ways of processing food were devised. But with the rewards of convenience have come the cost and responsibility of progress; pollution mars our waters and fills our air. If we approach the problems of the latter part of the 20th century with the same ingenuity that moved us through its beginning, then there is reason to hope that the problems will be resolved.

If you are unable to wait until next issue for the answers, call our 900 number from a touch-tone phone (see page 6). Answers to the May/June quiz are: 1. Montezuma Castle National Monument, Arizona; 2. Cape Krusenstern National Monument, Alaska; 3. Big Hole National Battlefield, Montana.

GEORGE H. H. HUEY

1. In an age when we can cross the continent by air in five hours, imagination is needed to appreciate the significance of an event that marked the end of the frontier and transformed the western United States. What park unit is dedicated to celebrating that historic event?



MARTHA MCBRIDE/UNICORN STOCK PHOTOS

2. This park unit is dedicated to a man who was an educator, botanist, agronomist, "cookstove chemist," and artist. He first received national attention because of his work in extracting an array of products from peanuts and sweet potato plants. To whom is this park site dedicated, and what park site is it?

TOM TILL

3. This laboratory belonged to an inventor who liked to boast that he could build anything here from a "lady's wristwatch to a locomotive." The lab was a business for translating technology into commercial products. Whose lab was this, and what park site is this?

HIDDEN DETAILS

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