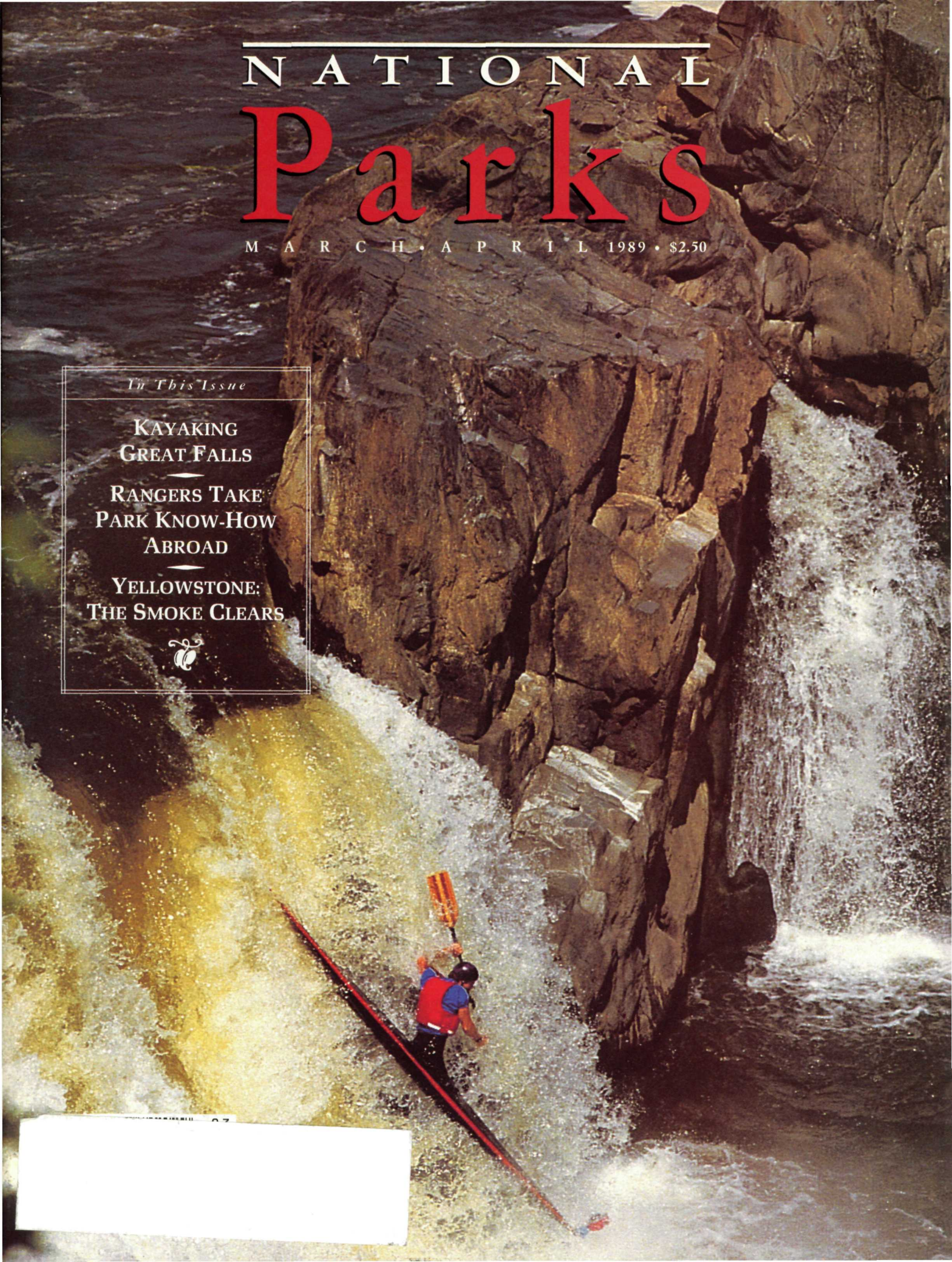

NATIONAL Parks

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In This Issue

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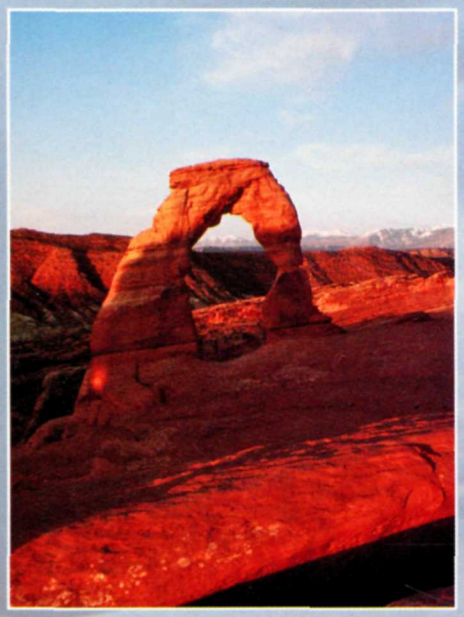
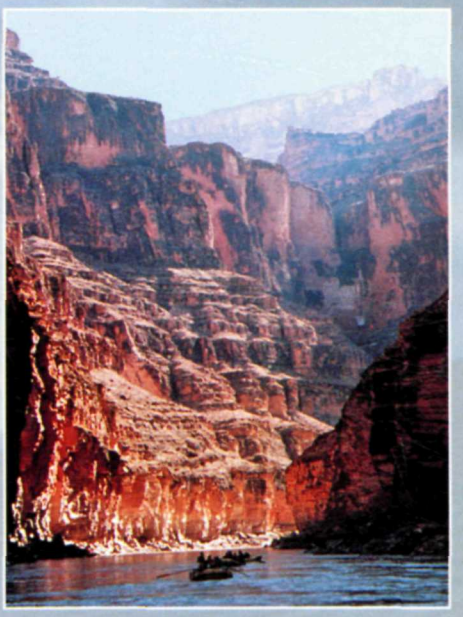


Desert Vision

The magical Southwest
Directed by Jan Nickman
Original music by
David Lanz and Paul Speer

Natural States

The lush Pacific Northwest
Directed by Jan Nickman
Original music by
David Lanz and Paul Speer



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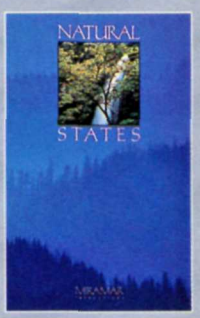
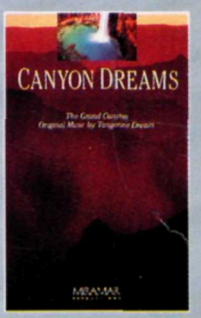


Natural States



Canyon Dreams

Desert Vision

Your purchase contributes to the protection and preservation of your national parks.

ERWIN AND PEGGY BAUER

International Parks, page 32

EDITOR'S NOTE

In the 1880s, when the United States first conceived the idea of national parks, this was still a relatively unpeopled continent and we could afford to protect whole forests and mountain ranges. Since then, we have set aside more than 80 million acres in parkland and have had decades of experience at managing park wildlife and plants.

Increasingly, other countries are asking the NPS to teach them how to preserve their environments. And, because many of these lands have been heavily inhabited for millennia, the NPS must figure out how to adapt park management practices to areas that are peopled, yet not totally tamed, such as the mountains of Thailand. Ironically, this knowledge may eventually benefit American parks as our own population spreads out, pushing at the boundaries of our wildlands.

NATIONAL PARKS

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NATIONAL Parks

THE MAGAZINE OF THE NATIONAL PARKS AND CONSERVATION ASSOCIATION

Vol. 63, No. 3–4
March/April 1989

OUTLOOK

FEATURES

DEPARTMENTS

Cover: *Great Falls Park, by Don Watkins*
World-class kayaker Dave Hearn runs the last tier at Great Falls, Virginia.

Established in 1919, the National Parks and Conservation Association is the only national, nonprofit, membership organization that focuses 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 address below. When changing address, please allow six weeks' advance notice and send address label from your latest issue plus new address. POSTMASTER: Send address changes and circulation inquiries to **National Parks, 1015 Thirty-first St., NW, Washington, D.C. 20007 / (202) 944-8530**

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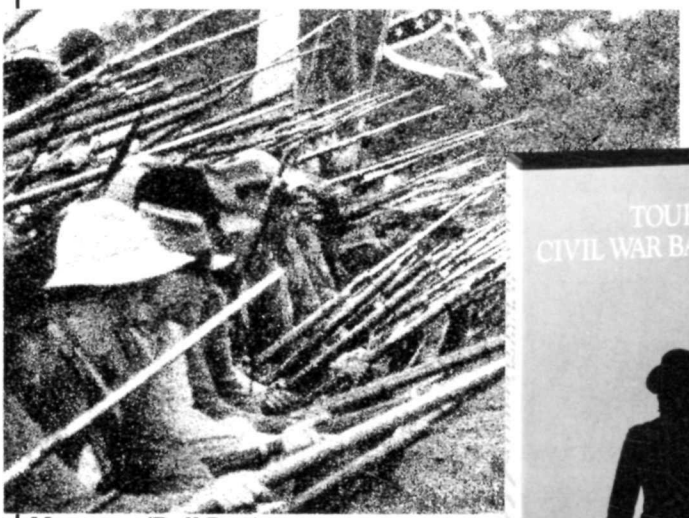
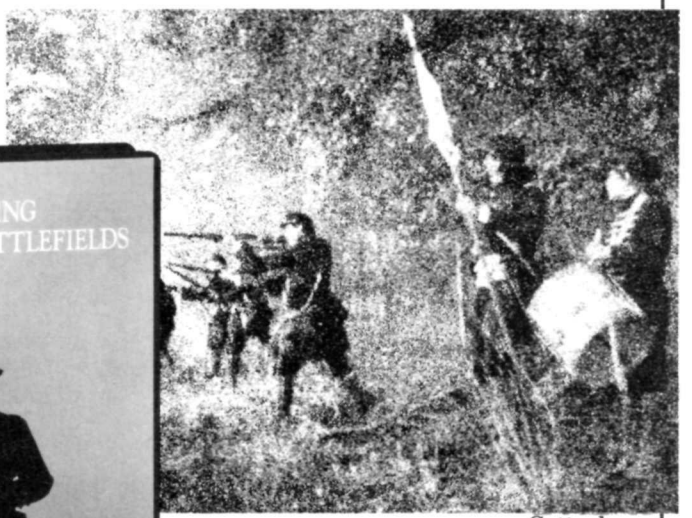
Award-winning video remembers the Blue and the Gray

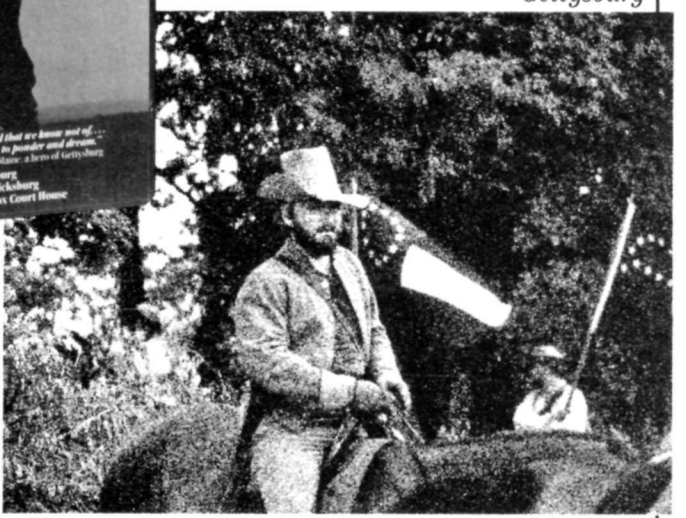


Manassas (Bull Run)



Gettysburg

Fredericksburg



Antietam

TOURING CIVIL WAR BATTLEFIELDS

In honor of the 125th Anniversary of the Civil War, this award-winning video is an accurate portrayal of the heroic soldiers who fought for the Blue and the Gray. No battlefields have greater appeal than the meticulously preserved meadows and forests where four heroic encounters of the Civil War were decided: Manassas, Antietam, Fredericksburg and Gettysburg. Relive the story of each conflict as thousands recreate these battles. Visit the small village of Appomattox Court House, where the solemn surrender took place. Battlefield historians were consulted throughout for content and accuracy. This emotionally charged video combines action, information and insights. Most of all, this portrayal humanizes and brings to life names that appear in Civil War history, character weaknesses in military leaders, the plight of the lowly foot soldier, and bravery that every viewer will admire.

$2.50 From each video will be donated to battlefield preservation. *First Place, 1987 American Video Awards

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Realms of Influence

FOR MOST OF US, the growing interest in the environment is easy to understand as we hear the controversy over Yellowstone fires and see threats to the survival of wildlife ranging from whales to grizzlies. But as interest grows so does our frustration, as politicians play roulette with our future.

For example, the lack of a national energy policy not only increases our international debt as we rely on foreign oil, but threatens the loss of one of the last great U.S. ecosystems, the Arctic National Wildlife Refuge.

What is it that we can individually do about these issues? Each of us has a realm of influence, be it our own actions, as part of our families, or maybe through businesses or social institutions.

However far one's influence reaches, like concentric circles in a pond, it can bring about change. The most important place for change to begin is within ourselves. Recognizing there is a problem is essential to finding the solution to that problem. Then we can assess the ways in which we are part of the cause and part of the solution. But we, as individuals, can do more. We join organizations like NPCA and others to collectively seek solutions. We elect responsible and caring public officials. We contribute our time and money to those with answers.

And as we reach out farther, our influence ripples, like concentric circles in a pond. This is NPCA's seventieth year of caring, and we intend to keep creating those ripples because the state of the national parks—both their health and their problems—are our responsibility.

We look forward to working with Secretary of Interior Manuel Lujan and his staff to study all the solutions and implement the best. We have offered our help through legislative efforts, *National Parks* magazine, the National Park Trust, and our grassroots efforts.

With the great leadership of Bruce Vento, House National Parks and Public Lands Subcommittee chairman, and Dale Bumpers, Senate Public Lands, National Parks and Forests Subcommittee chairman, much was achieved this past year. Imagine what could have been done if we had had a cooperative and committed administration.

We, NPCA's employees, have also been exerting our influence in smaller but just as meaningful ways in our workplace. We designed an energy-efficient office, we have recycled paper for several years, we are recycling aluminum cans, and we encourage the use of mass transit and car-pooling.

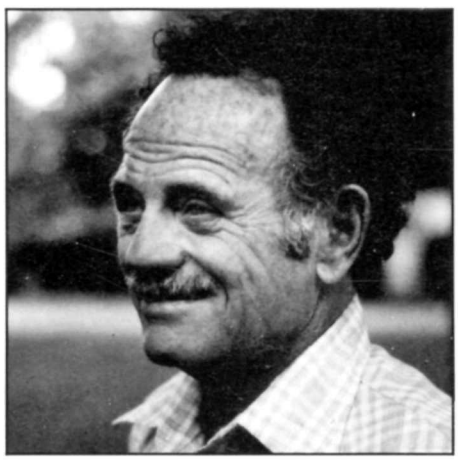
We should remember that the greatest ripple begins as the smallest one, closest to the center.

The next decade will be the most important in determining global climate, survival of plants and animals, quality of life. The parks will reflect that commitment, a commitment that begins every time we drive our car, recycle an aluminum can, or vote for a public official. Our survival—and the quality of our survival—depends on it.

TRIBUTE TO EXCELLENCE

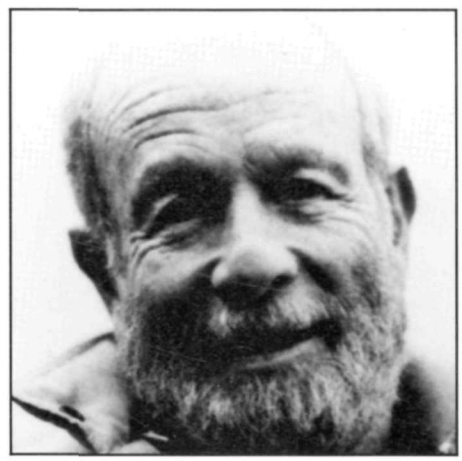
Marjory Stoneman Douglas Award

The Marjory Stoneman Douglas Award is presented by the National Parks and Conservation Association and the Bon Ami Co. to recognize an individual for an outstanding effort that results in protection of a unit or a proposed unit of the National Park System. The award is named in honor of Marjory Stoneman Douglas for her many years of dedication to preserving the fragile ecosystem of the Florida Everglades.



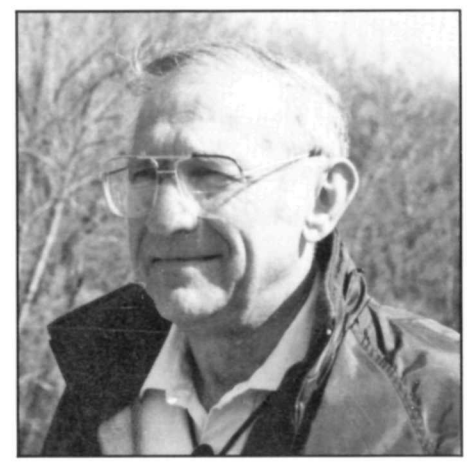
1986 RECIPIENT

MICHAEL FROME. Mr. Frome, a writer and an environmental scholar, has been a persistent advocate for our national parks and other public lands. Mr. Frome is the author of "The Promised Land" and is currently working on a book about the National Park System.



1987 RECIPIENT

DR. EDGAR WAYBURN. For forty years, Dr. Wayburn has been a leading environmentalist. He was the principal conservation architect for the establishment of Redwood National Park and Golden Gate National Recreation Area, and for the 1980 Alaska National Interest Lands Conservation Act.



1988 RECIPIENT

ROBERT CAHN. A Pulitzer-Prize winner for his Christian Science Monitor series on the state of the national parks, Mr. Cahn has also served on seminal environmental councils and, through numerous books and articles, furthered the cause of conservation.

The Faultless Starch/Bon Ami Co. wishes to congratulate the recipient of this award and thank them for the excellent contribution they have made to the protection of our environment.

The Bon Ami Co. has actively supported the efforts of organizations such as National Parks and Conservation Association for over 100 years and will continue to work toward the goal of preserving our natural resources for future generations.

LETTERS

Fires and Brimstone

Your recent article on the Yellowstone fires ["Long, Hot Summer," November/December 1988] seemed well researched. Two other points concerning Yellowstone:

First, Yellowstone is not a wilderness. Many intentional and unintentional policies have made it a very "unnatural" place.

All our past fiddling in Yellowstone and other parks makes natural regulation an unsound philosophy. We need to work actively to restore park ecosystems to a resemblance of their wilderness state. Policies should include controlled burning, removing exotic species, and reintroducing native species.

I am proud to be a member of NPCA. You include current research and common sense in every article and policy decision. Good job!

Christopher Weiss
Great Sand Dunes, New Mexico

Along with Yosemite, Yellowstone is one of the parks that is extensively damaged and seriously endangered by tourist overuse. The damage wrought by the fire will soon repair itself. The damage wrought by tourists is constant and unyielding and is unlikely to repair itself.

Unfortunately, some bad press and the greed of those who have created the tourist industries will not give the park the respite it might otherwise receive because of the fire.

The park deserves some help. It has treated hundreds of thousands of people from all over the world to experiences they will never forget. Let's give it a chance to do so for future generations. It can, only if it's treated with moderation.

Bernard P. Friel
St. Paul, Minnesota

As one of many ex-member victims of the Church Universal and Triumphant (CUT), I cannot help but feel extremely concerned about the church's presence and intentions in Paradise Valley outside of Yellowstone ["Compromising Paradise," September/October 1988].

The citizens and local, state, and federal officials need to recognize that there are undeniable parallels between CUT's presence in Montana and the Rajneesh's takeover of Antelope, Oregon. Ignoring this potential threat to Yellowstone and the surrounding area could prove to be a severe blow to the future of America's first national park.

Keith Mader
Trenton, New Jersey

Let Fingers Do the Walking

We are repeatedly puzzled by comments such as B. Schiefelbein's ["Feedback," September/October 1988] expressing disappointment at "coming such a long way" only to find that the facilities at Great Basin National Park were not what they expected.

We were unable to find much published information describing the facilities at Great Basin before our trip there. So, we simply called the visitors center and learned all that we needed to know from a friendly and knowledgeable member of the park staff. Our visit was quite delightful.

At the very least, we must encourage anyone planning a long trip to an unfamiliar area to call ahead if they must be assured of special accommodations.

Brian and Helen Leavy
Los Alamos, New Mexico

War Over War Memorials

I greatly admire the NPS for its brave and magnanimous plan to erect a memorial to the Native Americans who died while successfully defending their native turf at the Battle of the Little Big Horn ["News," January/February 1989]. Bronze profiles of Sitting Bull and Crazy Horse, if the latter's likeness is available, would be particularly appropriate.

George H. Bowman, Jr.
Salem, Ohio

Putting up a monument at the Custer Battlefield to honor the several thousand Indians who killed the 261 American soldiers is a wonderful idea. Maybe we can get the idea to spread. The Jews could put up a monument to the Nazi SS, the Armenians could put up a monument to the Turks, and the Irish could put up a monument to Cromwell.

Edwin E. Rosenblum
Brooklyn, New York

In the September/October issue featuring Yellowstone there is a photo on pages 20 and 21 that we cannot place.

Dorothy and Richard Bradley
Colorado Springs, Colorado

Whoops. The pictured mountain is in the Sawtooth Mountains of Idaho.

—the Editors

Strike the Right Chord

Sometime following World War II, a man of Eskimo heritage named Simeon Oliver—who worked for the piano division of our chain of music stores and went on to become an accomplished pianist and a writer—did a paper for the New York Explorers' Club. It dealt with the connections between the musical instruments of the peoples of Siberia and Alaska. The thing that struck me was the application to what Brown and Hart were dealing with in their articles about Beringia [November/December 1988].

Fred H. Baker
San Diego, California

Corrections

The correct name of the book mentioned in January/February's "Signs of Life" is *A Guide to Animal Tracking and Behavior*, by Donald and Lillian Stokes.

The following are correct spellings and titles from January/February's "Man in Space" story: Harold Butowsky and Donald Klima. Allan Fitzsimmons is the special assistant to the *assistant* secretary of Fish, Wildlife, and Parks. And the National Air and Space Museum is not part of the proposed park.

Write "Letters," National Parks, 1015 Thirty-first St. NW, Washington, D.C. 20007. Letters may be edited for space.

NEWS
NPCA

Oil Spill Taints Olympic Beaches

A December 22 oil spill off the coast of Washington State fouled 300 miles of coastline, killing thousands of seabirds and tainting beaches from Vancouver Island, British Columbia, to Portland, Oregon. The pristine beaches of Olympic National Park were among those stained by the spill, which left thick carpets of oil, blackened driftwood, and dead birds on area shores.

According to the state's Ecology Department, of the 6,400 oil-coated birds collected from the affected beaches, about 4,000 were already dead. Officials and volunteers have removed the dead birds from the beaches so predators will not feed on them.

The surviving waterfowl are being cleaned, but scientists estimate that half of those will die anyway. Uncounted others have likely died at sea.

"The most dramatic impact to the park was obviously on the seabirds," said Chuck Janda, Olympic's chief ranger. "Our immediate concern is removing them from the food chain. We've already seen bald eagles feeding on carcasses."

The Washington coast is one of the eagles' main winter feeding grounds in North America. Ingestion of the poisonous oil could damage the birds' eggs.

Janda said that although the spill was extensive, cold temperatures have rendered the oil highly viscous, and therefore easily removed from wet surfaces. It clings tenaciously to porous or rough surfaces, though, he noted, such as tree roots or driftwood. Traces of the oil will remain for years to come.

MARY FITZGERALD

Bags of oil-soaked driftwood and sand dot Olympic beaches.

Park officials are not sure what long-term effects the spill will have on the area's ecosystem. A monitoring program has been put in place to check the area's water quality over the coming months.

Olympic's 60-mile shoreline constitutes the single longest wilderness beach in the contiguous United States. This rare, virtually untouched area has been named a United Nations World Heritage Site, placing it in the company of the Egyptian pyramids, the Palace of Versailles, and the Serengeti Plain.

Olympic was the fourth most-visited national park last year. A record 3.5 million people visited the park, and about one million made their way to the roadless coast.

The December accident has provided ammunition to environmentalists and others who oppose offshore oil drilling slated for the Pacific Coast. Drilling is to begin in 1992, according to Interior plans begun in 1982 under Secretary James Watt and continued by his successor Donald Hodel. Under the plans, drilling would take place three to 200 miles offshore.

Governors of all three Pacific coast states oppose the drilling, and have threatened to file suits to block it. Opponents hope the spill will demonstrate the hazards associated with oil production in the area.

The oil spill—the second largest ever in Washington waters—occurred when an oil barge and a tugboat collided off Grays Harbor, on Washington's southern coast. Approximately 231,000 gallons of oil poured from the barge and were swept to shore by a storm.

The owner of the barge, Sause Broth-

ers Ocean Towing of Coos Bay, Oregon, has taken responsibility for the spill. The firm is legally bound to cover the cost of cleanup, which is estimated at approximately $10,000 a day. Cleanup may take four months.

NEW LAW PROTECTS 1,400 MILES OF RIVERS

Former President Reagan signed a bill on October 28 that added segments of 40 Oregon rivers to the National Wild and Scenic Rivers System. The bill, sponsored by all but one of Oregon's congressional delegates, is the most significant river legislation since the 1968 Wild and Scenic Rivers Act.

Public Law 100-517 will protect some 1,400 river miles from degradation. Activities that would spoil the pristine state of the rivers, such as dam construction or adjacent development, are now prohibited. The legislation does, however, include compromises that will allow some grazing and timbering.

The law raises the number of federally protected rivers from 75 to 115, expanding the system to 9,100 total river miles. It also calls for the study of seven other rivers for possible inclusion.

All of the river segments covered in the law are on federally owned lands managed by the U.S. Forest Service or the Bureau of Land Management.

Senator Mark Hatfield (R-Ore.) authored the bill, which was sponsored in the House by Oregon congressmen Les AuCoin (D), Peter DeFazio (D), Denny Smith (R), and Ron Wyden (D).

Protected by the Oregon bill are such spectacular rivers as the Deschutes, the John Day, the North Fork of the Umpqua, and the Upper Rogue.

In the House, the bill was helped through committee review by Representative Bruce Vento (D-Minn.), chairman of the House Subcommittee on National Parks and Public Lands. Vento's subcommittee was responsible for the passage of a great deal of park legislation in final weeks of the 100th Congress, resulting in the creation of eight new National Park System areas and the expansion of nine existing areas.

LUJAN TO LEAD INTERIOR DEPARTMENT

President George Bush has appointed Manuel Lujan, Jr., to the post of Interior Secretary. Lujan, 60, a Republican and former House member from New Mexico, brings to the job 20 years of experience in government and extensive knowledge of Interior-related issues.

Lujan's appointment elicited mixed reactions from the environmental community. Though his voting record shows support for several major environmental initiatives, it runs counter to general environmental opinion on most issues.

Lujan served as House delegate from the Albuquerque area for 20 years, from 1968 until his recent Cabinet appointment. He was a member of the House Interior and Insular Affairs Committee throughout his tenure. This committee handles legislation on a number of conservation issues, including national parks and public lands questions.

Lujan has supported such major environmental legislation as the 1970 Clean Air Act and the 1980 Alaska Lands Act. He cosponsored the American Heritage Trust Act, a bill to create a stable trust fund for parkland acquisition, in the last Congress. Also, he has voted to create wilderness areas in California and New Mexico.

Secretary of the Interior Manuel Lujan

According to statistics compiled by the League of Conservation Voters, however, in eight out of the last ten years, Lujan's votes have corresponded with major environmental groups' recommendations less than 25 percent of

NEWSUPDATE

▲ **New York Park Crisis.** In a December letter to New York Governor Mario Cuomo, Richard White-Smith, director of New York Parks and Conservation Association, called on the governor to increase park funding in order to end a "management crisis pervading our state park system."

White-Smith called the state's parks neglected and blamed budget cuts over the last 12 years. During that period, New York's parks agency lost 25 percent of its personnel and almost 20 percent of its purchasing power at a time when visitation increased 25 percent.

Though the park budget has been partially restored in the last two years, the letter pointed out that the need for increased funding is urgent. The majority of the more than 5,000 buildings in the state park system were determined, by the state itself, to be in either fair or poor condition.

▲ **Petroglyphs.** Congress recently held field hearings in Albuquerque, New Mexico, on the proposed Petroglyphs National Monument. To be located on the outskirts of Albuquerque, the monument would protect more than 15,000 pre-Columbian petroglyphs and early Hispanic rock etchings from encroaching development and increasing vandalism. The hearings focused on how much land the monument should include, and whether and how the National Park Service should acquire that land.

Russ Butcher, NPCA's Southwest and California representative, testified in favor of full acquisition.

the time. His yearly averages were significantly lower than those of the House as a whole: Each year over the period, the average House member voted in step with environmental concerns about half the time.

In the last Congress, Lujan cosponsored legislation to open up the Arctic National Wildlife Refuge to oil and gas exploration. Also, in 1983 he opposed the National Park System Protection Act, a bill directing federal agencies that administer lands adjacent to parks to manage those lands responsibly.

Despite his votes on these particular issues, Lujan has a reputation in Washington, D.C., as a man who will listen, with an open mind, to public counsel and comment, and will address each issue on its own merits.

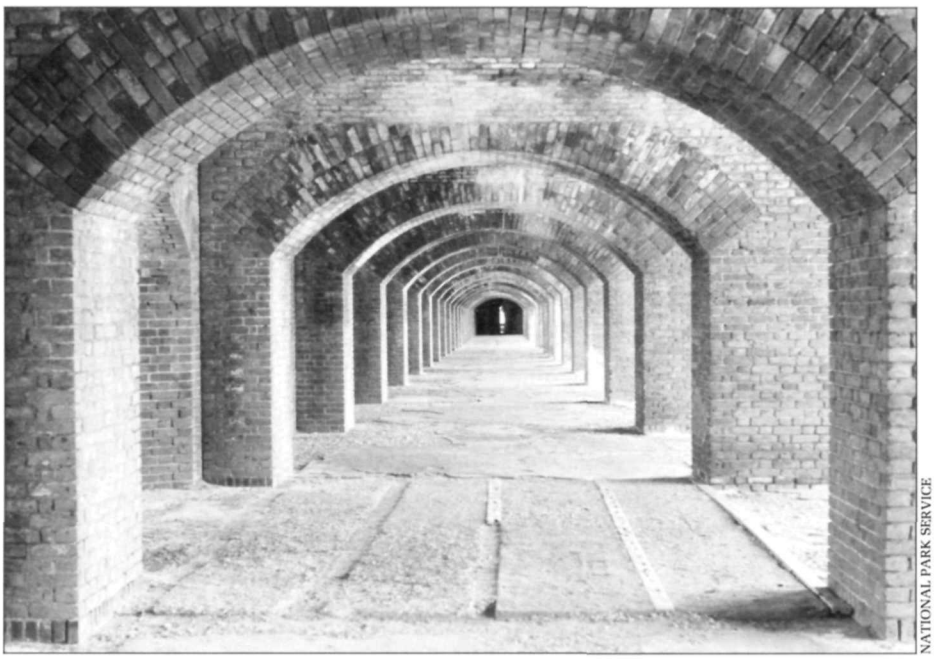
MILITARY SONIC BOOMS SHAKE FORT JEFFERSON

Navy officials have agreed to change flight patterns to end the sonic booms that shake Fort Jefferson National Monument, off the coast of southern Florida. Over the last several years, intense sonic booms produced by supersonic F/A-18 fighter jets on training missions have caused the fort's fragile structure to crumble. Recent communication between Fort Jefferson park officials and Boca Chica Naval Air Station has decreased the number of sonic booms.

Because of the booms, bricks fell out of the fort exterior, windows shook, an air conditioner fell out of a wall, and bird eggs were found shattered. The park superintendent contacted the pilots' home base and informed officers.

Not only has the noise destablized the historic fort, it has also disturbed the 24,000 yearly tourists, bird-watchers, and divers. During October, an average of three booms a day were reported over the fort.

Fort Jefferson, 68 miles west of Key West in the Dry Tortugas, was built on Garden Key to protect the Florida Straits but was obsolete before it was completed due to the invention of the rifled cannon. Fort Jefferson, begun in 1846 and the largest all-masonry forti-



NATIONAL PARK SERVICE

The fragile brickwork of Fort Jefferson's arches is stressed by sonic booms.

fication in the western hemisphere, has served as a federal military prison and is a refuge for birds. It was designated a national monument in 1935.

The airspace around the monument is an optimal fighter jet practice area, explained Captain W. J. Denning, commander of Boca Chica Naval Air Station. The proximity of these flights to the air station saves on fuel and enables flights to be easily monitored by radar.

In November, Captain Denning flew to Fort Jefferson to meet with park officials and discuss flight-pattern changes. The Navy plans to modify flight boundaries, enlarging the protected airspace around the fort, which is now 3,000 feet overhead and one mile laterally. There are also plans to restrict flights in the fort's sector to subsonic flights.

In addition, the naval air station will work with the Federal Aviation Administration to modify southern commercial air routes in order to give the Navy more airspace away from the monument.

In a letter to Congressman Dante Fascell (D-Fla.), whose district includes Fort Jefferson, Denning stated, "We believe we can significantly reduce the number and severity of sonic booms at the fort."

Sonic booms were not heard during December, according to national park officials. Sonic booms were heard sporadically during January, however, indicating that the problem may not be over. Pat Tolle, spokeswoman for Fort Jefferson National Monument, concluded that the NPS must continue to put pressure on the Navy.

Interior Paves Way For Sale of Resources

In the final days of the Reagan Administration, the Interior Department moved to transfer public lands and energy sources to the private sector. Included in the actions were proposed rule changes that could reduce restrictions on coal mining in about 33 national park areas.

NPCA President Paul Pritchard called the action very regrettable. "This last-minute political decision flies in the face of a fair and open debate on critical, nationally significant resources."

The department's steps aligned with the Reagan Administration's policy of transferring public resources to private interests in an attempt to spur economic growth. Interior claimed its actions were entirely legal.

The department proposed rules that will affect the granting of permits to mine coal in and near protected areas, such as national parks, national wildlife refuges, and national forests. The department's Office of Surface Mining Reclamation and Enforcement has proposed changing its interpretation of a key phrase in the 1977 law prohibiting surface mining within and adjacent to national parks and other protected public lands.

The office proposes that state laws be used in interpreting the legislation, resulting in far less stringent restrictions. Millions of acres of public land could be affected, including 33 park areas.

Actions affecting other types of public land included processing applications from private interests for patents, or titles, to western oil shale rights. The move, which began shortly after a congressional moratorium on processing such applications expired in March 1988, would transfer the titles for $2.50 an acre.

Critics, citing the depressed state of the oil shale market, claim that patent buyers are not interested in mining shale, but wish to sell patents to developers who want the land for other purposes. The patents place no restrictions on the type of development allowed.

In 1986, for example, oil shale rights to thousands of acres of public land were awarded to developers in a court decision. Many of these were soon resold, some for as much as $2,000 an acre.

Regarding the potential profitability, at public expense, of oil shale rights, a spokeswoman for Interior's Bureau of Land Management said, "Well, that's the American way. We consider some of these people to have valid rights. If they make money from it, so be it."

In another move, Interior proposed overturning rules recommended by the Forest Service for regulating oil and gas drilling in national forests. Interior had handled all subsurface issues until a 1987 law granted the Forest Service limited control over its subsurface rights.

Interior cited "major philosophical differences" with the Forest Service. One difference stems from a Forest Service proposal to make drill permits dependent upon environmental impacts. Though all of these propositions will be subject to public review in 1989, final approval rests with Interior.

NPCA Conference On Park Science

NPCA will present the findings of its park research commission at a conference on March 19. To be held at the Omni Shoreham Hotel in Washington, D.C., the association's one-day conference will precede the opening of the 54th North American Wildlife and Natural Resources Conference.

The last major evaluation of NPS policies in ecological management occurred more than 20 years ago when A. Starker Leopold headed the commission that produced the Leopold Report. Since then, there have been major developments in the study of resource management and changes in the natural and political influences on the parks, as demonstrated by last summer's events in Yellowstone.

Early last year, NPCA convened a panel of experts in the fields of natural and social sciences to reexamine the principles of ecological management outlined in the Leopold Report. The panel is headed by Dr. John Gordon, dean of the Yale School of Forestry and Environmental Studies.

At the conference, entitled National Park Research and Management Policy into the Next Century: the Successor to the Leopold Report, the panel will discuss its findings. Its proposals for future park management will be presented to the Secretary of the Interior. Topics will include visitor impact management, Yellowstone fires, historic preservation, and restoring model ecosystems in the parks and their surrounding areas.

For more information on the conference, contact David Simon, NPCA, 1015 Thirty-first St. NW, Washington D.C. 20007, (202) 944-8575.

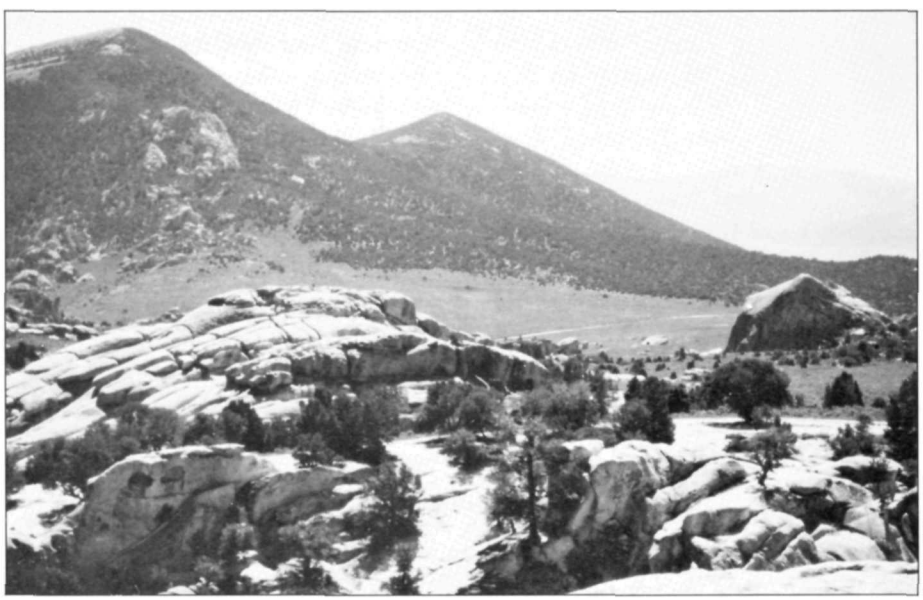
City of Rocks Protects Geology, History

The City of Rocks National Reserve, in southern Idaho, was established at the end of the last Congress. This 14,300-acre site is nationally significant for its natural features as well as its historical value, and was one of many new areas recommended by NPCA's National Park System Plan.

The Albion Mountains dominate the reserve. They give evidence of a long and impressive geological history that involved eons of folding, faulting, and metamorphism. The value of the area for geological research is quite high.

The preserve was also a major stopping point for westward-moving emigrants on the California Trail during the 18th century. Wagon ruts are still visible, and names and dates of passersby are etched in granite along the trail.

City of Rocks' stark features break the region's otherwise gentle sagebrush terrain.



B. DOKKEN

BLM Report Cites Harm In Paving Burr Trail

The Bureau of Land Management (BLM) released a draft environmental assessment last December describing the likely effects of upgrading and paving the Burr Trail. Portions of the scenic, 66-mile dirt road run through Capitol Reef National Park and Glen Canyon National Recreation Area in southern Utah.

Effects of pavement detailed in the report amount to a significant decline in the wilderness-like character of much of the trail and adjacent park and public lands.

Terri Martin, NPCA's Rocky Mountain regional representative, said the report made it clear that "paving will bring significant, destructive impacts that will affect not only the road itself, but the surrounding Escalante Canyons region."

Public hearings on the document were held in early January. A large majority of those present voiced opposition to paving the trail.

In a ruling last June, the 10th Circuit Court of Appeals required the BLM to prepare an environmental assessment to prevent "unnecessary or undue degradation" of wilderness study areas adjacent to the trail. The ruling capped a lengthy legal battle between Garfield County officials and several environmental groups, including NPCA, over the future of the Burr Trail.

Although the county's immediate aim is to upgrade—that is, widen and realign—much of the dirt road, Garfield officials have publicly stated their intention to eventually pave the trail. Officials hope paving the trail will attract tourists to the area, providing a boost for the region's economy.

In its study, the BLM presented three alternatives: improvement, but not pavement, of all portions of the road outside Capitol Reef and Glen Canyon; pavement and development of the entire Burr Trail; and no action.

Specific results of paving the trail, according to the assessment, include:

▲ an increase in traffic to about 12 times the present level, from an average 15 vehicles a day to 104 a day;

▲ a dramatic increase in off-road vehicle use and resulting damage to the surrounding area, causing the destruction of vegetation, soil erosion, and an exodus of sensitive wildlife species;

▲ a rise in visitation, causing adjacent park and public land areas, such as Deer Creek, Long Canyon, and Muley Twist Canyon, to "lose their values of solitude and remoteness";

▲ increased pressure to develop commercial and recreational facilities along the road;

▲ a dramatic rise in noise levels along the road corridor.

NPCA's Martin called for inclusion of the road in the National Park System and a development-free, scenic corridor, as well as for prohibition of commercial hauling on the road.

Martin urged the Bureau of Land Management to prepare a full environmental impact statement to evaluate NPCA's alternative for the Burr Trail. Most of the road is presently under the jurisdiction of the BLM.

New England Forests Sought by Developers

Congress has directed the U.S. Forest Service to study the alternatives available for preserving current land use and ownership patterns of vast tracts of forest land in northern New England and New York. This action was prompted by the increasing likelihood that many of these lands, for the most part privately owned but open to the public, may soon be up for sale to developers.

With funds authorized by Congress in September, the Forest Service has set up the Northern Forest Lands Study (NFLS). The study group, with four permanent staffers, works with more than 50 people from the Forest Service and from state and local agencies. The NFLS is aided by a governors' task force of 12 experts representing state agencies, conservation groups, and land owners.

At present, some 20 million acres of northern hardwood and spruce-fir forests are scattered in large parcels across northern portions of New York, Vermont, New Hampshire, and Maine. Traditionally, owners of these parcels, primarily timber companies but also private families, have allowed public access and recreation—such as fishing and swimming—on their properties.

U.S. FOREST SERVICE

New England lands being considered by the Forest Service study group.

Over the past 20 years, interstate highways and new roads have made the region more accessible. This, coupled with changes in the real-estate market, has made the area attractive to developers and driven up land prices.

Last year, Diamond Occidental timber company's sale of about 186,000 acres of forest to developers alarmed area residents. Local, state, and federal officials became concerned that much of the rest of the northern forest might be similarly sold, ending traditional economic and recreational land uses. The speed of the sale also alarmed officials, and pointed out the need for regional land use strategies.

According to the study group, its goal is to assess the area's resources. It hopes to identify alternatives that will preserve the area's integrity and traditional public use patterns.

The group's findings are to be completed by September 30, 1989, and its report will be presented to Congress. NPCA has written the group, urging the preservation of substantial portions of the northern forest lands—woods near Baxter State Park and in the Cobscook Bay region, both in Maine—through protective legal designations.

The Northern Forest Lands Study is urging public comment. For information on upcoming meetings or to send written comments, write P.O. Box 520, Rutland, VT 05701; (802) 773-2133.

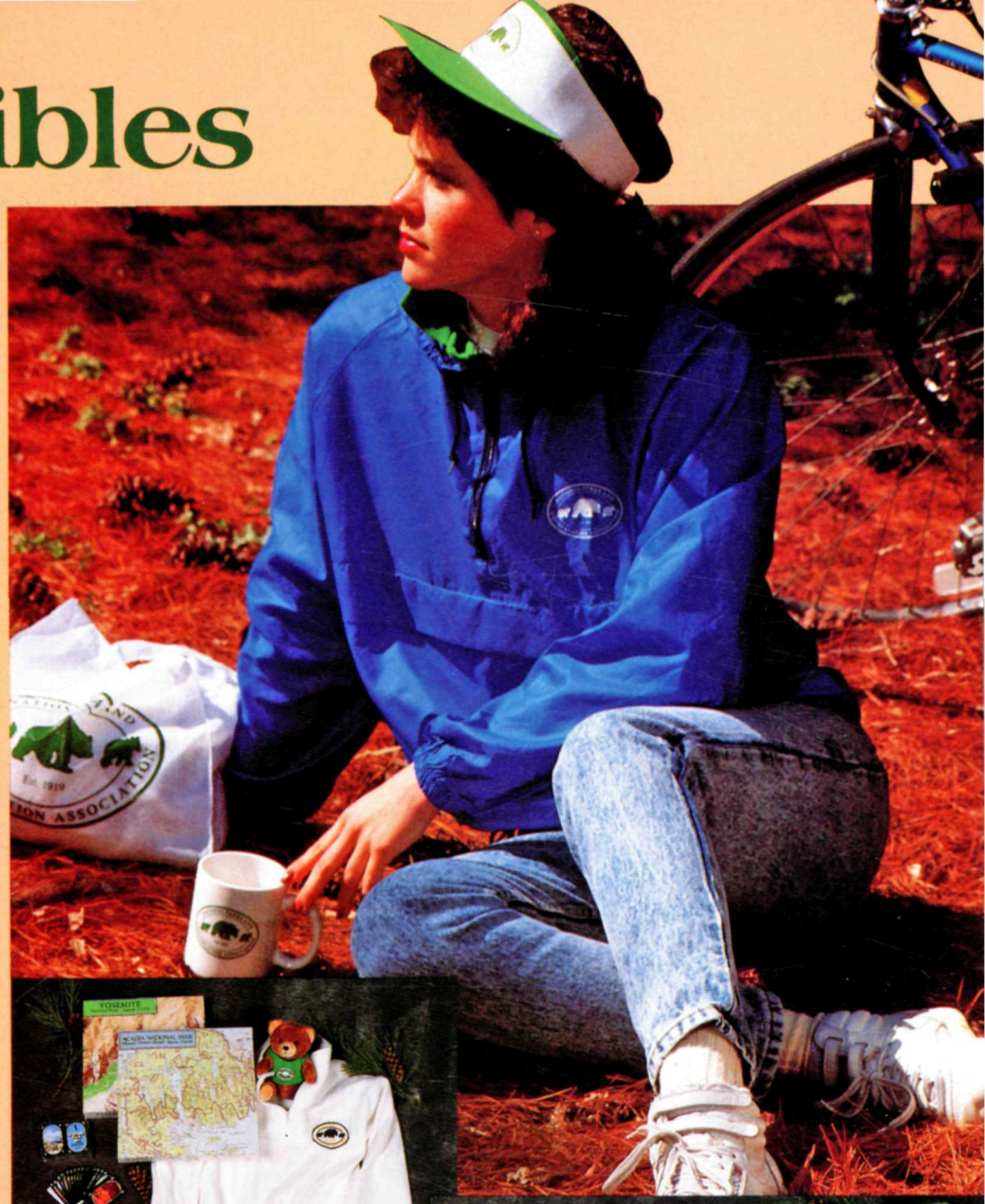
UNDERHILL AIDS BIG CYPRESS DONATION

The Underhill Foundation, a New York-based, private foundation working in conjunction with NPCA's National Park Trust, recently concluded land transactions that resulted in the donation of 20 acres of valuable wetlands to Big Cypress National Preserve.

The land is included in the recent boundary expansion at the preserve. Congress enlarged the preserve to provide additional habitat for the endangered Florida panther and to protect land important for the future preservation of the Everglades ecosystem.

NPCA expressed great appreciation for the commitment of the Underhill Foundation to the preservation of outstanding natural areas such as Big Cypress. The action by the foundation is particularly important in light of the increasing threats to the Everglades.

Collectibles



Clothing

NPCA Hamilton Bay Pullover. Heavyweight arctic fleece, tailored collar, set-in sleeves, pockets, knit cuffs and waistband, machine washable. Embroidered NPCA logo. 100% polyester. Made in the U.S. Sizes: S, M, L, XL. White or Gray. *N101,* $32.50

NPCA Popover Pouch Jacket. Drawstring hood, elastic cuffs. Folds into zippered pouch pocket. Royal blue with white NPCA logo. 100% ripstop nylon. Adult sizes: S, M, L, XL. *N102,* $20.95

NPCA Polo Shirts. Cotton/polyester knit with NPCA logo. Green or white. Made in the U.S. Adult Sizes: S, M, L, XL. *N103,* $16.95

NPCA T-Shirts. Machine washable cotton/polyester with NPCA logo. Made in the U.S. Kelly green or white. Adult sizes: S, M, L, XL. *N104,* $6.95

NPCA Baseball Cap. Kelly green NPCA logo on white cap with matching green bill and mesh. One size fits all. *N105,* $4.95

NPCA Suntamer Visor. Snap-back visor with green bill and NPCA logo in kelly green on white front. *N106,* $4.95

Pins & Patches

NPCA Lapel Pin. Green and gold enamel. *N107,* $3.50

NPCA Park Pins. Set of ten color pins featuring different park emblems and the NPCA logo. *N108,* $7.50

NPCA Patch. NPCA logo embroidered in green, gold, and brown on white. *N109,* $2.50

Dates and Notes

America's National Parks 1989 Calendar. Over 60 full-color photos of America's National Parks and Monuments with interesting facts and information. *N110,* $9.95

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National "Park Wit" Discovery Games. Amass points by answering intriguing questions about our natural and historic parks. Four versions, each with 108 different cards. $7.95 each.

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Entire set of 4 games, *N119,* (Deluxe gift set) $34.95.

National Park Jigsaw Puzzles. Full-color, 500-piece puzzles reproduced from U. S. Geological Survey maps, showing scenic routes, trails, elevations, contour lines, and points of interest. Five puzzles. $10.00 each.

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- Yosemite National Park, *N121,*
- Yellowstone National Park, *N122*
- Mount McKinley, Denali National Park, *N123.*
- Acadia National Park, *N124.*

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NPCA Stuffed Bear. Plush 8-inch toy made of safe, non-flammable synthetic material. *N126,* $15.95

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NPCA Coffee Mug. Handsome, 11-ounce stoneware coffee mug, dishwasher safe. Green NPCA logo on almond or white mug. *N128,* $5.50

Of course, all items come with our money-back guarantee.

Video Tapes

Produced with the visitor in mind, these video tapes are an entertaining and informative way to discover the landscapes and people that make America what it is.

Carver: Man of Vision. The life of George Washington Carver, the famous black agronomist. 30 minutes. VHS, *P101*. BETA, *P102*. $19.95

Castle on the Plains: They Came to Build. The story of Bent's Old Fort National Historic Site in Colorado. 25 minutes. VHS, *P103*. $29.95

A Day in the Life of Fort Laramie. A nostalgic glimpse at life in this historic fort on the plains of Wyoming. 26 minutes. VHS, *P104*. $32.00

Frederick Douglass: An American Life. Explore the life and times of this fugitive slave turned orator and statesman. 30 minutes. VHS, *P105*. $17.95

Rivers of Fire: An Eruption of Hawaii's Mauna Loa Volcano. Witness a volcano erupting. 30 minutes. VHS, *P106*. BETA, *P107*. $39.95

River Song: A Natural History of the Colorado River. Narrated by Richard Chamberlain. 40 minutes. VHS, *P108*. $29.95

Touring Alaska. Trek through Mt. McKinley, Glacier Bay, the Inside Passage, Matanuska Valley, Juneau, and Sitka. 52-minutes. VHS, *P109*. BETA, *P110*. $29.95

Touring America's National Parks. Journey through 17 of America's greatest treasures. 60 minutes. VHS, *P111*. BETA, *P112*. $29.95

Touring Civil War Battlefields. Visit Manassas, Antietam, Fredericksburg, Gettysburg, ending with the Surrender of Appomattox Court House. 60 minutes. VHS, *P113*. BETA, *P114*. $29.95

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Arctic Wilderness Bill Introduced

Bills have been introduced in the House and Senate to designate as wilderness the 1.5-million-acre coastal plain of the Arctic National Wildlife Refuge (ANWR) in Alaska. Representative Morris Udall (D-Ariz.) introduced the House bill and Senator William Roth (R-Del.) introduced the Senate version. Wilderness designation would halt Interior Department plans for oil and gas development in the area.

The area in question has been the subject of much debate in recent years between developers and environmentalists. A relatively small part of ANWR, the coastal plain is nonetheless considered the premier portion of the refuge. It is critical wildlife habitat and is considered one of the world's last pristine arctic ecosystems.

In the legislation establishing ANWR, Congress left the refuge under limited protection, and called for further study, leaving the possibility of oil and gas extraction open. Developers want to drill exploratory wells, and, if oil is found, pump and build pipelines on the plain. Such development would destroy the wilderness quality of the area.

Interior supports development of the coastal plain. The department recently recommended Congress trade some mineral rights in ANWR for Native-held lands outside the refuge, promoting oil and gas exploration and development among local residents.

New Law Protects Public Caves

On November 18, then-President Reagan signed the Federal Cave Resources Protection Act, significantly increasing the protection afforded to caves located on public lands. The act imposes criminal and civil penalties on those who damage federal cave resources and directs land managers to include these resources in management plans.

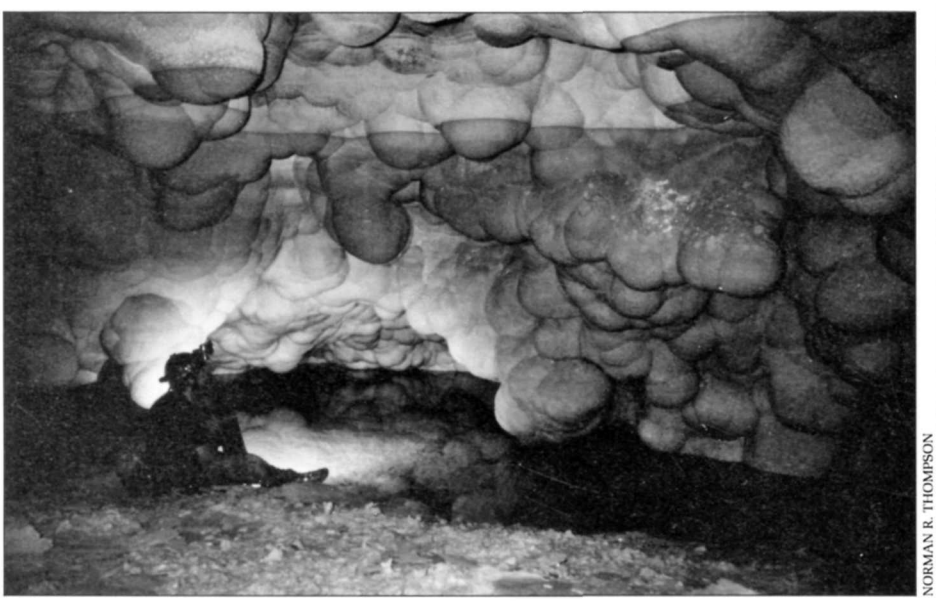
Cave resources—such as underground hydrological systems, plant and animal species, and cave formations—are nonrenewable and extremely delicate. They are increasingly threatened by vandalism and overuse.

Prior to passage of the act, more than 4,000 federally owned caves were left virtually unprotected. Little or no protection was provided for underground plant and animal species.

One provision of the law authorizes the secretaries of Agriculture and Interior to withold information on the nature or location of a cave if disclosure would endanger the cave.

—Martha Cronin, NPCA intern

Newly discovered Lechuguilla Cave, N.M., was one inspiration for cave law.



NORMAN R. THOMPSON

Yellowstone: The Smoke Clears

FIRE IS PART OF THE PARK'S NATURAL CYCLE

BY SUPERINTENDENT ROBERT BARBEE AND PAUL SCHULLERY

IN THE MYTHOLOGY of ancient Egypt there was a large, gloriously colored bird called the phoenix. Some sources suggest that the bird was unique (the ultimate in endangerment). The phoenix lived for 500 years and then constructed a funeral pyre and immolated itself. From the cooling ashes emerged the new phoenix, which then lived on.

The most common portrayal of Yellowstone's present ecological state resembles the phoenix myth. We who care about the national park frequently say that Yellowstone, burned in the summer of 1988, will be reborn in the spring of 1989.

The rebirth of Yellowstone is a powerful, seductive, and immensely appealing image, especially in a time when optimistic images are much in demand. Yet this image, for all its attractions, is inaccurate, and will almost certainly backfire on those who use it.

Rebirth implies death. Though many individual life forms—plants, birds, mammals, invertebrates—certainly died in the fires, Yellowstone National Park did not.

Yellowstone, as an ecological whole, cannot die or be reborn. It cranks along, an elegantly complex assortment of processes and states. Its ecological systems and its geological foundations can vary due to many influences, including those of man.

So, at the same time that the National Park Service and its friends reassure people that the animals are fine and that natural revegetation is underway, we talk grandly about Yellowstone "coming back to life," as if it's in its grave. The images conflict, and the message that reaches the public is muddled: Yellowstone the undead.

Public education in matters of ecology seems destined to advance by increments smaller than are necessary to understand an entire issue. For instance, it was a wonderful step for people to realize that predators could be important in the balance of deer and elk populations.

The lesson, however, was taught so simplistically that some people now believe that predators are always the controlling factor in deer and elk population dynamics.

It was progress when people began to hear of serotinous pine cones, and to realize that such cones are only opened by fire, thus facilitating the spread of seeds. But the lesson was once again simplistic, and now many people believe that all lodgepole pines require fires in order to reproduce.

Similarly, the rhetoric of rebirth sets up Yellowstone and its visitors for learning something that will have to be unlearned later. If, as we now believe, Yellowstone's most powerful lessons involve ecosystem processes, we may be hindering efforts to bring those lessons home when we imply that the whole park can die.

Perhaps worse, we succumb to just the sort of overstatement that has ruined so much press coverage of the fires: We imply that Yellowstone National Park was killed or was destroyed, that the "devastation" we hear so much about on TV was exactly that.

In our culture, death is evil. In the rhetoric of rebirth, Yellowstone has been killed by fires that must, by implication, have been evil, too.

There seem to be hardly any unloaded words left to us. A forest is described by commercial foresters as "healthy" when they really mean that it is satisfying human needs at a high rate. Most often this "health" is achieved through the maintenance of some artificial state that bears little resemblance to a wild forest, where human notions of good health do not apply.

We even refer to a fire that we hoped would occur—one that burns through a stand of trees that seems ecologically due for burning—as a "good" fire, as in "Boy, what this area needs is a good fire," or, "We had a good fire year back in 1981." Even at our most enlightened, we're still applying our values to natural processes.

We talk about Yellowstone coming back to life as if it's in its grave.

In the 117-year history of the national parks, we have become better and better at using scientific principles to direct their management. The accumulated

body of legislation and policy now supporting and guiding the national parks balances scientific knowledge against cultural values.

The result is a sometimes uneasy truce between what science tells us is possible and what our value system tells us is appropriate. Little wonder that it's hard to discuss such complex subjects in neutral language.

The Yellowstone fires have revealed the extent to which the most thoughtful, intelligent writers and park supporters can become mired down in this rhetorical swamp. Writers, attempting to reassure their audience about the fires, will say, "It really wasn't that bad. It'll all come back."

This implies, again, that the burns were bad in the first place, and that only forests in some late successional stage, forests that have fully "come back," are good forests. The height of a forest's trees or the photogenic quality of a vista may be very important to some humans, but it's all the same to the ecological setting.

Here in Yellowstone National Park, when we speak of recovery we're talking about the rebuilding and restoration of visitor facilities, such as trails, picnic areas, campground facilities, and other structures destroyed by the fires.

We are not speaking here of the natural setting. The natural setting is merely in a different state of its ongoing life processes. The natural setting does not need "recovering."

But our neighbors in the national forests, where much land was also burned, mean something else when they speak of recovery. Except on lands classified as wilderness, they mean planting trees and seeding native or non-native grasses and other aggressive land husbandry techniques that are suited to their multiple-use mandate.

The distinction between the mission of the National Park Service and the mission of the Forest Service is lost on most of the public. Thus, Yellowstone National Park is perceived as a place trying to recover from damage.

Developing an acceptable and meaningful language is one of the greatest challenges we face in explaining national parks to our public. The Yellowstone fires demonstrate the complexity of this challenge.

Consider, for example, animal mortality, a reality in any wilderness. The fires that killed elk in Yellowstone were just doing what fires have done in Yellowstone for thousands of years. Elk and fire have shared the Yellowstone Plateau for a long time.

But most of the elk killed in last year's fires were killed by human-caused fires (amounting to roughly half of the acreage burned in the park). Once started, these fires behaved just like the naturally caused ones, burning vegetation in the same mosaic, creating the same variety of habitat types. The most skilled ecologists on earth could not distinguish the effects of one fire from another.

How do we respond to such a thing? Do we point to some of our burns and call them "good" and point to others and call them "bad"?

How do we discern ecological processes that are set in motion by natural burns from the violation of park principles that is represented by human-caused burns? How do we sort out all of our cultural expectations and legal definitions when nature so obstinately refuses to cooperate with us?

What we have here, and what Yellowstone's fires suggest in so many ways, is much more than just a rhetorical problem. What we really have here are many unanswered questions about human perceptions of wild lands and their management.

In the so-called age of ecology we have acquired a veneer of enlightenment that allows us to feel good about our awareness of nature. But scratch through the veneer and we still react with visceral, simplistic emotions, and we still try to apply our value system to natural processes that simply will not accept the application.

The fires of Yellowstone should remind us just how valuable the national parks are in helping to shape and stretch the national consciousness. As much as we have to learn about the natural world, we have just as much to learn about our own feelings and attitudes.

Nature is not always a gentle hostess, but she never fails to be an inspiring teacher.

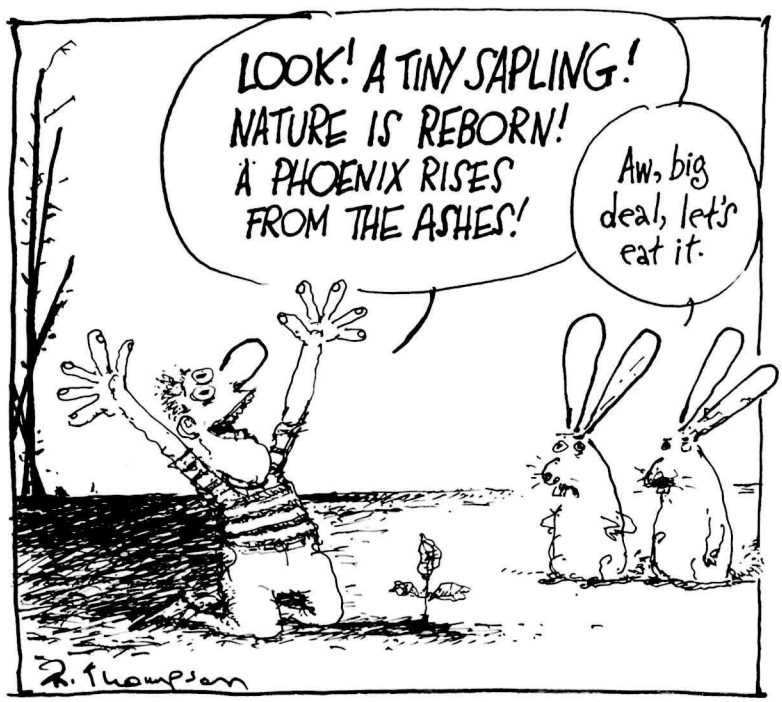


ILLUSTRATION BY RICHARD THOMPSON

Robert Barbee has been superintendent of Yellowstone National Park since 1983. His wide experience with natural resource management issues includes management of Redwood and Yosemite national parks in California and Cape Hatteras National Seashore, North Carolina.

Paul Schullery is a technical writer with the research division in Yellowstone. Of his five books on Yellowstone National Park, the most recent is Mountain Time, *and a new edition of* The Bears of Yellowstone *appeared in 1986.*

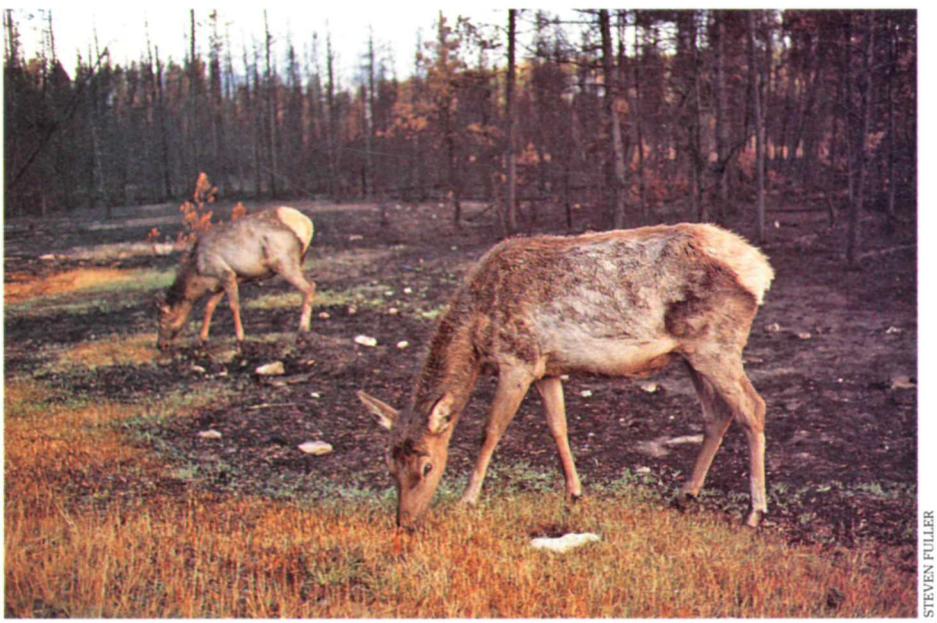
A Time for Every Purpose

ALAN AND SANDY CAREY

Lodgepole pine cones generally need the extreme heat generated by fire in order to open. It will, however, take decades for the climax lodgepole forest to return to burned areas. In the meantime, Yellowstone park managers expect a burst of understory trees and shrubs, which will provide an abundance of food for certain species.

ALAN AND SANDY CAREY

Immediately after the fires, repairs to national park structures began. In order to fix park bridges and other backcountry structures, horses were used to pack in supplies.



STEVEN FULLER

Elk and other ungulates may have faced greater deprivation than usual this winter. But, even before the first permanent snow, they had found new grasses sprouting up along the verge of Yellowstone's burned areas.

WALT MATELL

In the wake of the fires, national park scientists expect grasses and meadow areas to "green up" first, starting this spring. Within only a couple of weeks of the blazes, grasses had sprouted across the charred land.

NATIONAL
Parks

Into the Breach

KAYAKERS PLAY WITH THE BRUTAL WATERS OF GREAT FALLS

BY TERRY KILPATRICK

THE POTOMAC RIVER begins deep within the Appalachian Mountains. Its waters gather in the hollows and ravines of the pastoral landscape, feeding streams that fill the river. For 287 miles, the Potomac carves its way through the mountains of Virginia, West Virginia, and Maryland, steadily driving to the Atlantic—following the same course it has taken since the Ice Age.

Today, as always, a cool mist rises off the Potomac River in the light-streaked dawn. With careful grace, a boater slips into his kayak, snaps the neoprene spray skirt around him. The kayak is compact but comfortable. Riding low to the water, its sleek hull makes it highly maneuverable.

GREAT FALLS, BY LYLE ROSBOTHAM; INSET: ELLIOT WEINTRAUB, BY DON WATKINS

The boater pushes away from shore and, effortlessly, the river pulls him into the current. The kayaker is now a part of the river, gliding along the surface like a fallen stick, moving with the current around the small rock outcroppings that break the surface.

The pace of the river quickens as the shoreline begins to close in. A great blue heron wading at the river's edge is startled and takes flight—disappearing from sight down the river.

The kayaker digs his paddle into the river. He pushes forcefully against the current and the boat turns sharply to the right, guiding him through a narrow, stone-lined passage. For the first time, the dull roar of the falls can be heard a short distance ahead. He pulls hard to center himself in the current.

Fourteen miles above Washington, D.C., the Potomac River comes to Great Falls, a spectacular set of rapids and waterfalls that marks the transition between the hard continental bedrock of the Appalachians and the soft sedimentary soil of the coastal plain. Here, the tranquil pace of the river surrenders to broken boulders and steep vertical drops, revealing the power and force of the Potomac as it falls 76 feet in one-quarter of a mile.

"A lot of people think of Great Falls as this huge waterfall—it's not. Really, it is just a series of steep rapids. Only two drops could be called falls," says Andy Bridge, a member of the U.S. National Whitewater Team.

In fact, there are three separate drops in Great Falls, the last of which is called "the spout."

On the river the boater faces the spout, as the current suddenly turns smooth and moves even faster. Its glassy green surface grips the sides of the kayak and pulls it to the lip of the thundering waterfall.

The tip of the kayak goes straight ahead; the river goes straight down. In a fraction of a second, the entire kayak edges over the falls and begins its plunge into the caldron of rock and foam, 20 feet below.

The Potomac hurtles a single kayak out through the spout of Great Falls. The kayaker is launched into a heavy spray, which rises from below as the river crashes into a deep, stone-lined pool.

This is the last in a series of uncivil rapids and waterfalls that frame the Great Falls of the Potomac. The paddler was Eric Jackson, a 24-year-old member of the United States National Whitewater Team. Jackson has been kayaking for eight years and has run the falls well over 100 times. Running the falls is not part of his training for the team, Jackson concedes, just fun.

Some dramatize kayakers as daredevils—Evel Knievel river warriors whose only interest is to dominate or outwit a river for the sheer pleasure of it. Kayakers see it differently. To them, kayaking offers a delicate symmetry of man and nature, a balance of personal strength and skill with the raw force of the river.

Like mountain climbing, kayaking is a highly individual sport; but a river, unlike a mountain, is constantly changing. It is a dynamic force of land and water that can be transformed instantly by a storm or gradually through erosion and sediment deposition.

On the Potomac River, for instance, a heavy rain can triple the river's depth, completely covering the falls. The falls themselves are in a constant state of retreat as well, moving upstream—as they have for thousands of years—as the soft rock is eroded and carried away by the inexorable flow of the river.

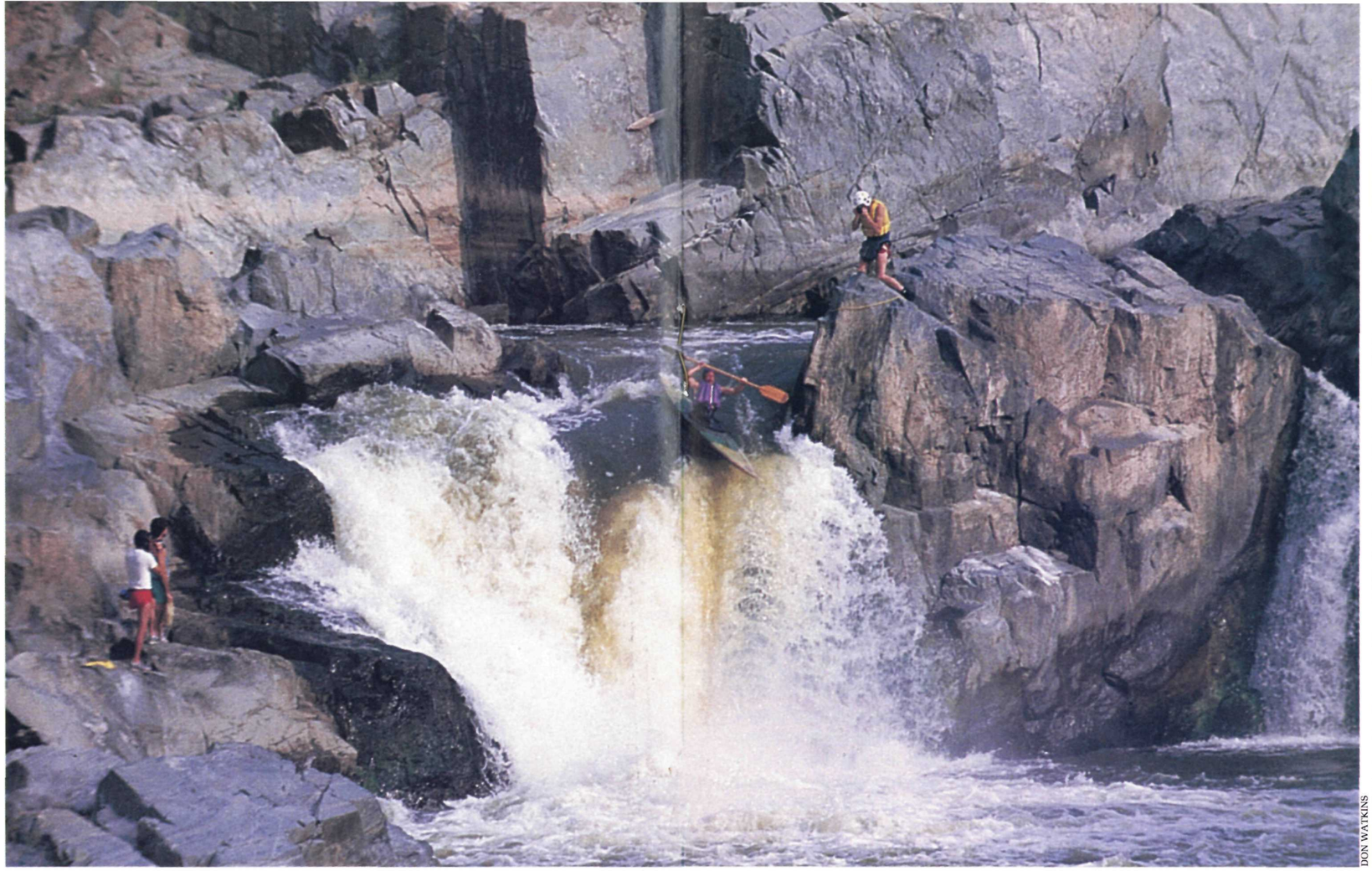
Today, the falls are located in the middle of the Piedmont Plateau, 14 miles from the original fall line. Day to day and year to year the river evolves. Boulders are easily tossed and broken by the current—creating new rapids; and when the land yields and gives way, new turns are created.

The river plays no favorites. You do not beat the river, and the river does not win. That may be the first thing to understand about kayaking.

Reading the river, understanding the forces of change and reacting to them is what the art of kayaking is about. Taking that art to its extreme in order to challenge yourself constitutes the sport.

While interest in kayaking has grown, it has not reached its potential. "It's a fast-paced sport," says Jackson. "... a great spectator sport and, with the right coverage, it's popularity could explode."

Whether or not it does explode, Great Falls is already known as some of the finest whitewater in the country.



DON WATKINS

Greg Steiger, an environmental scientist, goes over the Spout at Great Falls.

Located just 14 miles from the nation's capital, the falls and the land around it offer a wilderness-like retreat for kayakers in the Washington, D.C., metropolitan area.

The river is swift below the falls and the current grips you, leading you to a difficult S-turn and through Mather Gorge. The gorge, named after Stephen Mather, the first director of the National Park Service, is a sheer-walled canyon rising 100 feet above the river.

The grey face of the gorge may appear plain to the casual eye, but its straight and narrow walls define a fault line in the metamorphic bedrock. Here clay, mica, schist, and quartz have been eroded easily by the river—exposing an active geologic history.

The walls of the gorge are also distinguished by subtle horizontal color bands—a combination of chemical stains painted by the river in previous floods—and a silent guard of lichens that waits patiently for the next flood.

On a six-class scale, the falls proper have an international rating of a Class VI rapid, the highest rating of difficulty and generally interpreted as "threat to life." To kayakers a Class VI rapid represents the ultimate challenge of their physical and mental abilities.

BETWEEN THE rapids, the river is tranquil. Throughout most of the year a kayaker can run the river in relative solitude. When riding gracefully on the back of the river, it is not uncommon to draw near the region's wildlife, including great blue heron, Canada geese, bald eagles, deer, osprey, and beavers.

The Potomac River divides the states of Maryland and Virginia for much of its length. Although the NPS administers most of the islands and the land on both sides as C&O Canal National Historical Park in Maryland and as Great Falls Park and George Washington Memorial Parkway in Virginia, it does not own or control the river or the falls. They are administered by Maryland's Department of Natural Resources.

On the Virginia side of the river, the NPS strictly forbids kayakers to run the falls. They are allowed onto the river on the Maryland side. One might expect to find heavy crowds on the river. But, despite heavy use of the parks few people ever make it to the river's edge.

For one, the river is dangerous. The currents are complex and there are many places where knee-deep water runs fast enough to sweep a large man off his feet. On the average, seven people drown in the Potomac above Washington, D.C., every year.

"It is an inherently dangerous situation. If you were standing at the top of the falls and fell in, you probably would die. But an expert boater can go through the first two drops and maybe not even get his face wet," says Pope Barrow,

another Great Falls regular who has been kayaking the Potomac for 15 years.

The situation keeps the NPS nervous. They want to put an end to the drownings and are trying to completely restrict access to the falls. Even below the falls there are no easily accessible beaches for picnickers and no swimming is allowed. The NPS has launched a public awareness campaign, including the posting of explicit warning signs around the falls. There has not been a drowning there in three years.

Barrow points out that kayakers increase the safety of the river. Since they wear protective equipment and can operate expertly in rough water, they have been able to save people who were lost to the current, including a park ranger. The Park Service is not convinced.

"There are three kinds of people out there. First are the expert kayakers; second are the kayakers who think they are experts, but, in fact, are not; and third are the visitors to the parks who would like to play in the river, but may not perceive the danger. It is the last two that worry me," says John Byrne, superintendent of George Washington Memorial Parkway.

Seventy kayakers have made more than 1,000 runs over the falls since 1976, when they were first run. In that time, no kayaker has ever died or been seriously injured on the river. They believe it is more realistic to teach people to use the river safely than it is to try to control the sport. In fact, the Canoe Cruisers Association, the largest regional whitewater club in the country, offers classes on the river to anyone interested for a $10 fee.

IT IS PEACEFUL on the river—a rare opportunity for thousands of people who, in less than one-half hour, can get away from it all. And the smooth movement of kayaks don't intrude, for kayaks carry no anchors and there are few places to stop. The river keeps you moving.

The solitude and the sport must be addictive. Barrow, for example, is out there year round, playing in the rapids below the falls or taking a short ride down the river after work and on weekends. Like most kayakers on the river, Barrow does not spend any time these days running the falls.

DON WATKINS

Bob Wallace in Rocky Island wave.

Instead, Barrow and probably 95 percent of the other kayakers on the river spend their time below the falls surfing standing waves, playing in the holes, and performing "endos." A particular favorite standing wave on the Potomac is in the Rocky Island Rapids at the narrow strait between Rocky Island and the Virginia shore.

Here, the current rushes over a submerged boulder. The rush of the water over the boulder forms a deep trough behind it, sending the water rushing back to form a standing wave five feet or higher. Getting into the wave is tricky, but once you are there you have a heightened sense of speed as the water races below and the top of the wave crashes at your tail.

Playing in a hole is another favorite diversion for kayakers. A hole is formed by water going over a rocky ledge and washing back on itself. At the bottom of the hole, therefore, the water will come at the paddler from below and above.

The kayaker tries to get parallel with the current, to slide into the hole and to get perpendicular and then hold that position—which is done by laying the kayak on its side, leaning hard on your paddle or bracing on your downstream side against the incoming water. The feeling of being stationary in the river with the water coming in all around you and your head just inches from the surface is exhilarating.

If that is not enough challenge, there is always the endo. An endo is a variation of playing in a hole. But only in certain holes. Instead of sliding in sideways, you go straight into the hole. The result is predictable: The front tip of the kayak plunges into the middle and is sucked downward—flipping the back end of the boat over skywards and sending the paddler face first into the river.

Save this one for a hot day. With a deep plunge and lucky side stroke, it is possible to flip again, completing a pirouette and landing right side up. The full circle is rare—most kayakers find themselves upside down in a hole.

There must be something special about this area, because the U.S. whitewater team has chosen the Potomac River near Little Falls as its home. The 40-member team, composed of both men and women, has been competing nationally and internationally for more than 30 years. Since 1977, U.S. team members from the Washington metropolitan area have won 39 medals in world-class competition, 19 of them gold.

One reason the team is based on the Potomac is because the coach of the

DON WATKINS

Eric Jackson rides the O-deck (observation deck) wave below the Falls.

team, Bill Endicott, makes his home near the river. Many of the team have moved here to be near him in order to participate in his twice-daily, seven-day-a-week workout schedule.

But the river itself is an outstanding resource for the team, with everything from the small riffles of a Class I rapid to the violent and nearly impossible Class VI rapid of Great Falls. The water is strong and steady, and it almost never freezes, allowing them to train most of the year.

The team trains in many parts of the river, but a favorite spot is a small feeder canal several miles down from the falls. The feeder canal is a narrow side chute off the river where funneled water produces a fast current that is ideal for training.

Here, a series of "gates" (pairs of parallel poles) are set up as in competition, where the athletes have to make their way downstream through certain gates and upstream through others.

For now, the immediate focus for international competition is on the Savage River in Maryland—five miles of relentless whitewater that flows into the North Branch of the Potomac. Here, for the first time, the United States will host the 1989 World Whitewater Canoe/Kayak Championships.

The winners of the various events will walk away knowing that they are the best in the world.

One of the favorites for this race will be Jon Lugbill, another Potomac local. Lugbill began kayaking when he was ten and earned himself a spot on the national team when he was 13, something he shrugs off in the proper, self-effacing *Right Stuff* tradition.

The sport was not popular back then, he says, as he talks about the ease with which a young child picks up the intricacies of balance and endurance that the sport requires. Lugbill has been winning nearly every race he has competed in since 1979, including nine world championship races.

He and most of his teammates agree that his performance would not have become so spectacular without the constant competition from other world class kayakers on the team.

The next big race on the horizon will be in 1992, when the United States whitewater team will compete at the summer Olympics in Barcelona, Spain. The competition is being included as an optional Olympic sport by Spain, which as host country, chooses the optional sports in the games.

This is only the second time whitewater kayaking has been a part of the Olympics. The first whitewater competition was held in the 1972 Munich games. The gold medals earned last year at the Seoul Olympics by Bellingham and Barton were in a flatwater sprinting competition.

Whether or not whitewater kayaking becomes an established sport at the Olympic games, the Potomac will remain a magnet for those who want to ride the river.

Terry Kilpatrick last wrote about maps for National Parks *magazine in the May/June 1988 issue.*

Making Portraits of the Microcosm

Photographs that Require an Eye for Detail

Photography by Dr. Kerry Givens
Text by Kathy Sferra

Yosemite, Grand Canyon, Yellowstone—just the names suggest grandeur. For most people, staggering scenery makes these parks unforgettable. When Dr. Kerry Givens visits a national park, however, he spends most of his time on his hands and knees, photographing a few inches of wilderness at a time.

He confesses to being obsessed with close-up photography, otherwise known as macrophotography. His career as a physician led him to this passion.

"In ophthamology, my specialty, attention to tiny detail is paramount. Since I use close-up lenses all day to study eyes, arguably the most colorful and beautiful organ of the body, it seemed natural to get a macro lens for my camera," he says.

There is another good reason for studying the beauty of national parks through a close-up lens—you never run out of subjects. While Yosemite only has one El Capitan, it has thousands of lichens, mosses, flowers, insects, and other tiny photographic subjects. Great closeup shots can be found anywhere in the parks.

Many of the accompanying shots were taken along the edges of heavily traveled trails, in plain view of hundreds of passersby. Taking good close-ups does not require loads of equipment, but it does require some practice and patience. For instance, simply setting up the tripod takes time, since all three legs have to be readjusted every time the camera is moved even an inch.

Expect to get sidelong glances from hikers who see you belly-crawling beside the trail.

Great Smoky Mountains National Park

More widely distributed than green plants, mushrooms are an ideal subject for the beginning close-up photographer. Unlike wildlife and wind-blown wildflowers, mushrooms are a stationary, varied subject. This group, the collybia (*Collybia dryophila*), derives its name from the Greek word meaning small coin—referring to the mushroom's cap.

Collybia can be found in acidic soils, such as those occurring in oak woods and coniferous forests. This common mushroom, a favorite of gourmet mushroom hunters, can be distinguished by its nutty smell. Mushrooms have a vast underground root system from which the mushroom sprouts like fruit. Picking does not harm the plant, but do not pick mushrooms in the parks.

The photographer used an aluminum foil reflector to highlight this scene by reflecting the light from rain drops of a storm that had just passed.

Yosemite National Park

DESPITE ITS NAME, this Pacific tree frog (*Hyla regilla*) rarely lives in trees, although it does climb them. It can be found in unlikely locations—under soap dishes in campground showers and inside phone booths—but generally it prefers living among shrubs or low plants, such as this false hellebore (*Veratrum viride*).

Most tree frogs are ventriloquists, their voices defying precise location. After 30 minutes of searching, Givens finally found this one, nestled among the whorled leaves of a false hellebore.

The false hellebore is a highly poisonous plant that can kill animals that eat it. The plant can, however, be beneficial. A solution made by boiling the roots was used by early settlers to treat herpes, shingles, and head lice. The plant is sometimes called Indian poke or itchweed.

Olympic National Park

THE MADRONE TREE (*Arbutus menziesii*), which is found on the Pacific Coast, is an evergreen member of the heath family. It is characterized by twisted limbs and reddish, papery bark, which shreds in ragged strips in a variety of tints, depending on the age of the stem or trunk. The madrone sheds its bark, fruit, and leaves all through summer. The mature tree can grow to 100 feet and can survive for two centuries. Native Americans used the madrone bark medicinally as a cold remedy and a skin wash. The berries are reputed to have a narcotic property.

To Givens, the papery bark resembled tattered gift wrap. Because the tree angled toward the ground, he had to lie on his back, the tripod splayed over him, to frame this shot. He used a reflector to cast a beam of sunlight onto the shaded bark.

Yosemite National Park

PONDOROSA PINES commonly attain an age of 400 to 500 years and a height of 150 to 180 feet.

In mature trees, the bright, reddish-orange bark lies in broad, irregular scaly plates, like a jigsaw puzzle. Because of its thick bark, the tree is resistant to forest fires. The tree can also seal fire scars with its own pitch, which blocks out insects and decay. Pondorosa pines have unusually deep root systems that allow them to thrive in dry areas.

Named pondorosa because of its large size, the tree has come to symbolize the spirit of the West.

Close-ups by Dr. Kerry Givens have appeared in Sierra and Audubon calendars. Kathy Sferra was NPCA's recreation resources coordinator.

TAKING CLOSE-UPS

Microvision

A 35MM SINGLE-LENS reflex (SLR) camera with interchangeable lenses is fundamental for close-up photography. The "point and shoot" pocket 35mm cameras are just not adequate, although an autofocus feature on an SLR is useful for working with moving subjects.

Supplementary macro rings, available at any good camera store, are an inexpensive way to explore macrophotography. These rings of varying widths screw onto the camera between the body and the lens. They automatically double or quadruple the focal length of the lens—making a 50mm lens act like a 100mm or 200mm lens, depending on the width of the ring. Pictures taken with supplementary rings may be soft around the edges, though.

You can also buy macro lenses, which are specifically designed to produce razor-sharp images at high magnifications, but these lenses are not cheap. A typical 100mm macro, the most versatile length, costs $300 to $400. A macro lens does, however, produce excellent portraits and scenics.

A tripod is also essential. Look for a tripod that can lower the camera to ground level. Close-up photography implies high magnification. And the higher the magnification, the less light reaches the film. Expect long exposure times, especially when using "slow," relatively light-insensitive film such as Kodachrome 25 or Fujichrome 50.

Also use a cable release, an inexpensive remote-control cord that lets the photographer trip the shutter without touching the camera.

Once, I relied on electronic flashers for lighting. Now I carry a 9-by-12-inch piece of cardboard covered with aluminum foil. I use it to bounce a little light onto heavily shaded subjects. When more illumination is required, I use a plexy mirror, a sheet of clear plastic backed with mirror-like Mylar, available at most glass suppliers.

—Kerry Givens

Exporting Park Know-How

The Park Service Shares 75 Years of Experience

By Dennis Drabelle

A FEW YEARS AGO the Indian government asked the National Park Service for help in designing an interpretive program for the New Delhi Zoo and Kanha National Park. The Park Service brought several Indian officials to its Harpers Ferry Center, where exhibits, signs, and brochures for the National Park System are designed, and sent some of its own design people to New Delhi.

The results were so impressive that what began as a zoo/park prototype has grown into the Center for Environmental Education in Ahmedabad. The center, now a hub for Indian designers, writers, and others with park interpretive skills, gives India the best capability in Southeast Asia for planning, designing, and fabricating interpretive materials.

The New Delhi project was facilitated by an outfit within the Park Service that is specially designated for such cross-cultural exchanges—the Office of International Affairs.

Drawing upon the park-making expertise amassed by the Park Service

ERWIN AND PEGGY BAUER

Overleaf: Itatiaia National Park, mountainous rainforest 150 km northwest of Rio de Janeiro, is rich in species—from spider monkeys to orchids. Above: Emas National Park is an example of Brazilian *cerrado* (wooded prairie). The U.S. Park Service has worked with the Brazilian government to train staff for all its parks.

since the 1872 inception of Yellowstone, the world's original national park, the office is one of those lean, dollar-stretching outfits that gladden the hearts of budget examiners and the NPS director, to whom the office reports.

Consisting of 16 full-time employees and wielding a base budget of less than $500,000 a year, the office serves as the NPS link to a dizzying number of foreign countries and international organizations.

The international office has represented the Park Service in implementing treaties and providing assistance to the Soviet Union, the People's Republic of China, Egypt, Pakistan, India, Saudi Arabia, Spain, Morocco, and Sri Lanka, to name just a few. It is estimated that three percent of the earth's land is now protected from development in some way, and there are 135 national park systems in the world.

"During the last 30 years," said Rob Milne, chief of the international office since 1974, "the number of areas under national parks protection has doubled every decade, and so has the acreage involved. I can't help attributing that in part to the hundreds and hundreds of people worldwide that the NPS has trained and had contact with."

MILNE'S OFFICE also works with international organizations such as the World Heritage Convention. The 106 nations who form the World Heritage Convention have raised the national park concept to the global level by agreeing to designate certain cultural and natural properties as having "outstanding universal value to mankind."

Of 315 sites designated worldwide, 17 are in the United States. They include Everglades, Yellowstone, Mesa Verde, and similarly protected areas.

The extent of NPS assistance ranges from Burma, where political upheaval has left an ambitious park designation

OVERLEAF BY ERWIN AND PEGGY BAUER

ERWIN AND PEGGY BAUER

At Los Glaciares National Park, an expert on trails from the U.S. National Park Service staff helped the Argentinian government plan trails so that visitors could hike up to view the park's glaciers. High in the Patagonian Andes, Los Glaciares is home to guanacos, relatives of the vicuña and, more distantly, the camel.

plan stuck on the drawing board, to Costa Rica, where the NPS helped establish a world-renowned park system championed by the country's ecology-minded president. Asir, a one-million-acre national park in Saudi Arabia, has become one of Yellowstone's newest progeny.

International cooperation facilitated by the office has led to coordinated research on areas with similar physiographies. Parks on the Canary and Hawaiian islands, for example, have benefited from joint research leading to improved control of exotic species and management of wildfires.

Perhaps the office's most influential program has been its annual International Seminar on the Administration of National Parks and Equivalent Reserves. Started 20 years ago, the program was suspended in 1987 for refurbishing and updating. During its time, the month-long seminar had drawn 690 senior park officials from 111 countries.

"At some time or other," said Milne, "the seminar has trained practically every leading national park person in the world."

Responding to the needs of the world community, the focus of these seminars has changed. The international office is now conducting more resource-specific seminars. Last year, representatives from 30 nations met at the University of Arizona to discuss protection of semiarid lands and, as part of the program, visited a number of nearby national parks. This year the focus of the international office's seminar will be marine and coastal environments, held at the University of Miami.

The office also exports NPS expertise, a task that has become easier since the advent of a servicewide international skills roster. No NPS employee can be considered for foreign assignment until he or she has filled out the detailed form from which the roster is compiled.

"If need be, we can come up with an Urdu-speaking dog handler," said Milne.

RON WATTS/FIRST LIGHT

The U.S. Park Service just began a year-long, AID-sponsored study of tourist impacts at Kenya's Maasai-Mara Reserve. Tourist impacts and new forms of agriculture have shaken the Maasai's traditional culture and the indigenous mix of animals.

And, indeed, the roster lists just such a specialist. "We actually did send dog handlers to Mexico City to help in the search-and-rescue mission after the 1986 earthquake," Milne continued. "We got them there within 24 hours of the request for help."

Other NPS employees have been detailed overseas for years at a time to help foreign governments establish national parks. Typically, such projects originate with a request from the country in need of help or are channeled to the NPS by the State Department, U.S. Information Agency, or the Agency for International Development (AID).

HEADY AS IT MAY be to create a new national park in the Third World, idealistic detailees quickly learn that their standards for a park do not apply worldwide. The most common deviation from the U.S. norm of a tightly protected ecosystem is the presence of a permanent human population. While Americans' image of a park is a relatively untouched landscape, foreign parks frequently encompass whole hamlets.

Some 5,000 people live in Venezuela's Sierra Nevada National Park. The highways that trisect Saudi Arabia's Asir National Park serve not only park visitors but also the several villages around which the park was fashioned.

In addition, local residents who live just outside parks may be so unfamiliar with the national park ethos—let alone so needy or greedy—that even relatively pristine parks are abused.

At Tarutao, a Thai national park off the coast of Malaysia, a tribe known as the Sea Gypsies fishes by discharging dynamite underwater, a technique that kills fish indiscriminately, much to the dismay of park rangers. In western Thailand, poachers invade mountainous Khao Yai National Park to hunt elephants, others merely harvest material for thatching their roofs.

Joanne Michalovic, an NPS resource manager now at George Washington Memorial Parkway, has visited Thailand on assignment a half-dozen times. She said that Thai park officials have reduced the poaching at Khao Yai by enlisting local residents in a park preservation society. Members of the society pledge not to disturb the park's resources and, in return, the government makes available low-interest loans for rural development projects. Officials are also helping the park's neighbors form trekking companies to guide tourists.

"The idea," said Michalovic, "is that if they're making money off the park, they'll want to preserve it."

"If need be, we can come up with an Urdu-speaking dog handler."

IN SOME COUNTRIES visitors use parks quite differently from the way we do. Americans tend to arrive at their parks thirsty for escape and solace. The average group using a U.S. national park consists of 2.5 persons. We also tend to enjoy the outdoors in small, nuclear family units.

By contrast, the culture in countries such as Thailand and Saudi Arabia is based on extended family life, so they come to enjoy the great outdoors in large groups. The average size of a group in a Thai park is ten persons, and Saudi clans are apt to bring along a live goat to be slaughtered for a picnic.

These sorts of cultural differences can generate misunderstandings. Ivan Miller, an NPS manager who helped the Saudis launch Asir National Park, tells of finding the park's new indoor toilets stopped up with goat entrails. Unfamiliar with the true purpose of porcelain fixtures, visitors had made a plausible assumption about their best use.

In other cases, NPS design standards are inappropriate for foreign conditions. NPS-style colored interpretive signs took such a beating in the Indian tropical sunlight that they faded, and Indian park managers switched to monochromatic signs.

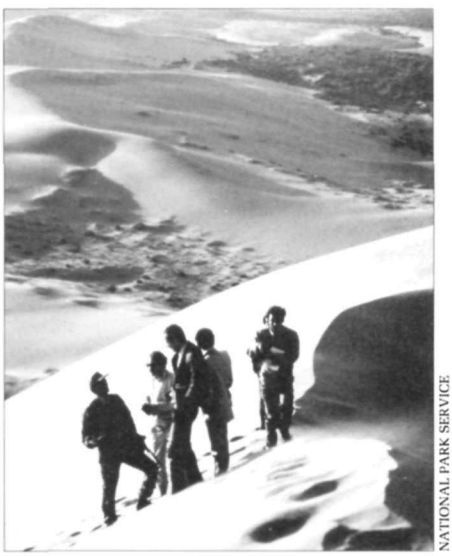
Occasionally, too, the office simply dispatches the wrong man. Not long ago, it neglected to inform a fellow on his way to the tropics that he might encounter snakes there. When, after arrival, he heard that the jungle was crawling with them he refused to leave his hotel and had to be recalled.

With all of these variances and compromises affecting national parks abroad, the question arises whether they are parks in name only. Miller, for one, answered with an unequivocal "No."

After serving in Washington, D.C., on the NPS Alaska Task Force, which drew boundaries and inventoried resources for the mammoth Alaskan parks established in 1980, and as superintendent of Grand Portage National Monument in Minnesota, in 1981 he, his wife, and their two sons went to Saudi Arabia for a two-year assignment. The work of setting up Asir proved so appealing that he reenlisted for another two years.

The park itself was built from the ground up with NPS help. The original idea was to develop a tourist area, but the governor of the province had traveled extensively in the United States and wanted an American-style park to take hold in the million-acre region. The result is a park that exhibits NPS influence down to the typical, black-bordered design of its interpretive brochure.

Now a regional planner in the NPS Seattle office, Miller admitted that Asir is not as sacrosanct as the typical American park. "In theory no tree cutting is allowed," he said, "but villagers do it anyway. There is a lot of grazing within the park—it's a Bedouin tradition. And some people like to drive their Toyotas off the roads and cause destruction. But, overall, the park is protected to a significant degree. I feel very good about what we accomplished there."



NATIONAL PARK SERVICE

Resource managers from the National Park Service have been assessing both natural and cultural potential park areas in Morocco. Here, they scout the dunes of Agadir. The effort has been financially supported by the government of Morocco.

While acknowledging that a few of Thailand's 50 or so national parks might be subpar, Michalovic rated the country as "the most environmentally progressive in Southeast Asia" on the strength of its park system.

Right now the NPS is concluding a major, multiyear program with Thailand and AID that will, in the words of program manager Sharon Cleary, "provide technical assistance to the management and long-term conservation for the unique park system of Thailand."

FOR ALL ITS GOOD work, the international office has to know how to stretch a dollar. One method by which the office is able to extend its budget is through occasional earmarked add-ons for programs favored by Congress. The amounts spent on these programs do not count against the office's budget ceiling.

Soviet-American cooperation is one such line item. These earmarked programs include cooperative research in the Bering Strait region, architectural exchanges and youth exchanges in conservation work.

The international office also works with Central American and Caribbean countries under separately funded programs. The office has helped develop a protocol for protected areas in the Caribbean in association with the State Department and the U.N. Environmental Programme. It has set up in-country courses for park personnel, teaching everything from ranger skills to management training. A recent course was held strictly for Portuguese-speaking park personnel and it drew people from Portugal, Brazil, and West Africa.

The office also takes advantage of a law permitting federal agencies to draw upon foreign currency funds that are held by the United States. These funds, which are paid to the United States in exchange for food assistance, are not converted to dollars but, rather, are made available for in-country expenditures and international travel.

With this money the office has sent National Park Service personnel to Egypt, India, Pakistan, Poland, and Burma and paid their per diems while they were there.

Perhaps the most effective means by which the office maximizes its assets is its arrangement with the Peace Corps. Two Park Service employees are detailed to the Peace Corps full time, and there they help recruit and train volunteers interested in natural resources work and provide support for those volunteers and the countries in which they are placed. In addition to national parks, this category includes forestry, wildlife management, and environmental education.

"Currently we have 560 natural resource volunteers in 45 countries," said George Mahaffey, the NPS employee who heads the Peace Corps natural resources sector.

Among the advantages for volunteers are two years of field experience and, on their return, a year's exemption from the Office of Personnel Management's elaborate rules for federal hiring. Both of these are pluses for anyone trying to enter agencies such as the National Park Service, where hiring can be highly competitive.

"Our volunteers can go directly to the hiring official at any agency they are interested in," said Mahaffey. "It's a real selling point."

"Currently, we have 560 natural resource volunteers placed in 45 countries."

Under the auspices of the NPS and the Peace Corps, volunteers have participated in projects such as wildlands management training in Honduras, evaluation of Sierra Leone's parks and environmental education program, and the writing and publishing of a brochure for Ecuador's Machalilla National Park.

RECENTLY, however, the NPS has been learning from other countries. The Russians' visit to Sitka National Historical Park and the U.S.–U.K. countryside Stewardship Exchange are but two examples.

The latter is a series of visits and conferences among British and American environmental experts. Their goal is to devise new tools for coping with the rapid growth overtaking the New England countryside by drawing upon successful efforts to do the same in Great Britain.

In the process of restoring the Russian Bishop's House as part of Sitka, NPS called upon Soviet scholars for advice. [See "Beringia," *National Parks*, November/December 1988.]

"Last spring two star-studded professionals came over for a month," said Rob Milne. "One was a historian of the colonial period, the other an architect specializing in church structures.

"They brought artifacts and background data, including the manifests of ships that transported Russian colonists to Alaska. They were able to tell us where we had gone wrong in details like the colors we were using to restore the interior of the house. They're going to loan us an antique clock from the Leningrad Museum. The central face gives Moscow time and satellite faces indicate the extent of [that period's] Russian Empire. There's a face for the time in Sitka, Alaska."

The NPS international office serves as a path by which countries worldwide can benefit from our knowledge and experience with national parks. But, as the NPS has learned through their exchanges with England and the Soviet Union, the street runs both ways.

"We tend to think of ourselves as the Hertz of national park services," said Milne. "But there's a lot of innovation going on in other countries, and some of it may be better than what we're doing. It's the role of this office to seek out these new ideas and pass them on to the rest of the Service."

Washington, D.C., writer Dennis Drabelle is co-author, with Nathaniel Reed, of The U.S. Fish and Wildlife Service.

Ride the Rivers

FROM FLATWATER TO WHITEWATER, EXPLORING THE PARKS BY CANOE

BY CONNIE TOOPS

FROM SOUTHERN SWAMPS to western canyons to the Alaskan wilderness, smooth paddles dip into sparkling water, propelling sleek canoes to new adventures. Throughout the National Park System, more than three dozen areas offer waterways suitable for canoeing. Some paddlers are lured by the heart-stopping roar of whitewater around the next bend; others float placidly, becoming one with their tranquil surroundings.

Trip planning can vary from a spur-of-the-moment decision to explore Chattahoochee River National Recreation Area near Atlanta, to elaborate preparations to visit Kobuk River, north of the Arctic Circle. At Chattahoochee, concessioners rent canoes and pack picnic lunches.

To reach Kobuk Valley National Park, you must hire a floatplane and load it with supplies and gear, as there are no services or facilities available in the national park.

Beginning canoeists should start with short trips in our national parks, venturing into more difficult or remote waters as skills, physical stamina, knowledge, and experience increase.

Everglades National Park

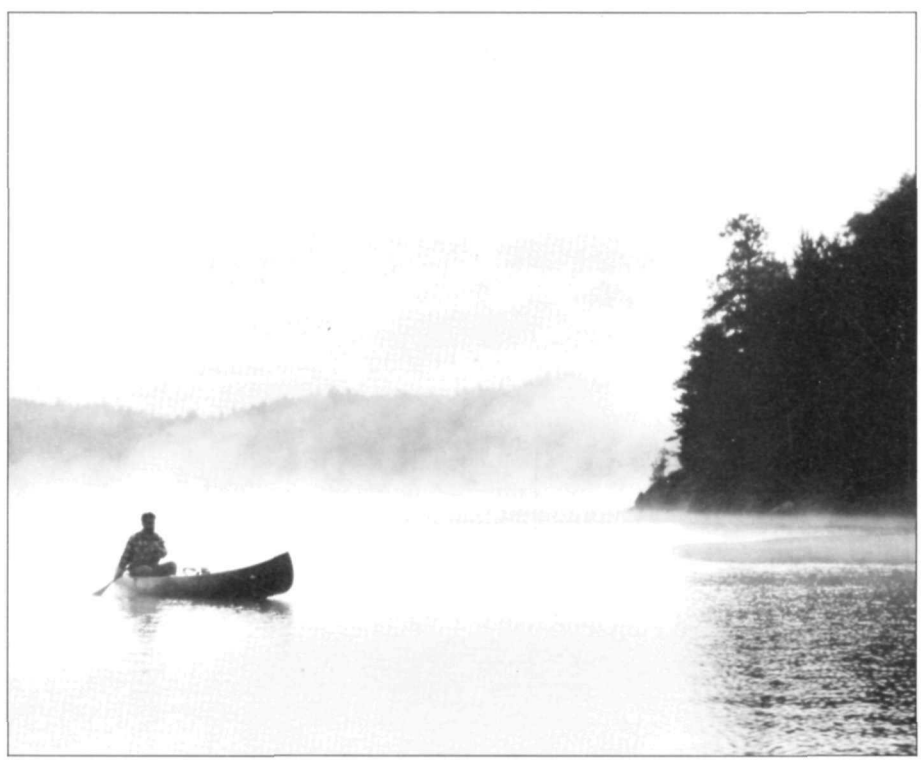
The flat, shallow waters of the Everglades are ideal for inexperienced paddlers, and southern Florida's sunny climate invites canoeing throughout the winter. Bird- and alligator-watching are best then, and mosquitoes are apt to be less pesky.

Noble Hammock, a sheltered two-mile loop with a put-in about ten miles north of the Flamingo Visitor Center on the main park road, is a great place to watch for bald eagles soaring overhead. Hell's Bay, a winding, six-mile canoe trail through the mangroves, puts in practically opposite Noble Hammock on the main park road, and terminates at a "chickee" or wooden platform. Since few Everglades backcountry sites have enough high ground to pitch a tent, chickees make camping in the marsh possible. Bring mosquito repellent, or discover the reason for this site's quaint name.

Peaceful Cape Sable, mainland Florida's southernmost beach, is accessible only by boat. On calm days, canoeists traverse Florida Bay to this shell-strewn shore, ten miles west of Flamingo. But brisk winds dictate use of an alternate inland route, which adds four miles and two short portages to the trip. In times of low water, the inland trail becomes a muddy quagmire, so it is always advisable to inquire about current conditions before departing.

The ultimate challenge for Everglades canoeists is the Wilderness Waterway, a 99-mile journey along the Gulf Coast between Flamingo and Everglades City. Manatees ply the tea-colored water and

Minnesota—"land of ten thousand lakes"—is a good place for flat-water canoeing.



NPCA

brown pelicans roost in the mangrove branches. This wilderness journey takes a minimum of seven days and requires the crossing of several sizable bays. Even though the route is well marked, navigation charts and a compass are essential for the canoe traveler. For more information, contact Everglades National Park, P.O. Box 279, Homestead, FL 33030; (305) 247-6211.

Voyageurs National Park

Water sparkles across a third of Voyageurs National Park, located in the heart of canoe country. Four large lakes and two dozen smaller ones fill basins gouged by glaciers in the granite bedrock.

During the summer, visitors may join a "voyageur"—an 18th-century French-Canadian fur trader—in a reenactment of history. Interpreters in costume paddle a 26-foot replica of canoes used by these legendary frontier traders, who transported furs and supplies along the Canadian border in the late 17th and early 18th centuries.

The two-hour, three-mile trip begins at Rainy Lake Visitor Center. From May through early October, or as late as weather permits, the park also loans canoes to visitors who wish to explore Locator Lake on Voyageurs National Park's Kabetogama Peninsula.

Voyageurs is not heavily visited. Away from resort areas, canoeists discover placid lakes punctuated by the echoing call of the loon and the howl of the wolf. More than 100 backcountry sites await campers, although many of the park's extended canoe trips require hopping from lake to lake, portaging gear and canoes over ridges and around bogs. Bear and moose roam Voyageur's woodlands, and each summer graceful white pelicans nest near the park's waters.

Summer weather is fickle, with wind whipping the blue-gray water into frothing waves. The golden days of early autumn, when geese flock southward and blazing birches line the water's edge, are a beautiful time to explore the park's waterways.

Rangers at the park will help you choose a route that is well suited to both your level of canoeing experience and your time schedule. For more information, contact Voyageurs National Park, P.O. Box 50, International Falls, MN 56649; (218) 283-9821.

Buffalo National River

Buffalo River rises in the rugged Ozark Mountains of northwest Arkansas, trickling at first from mossy springs and dripping down the faces of fern-covered cliffs. Side creeks meet and swell into a free-flowing stream wide enough to beckon canoeists.

When buoyed by spring rains, the 25-mile run from Ponca to Pruitt, on the river's west side, includes exciting whitewater. If the river is very high, it can be quite challenging. The route passes beneath towering bluffs and near a 175-foot waterfall in Hemmed-in-Hollow, a box canyon.

The float season on upper sections of the river extends from March into early June. Below Silver Hill, where Highway 65 crosses the Buffalo, the river is navigable year-round.

For unsurpassed solitude at an unhurried pace, paddle the 23-mile section from Rush, a campground and put-in point, to the mouth of the river at Buffalo City on the eastern edge of the park. This stretch lies within wilderness, and although you are seldom more than ten miles from a road, you may not encounter anyone else along the entire route during your trip. For more information, contact park staff at Buffalo National River, P.O. Box 1173, Harrison, AR 72602-1173; (501) 741-5443.

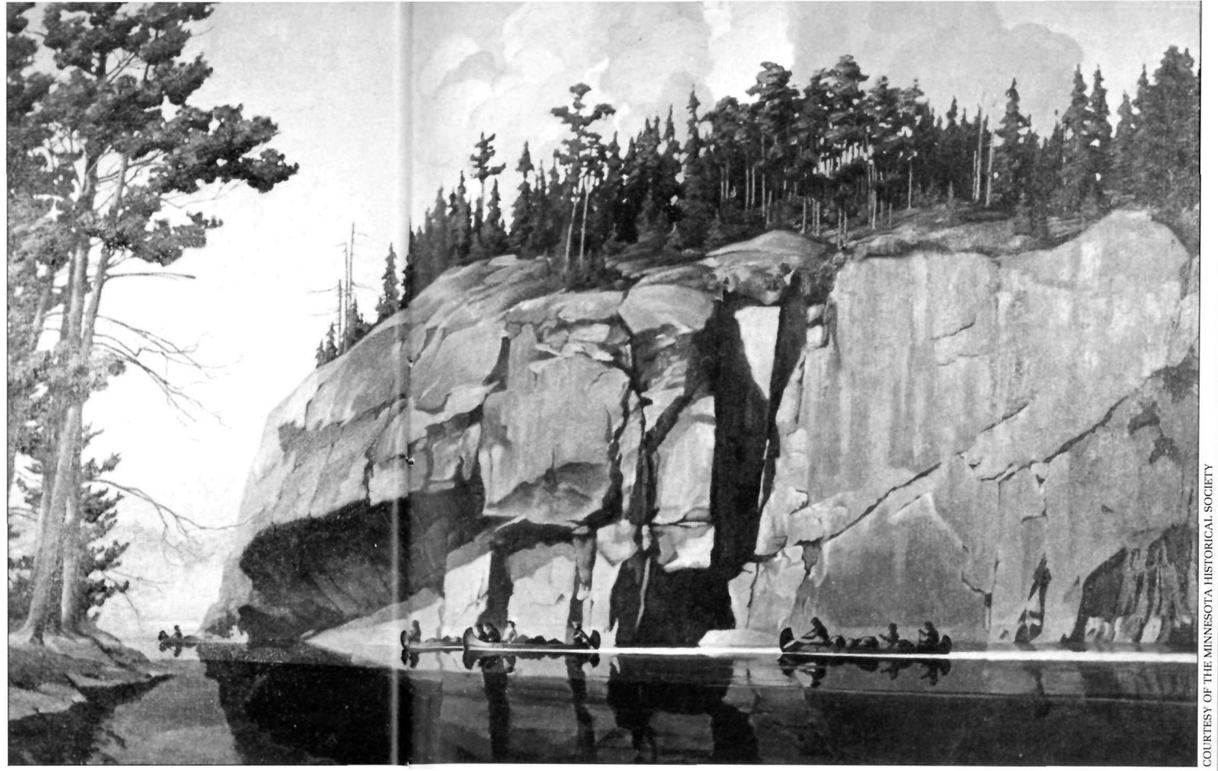
Big Bend National Park

The Rio Grande snakes, ribbon-like, across stark expanses of desert, slithering through rocky canyons that rise 1,500 feet above its muddy waters. The entire 118 miles of river on the park's southern boundary are floatable, as are an adjacent 127 miles of the river downstream that are part of the National Wild and Scenic Rivers System. Trips through three of Big Bend National Park's steep-walled canyons—Santa Elena, Mariscal, and Boquillas—are the most popular floats, though.

The 19-mile, two-day journey through Santa Elena Canyon begins at Lajitas, a pastoral patch of desert near the park's western border, where cattle and goats graze at the river's edge. A dozen miles downstream, the river slices through the Mesa de Anguila, limestone and lava cliffs that read like a geology textbook. The only major hazard—house-sized boulders in Rockslide Rapid—should be scouted or portaged.

Mariscal Canyon, traversed on a ten-mile float along the park's southernmost reach from Talley to Solis, also boasts sheer canyon walls and wildlife such as peregrine falcons, peccaries, and mule deer. Tight Squeeze, a potentially troublesome rapid, is easy to portage if necessary. Since access roads are generally rough, most floaters hire a driver to drop them off at the start of their trip and pick them up afterward.

The Boquillas section, 33 river miles northeast from Rio Grande Village to La Linda, offers riffles and dog-leg turns instead of challenging rapids. Boquillas and the canyons of the Rio Grande Wild and Scenic River, into which the river flows after passing through the park, require multi-day floats, with spring and fall being the most pleasant seasons.



COURTESY OF THE MINNESOTA HISTORICAL SOCIETY

Francis Jaques' 1947 painting *Picture Rock, Crooked Lake*, or The Return of the Voyageurs, depicts the legendary traders in their birchbark canoes.

Few other places in the Lower 48 states are as remote; so while there, allow extra time to explore some of the scenic side canyons. For more information: Big Bend National Park, TX 79834; (915) 477-2251.

Yukon-Charley Rivers

The fabled Yukon River bisects Alaska, running from the village of Eagle, on the Canadian border, some 1,200 miles west to the Bering Sea. Almost all of the 158 miles between Eagle and Circle, another village, lie within the Yukon-Charley Rivers National Preserve. From mid-May to early October the river is ice-free and suitable for canoe travel.

A trip through the preserve requires a minimum of five days, with overnight camps on gravel bars. The river is wide and easily navigated, but headwinds may become treacherous. If so, spend time ashore watching the eagles, peregrines, sandhill cranes, and beavers until the winds abate. Mosquitoes are abundant from May until August.

Throughout the summer the Yukon runs dishwater brown with a grinding load of silty glacial debris. Fishing for pike, grayling, and whitefish is good, however, in the clearer side streams.

Shuttling vehicles from start to finish requires a grueling 500-mile drive, so many floaters rent equipment from outfitters who transport them to put-in points. Purchase as many provisions as possible prior to arrival since supplies in Eagle and Circle are limited and costly.

You will find the Yukon a river of expansive views and hardy adventures. Sounds of wind and water blend with the hypnotic rhythm of the paddle, propelling you on an invigorating journey through land that has changed little in the last few thousand years. For more information: Yukon-Charley Rivers National Preserve, P.O. Box 64, Eagle, AK 99738; (907) 547-2233.

Connie Toops is the author of Birds of South Florida, *and is presently working on a new book about the Everglades. She lived at Buffalo National River for five years and enjoys both river and flatwater canoeing. She last wrote for* National Parks *magazine on national seashores.*

READING THE RIVER

Know the Water: Rapids and hazards are graded on an international scale of river difficulty. Class I water has few obstructions. Waves in Class II rapids may be three feet high, but safe channels are wide and apparent. Open canoes could encounter difficulty in Class III water. Waves are irregular and passages winding, so scout rapids from the shore before entering. Class IV waters are not navigable in canoes.

Know the Weather: Weather conditions can change unexpectedly during a trip. On open lakes, such as at Voyageurs, head for shelter near shore when wind or thunderstorms arise. At Big Bend, winter temperatures may drop from the 70s to the 30s in an hour or two.

On rivers with narrow canyons, thundershowers upstream can create flash floods and raise river levels 10 to 30 feet. Tie your canoe with a long rope and hike to high ground.

Any time the combined air and water temperatures are less than 100 degrees Fahrenheit, hypothermia (loss of body heat) may occur. Dress for the weather, layering clothing so you can add or remove items according to how vigorously you exercise. Wear wool or polypropylene to wick moisture away from your skin. Take extra clothes in a waterproof container.

Carry a first-aid kit and plenty of water. Do not drink river or lake water unless it has been purified. Above all, wear your flotation vest.

Plan Ahead: Obtain park maps and regulations before your trip. Many areas require backcountry permits for overnight stays. Some limit campsite occupancy or prohibit open fires. If you plan to hire an outfitter, call ahead for reservations.

Paddle with at least one other canoe in remote areas, and file a float plan at the nearest ranger station before you depart. Let friends know where you are going and when you plan to return. —*C.T.*

NOTICES

Cooperative Success

The November battlefield conference, cosponsored by NPCA, the National Park Service, and other organizations, was a great success. According to Superintendent Daniel Kuehn of Gettysburg National Military Park, where the event was held, War and Peace: A Conference on Battlefield Preservation and Interpretion "was a fine example of the best relationships between government and private organizations."

What Goes Around

While NPCA already recycles aluminum and paper, the association is working to satisfy all of its office needs with recycled paper. NPCA encourages you to set up recycling programs in your home and workplace.

Fond Farewell

Best of luck to Destry Jarvis, NPCA's former Vice President of Conservation Policy. Jarvis, who has moved on to other conservation work, had been with NPCA since 1972 and is considered one of the most knowledgeable individuals on park issues.

Among his major legislative accomplishments, Jarvis was instrumental in establishing both the New River Gorge National River and millions of acres of parkland in Alaska. His efforts for a comprehensive park policy culminated last year with the publication of NPCA's National Park System Plan.

And the Winner. . .

NPCA received two awards in December. The National Service Agencies (NSA) commended NPCA's leadership role in promoting workplace giving programs. NPCA staffers can now contribute part of their paycheck to any of NSA's charitable programs, which work to solve health, educational, and social problems.

The second award was from the Arizona State Land Department, the Bureau of Land Management, and the Santa Fe Pacific Railroad Company for NPCA's help in negotiating an Arizona land exchange among all of these parties. The result of these efforts benefits the parks. The National Park Service will receive land and rights to some sensitive areas that were acquired by the BLM in the exchange.

A Reminder: NPCA now offers multi-year memberships, which makes renewing more convenient. If you have not received a multi-year renewal, contact Membership Services, NPCA, 1015 Thirty-first St., NW, Washington, D.C. 20007.

Planning Your Park Trip

Summer is not far off and the time to plan a park trip is now. The following is a list of useful guides:

Before planning your trip, read NPCA's brochure,"Visiting the National Parks: How to Have a Quality Experience." It tells you how to get the most out of the parks, while causing the least amount of impact. For a brochure, send a self-addressed, stamped envelope to Grassroots, NPCA, 1015 Thirty-first St. NW, Washington, D.C. 20007.

▲ "National Parks of the United States," a fold-out map, provides information on all units of the park system and major U.S. highways. These maps are free to all new and renewing NPCA members. To order more, write for GPO 024 005 01029-7, $1.25.*

▲ *Index of the National Park System and Related Areas* includes detailed information on historical and natural features of each park and statistics on the park system. GPO 024 005 01024-6, $3.00.*

▲ *Camping in the National Park System* lists parks and campgrounds and provides information on facilities, and limits of stay. GPO 024 005 01028-9, $3.50.*

▲ *National Parks Visitor Facilities and Services* provides information on lodging and details about concessions such as river rafting and horseback riding. Send a check for $4.05 to Conference of National Park Concessioners, Mammoth Cave, KY 42259.

▲ For information on lodging, prices, permits, and fees, try *The Complete Guide to America's National Parks.* Send $9.95 (D.C. residents add $.60 tax) to National Park Foundation, Dept. P.A., Box 57473, Washington, D.C. 20037.

▲ *National Parks: Lesser-Known Areas* gives you general information on parks that lack the crowds, but not the grandeur, of Yellowstone. GPO 024-005-00911-6, $1.50.*

Fees and Passports

Fees: One-third of the parks charge entrance fees. They range from $1 to $4 per private vehicle and $3 to 10 per carload. Campsite fees range from $3 to $10 per night. Group fees may be higher.

You can save money and time by using NPS "passports" to the parks.

Golden Eagle Passport: For only $25, this pass grants you unlimited access to park areas for one year.

Golden Age Passport: Only for U.S. citizens 62 or older, this pass provides free lifetime entrance to the parks and a 50 percent discount on federal user fees. Proof of age required.

Golden Access Passport: Free lifetime entrance permit for permanently disabled or blind persons eligible for federal assistance. You must present documentation of disability.

Passes may be obtained at parks charging entrance fees. You can also obtain the Golden Eagle Passport from the NPS, 18th and C streets, NW, Room 1013, Washington, D.C. 20240.

**G.P.O. books available from Government Printing Office, Washington, D.C. 20402.*

Park Art on Tour

THE 1988 ART IN THE PARKS painting competition has begun touring the country. It is accompanied by an opulent, 100-page, full-color catalogue, which sells for $22. In fact, the catalogue is *so* nice that paging through it is like being invited to a personal viewing of the show.

The park art show will tour the following museums: Neville Public Museum of Brown County, Green Bay, Wisconsin, March 19-May 8; Rockwell Museum, Corning, New York, May 20-July 1; Roger Tory Peterson Institute of Natural History, Jamestown, New York, July 15-August 25.

June 30, 1989, is the deadline for entries to this year's competition. Entries should be unframed and unsigned. The judging and awards banquet will be held on September 15, 1989.

Artwork is submitted and judged by region, but you can choose any unit in the National Park System as your subject. For more information or to receive either the 1987 or 1988 catalogue, call (307) 733-ARTS, 1-800-553-2787, or write Art in the Parks, P.O. Box 1158, Jackson, Wyoming 83001.

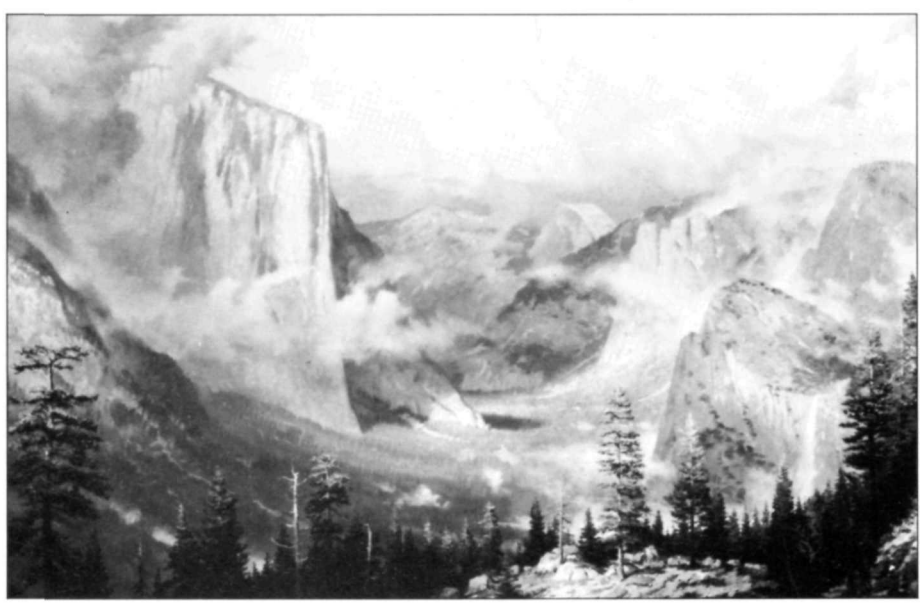
Garden for Peace

The design competition for the Vietnam Veterans Memorial produced one of the most compelling monuments in the country. The black granite wall is a piece of art as well as a memorial. This year, another citizen's group, the National Peace Garden Project, has announced an open competition for the design of a garden in Washington, D.C., that would honor peace.

Six acres at Haines Point in East Potomac Park have already been designated by Congress for the project. The site will be administered by the NPS.

The one-stage competition is open to all American designers—including artists, landscape architects, architects, and

Art in the Parks' 1988 winner: Yosemite, *Artist's Point,* by Thomas Kincade.



sculptors—who are American citizens or legal resident aliens of the United States. Registration closes on May 26, 1989, and designs are due on August 25. For more information, write Peace Garden Design Competition, P.O. Box 27558, Washington, D.C. 20038-7558, or call Christine Cestello at (202) 393-6248.

More from Loren Eiseley

Loren Eiseley was one of America's great poet-scientists. His published prose is highly polished; but Eiseley never wanted his personal notebooks and journals to see the light of day. Few people even knew they existed.

For over a decade since the superb literary stylist "stepped down to lace his bones with ancient dogs and prairie shadows," his "lost notebooks" were stored in his empty study and in the University of Pennsylvania archives.

Now, thanks to his friend and editor Kenneth Heuer, Eiseley enthusiasts can delve into 260 pages of never-before-published notebooks. They include haunting essays, poems, short stories, and observations on the world around us.

The collection provides us with a unique glimpse into the mind of a great naturalist. Here, in the words of Henry James, we can see the "seedwork of art."

The book is not one you'll want to read all at one sitting. Keep it by a favorite chair and every once in a while turn a few pages. —*Bruce Craig*

The Lost Notebooks of Loren Eiseley, Little, Brown, and Company, Boston, hardcover, 260 pages, $22.95.

Final Note: The German Marshall Fund has opened nominations for the 1989-90 Environmental Fellowship Program. Fellows will spend up to two months in two or three European countries. There, they will pursue tailor-made programs on environmental policy-making relevant to their work in the United States.

For information, contact Marianne Lais Ginsburg, Program Officer, German Marshall Fund, 11 Dupont Circle NW, Suite 750, Washington, D.C. 20036 (202) 745-1662. The application deadline is April 30, 1989, and the awards will be announced on June 15, 1989.

Lassen Volcanic

LASSEN VOLCANIC National Park contains nearly every kind of volcanic feature known. It is unmatched in its potential for illustrating volcanic landscapes.

Here, the chain of volcanic eruptions in the Lassen Volcanic National Park area has been unbroken for over two million years. Practically every rock in the park was forged in the throat of an erupting volcano.

Features such as Bumpass Hell, Devil's Kitchen, Sulphur Works, Boiling Springs Lake, and Little Hot Springs Valley almost describe themselves.

Boiling waters, thumping, gurgling mud pots, and hissing steam vents are dynamic links to the active volcanism still present here.

Only a few miles below Lassen Peak, a chamber of partially molten magma drives these active geothermal areas. Water from rain and melted snow seeps through porous volcanic soils and eventually contacts rocks heated to high temperatures by this magma chamber.

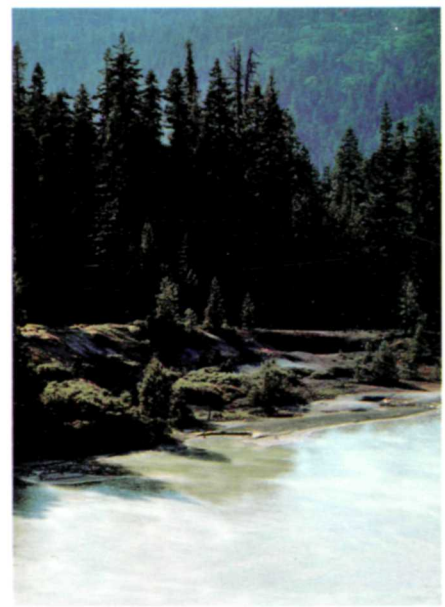
Under intense pressure, this heated water rises to the surface and then escapes as steam, boiling water, or bubbling mud.

Forged by volcanic eruptions, Lassen might be thought to resemble a moonscape of shattered rock and barren cliffs. In fact, continuing volcanism creates a landscape of great variety. Like a kaleidoscope, volcanoes twist the geography of the land into new patterns that become homes for numerous species of plants and animals. It is a land that never seems to grow old but is constantly being renewed.

Excerpted from Lassen Volcanic: the Story Behind the Scenery, *by Ellis Richard; KC Publications, Box 1488, Las Vegas, NV 89114; $4.50.*

PAT O'HARA

RONALD WARFIELD



K.C. DENDOOVEN

Top: Despite active volcanoes, pine and fir forests cover large areas of the park. Different classes of mixed conifer forest occupy different elevations.

Above left: Sulphur Works, one of the smaller geothermal features.

Above right: Boiling Springs Lake, which is perhaps the world's largest body of hot water.

Right: Bacteria in hot springs and steam vents metabolize sulphur in the water into a weak sulfuric acid. The acid breaks down the surrounding rocks into clay minerals, which then sometimes become a mud pot.

K.C. DENDOOVEN

BUMPASS HELL. PHOTO BY JEFF GNASS

We'd like to clean up more than a few bathrooms.

For over 100 years Bon Ami has been demonstrating that you don't have to be tough on the environment to be tough on dirt.

But assuring our children a worthwhile future requires more from each of us than merely doing no harm.

That's why we actively support organizations such as the National Parks and Conservation Association.

And why we ask you to join us.

Thank you.

Faultless Starch/Bon Ami Company, Kansas City, Missouri 64101.