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The Magazine of The National Parks and Conservation Association

MAY/JUNE 1998

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National Parks
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FEATURES

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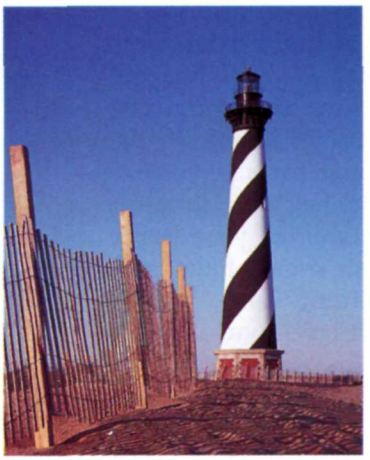

COVER: Cape Hatteras Lighthouse has guided mariners away from Diamond Shoals for more than 100 years. Today, the light is threatened by a rising sea. The Park Service wants to move it inland to protect it. Photograph by A. Blake Gardner.

JON GNASS

PAGE 32

DEPARTMENTS

Parks as Classrooms

The national parks offer important lessons about our past and help to illuminate the future.

ONE OF THE TRUE joys of my job is to hear from you—your thoughts, dreams, and concerns regarding America's national parks. I recently had the chance to read a number of your letters, with some of the most startling and hopeful coming from a fourth grade class at Lawrence School in Middletown, Connecticut.

VICKI PARIS

The students obviously had been studying the wolf reintroduction program at Yellowstone National Park and recent plans to reintroduce the predator at Olympic National Park. While the concern from a number of the students was driven by the "cuddly" and "gentle" appearance of wolves, some of the children were profoundly on point. In particular, I quote: "Wolves are a part of nature, and we should respect that." "People should not be afraid because we need them [wolves], they regulate the elk and deer," and "they [the wolves] are a part of us in a way."

The knowledge and perspective of these students is in sharp contrast to the early policies of the federal government—sanctioned by the public—to remove predators from federal lands. From the late 19th century into the second half of the 20th, wolves were subjected to full-scale slaughter. In Montana alone, between 1883 and 1942 more than 100,000 wolves and their pups were killed to protect livestock and big-game animals. These ruthless campaigns extended into national parks.

It has taken several decades for the public's attitudes to evolve. Although opponents to wolf reintroduction are vocal, widespread public support exists for these plans. The change is profound in illuminating the path ahead. Our future leaders are beginning to understand that our management of the national parks needs to be more holistic and comprehensive. These children do not want our natural resource parks to be zoos for certain species; they are calling for fully functioning ecosystems that include and celebrate the full spectrum of species and relationships.

We have come a long way in our understanding of the need for improved resource protection. When you visit the parks this summer, enjoy the vistas, the grand landscapes, and the voices and artifacts from the past, but do not be satisfied with a superficial understanding of the resources of the parks. With your family, friends, and children, look beyond the vistas for knowledge and truth, as the fourth graders at Middletown's Lawrence School are doing regarding the wolves. Whether the parks will exist in their intricate grandeur for future generations depends on what you learn and teach this summer when visiting the parks, and what future fourth graders write to my successor.

Thomas C. Kiernan
President

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ABOUT NPCA

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

WHAT WE DO: NPCA protects national parks by identifying problems and generating support necessary to resolve them. Through its efforts, NPCA has developed a base of grassroots support that has increased effectiveness at local and national levels.

WHAT WE STAND FOR: NPCA's mission is to protect and improve the quality of our National Park System and to promote an understanding of, appreciation for, and sense of personal commitment to parklands.

HOW TO JOIN: NPCA depends almost entirely on contributions from our members for the resources essential for an effective program. You can become a member by calling our Member Services Department. The bimonthly *National Parks* magazine is among the benefits you will receive. Of the $25 membership dues, $3 covers a one-year subscription to the magazine.

EDITORIAL MISSION: The magazine is the only national publication focusing solely on national parks. The most important communication vehicle with our members, the magazine creates an awareness of the need to protect and properly manage the resources found within and adjacent to the parks. The magazine underscores the uniqueness of the national parks and encourages an appreciation for the scenery and the natural and historic treasures found in them, informing and inspiring individuals who have concerns about the parks and want to know how they can help to improve these irreplaceable resources.

MAKE A DIFFERENCE: A critical component in NPCA's park protection programs are members who take the lead in defense of America's natural and cultural heritage. Park activists alert Congress and the administration to park threats; comment on park planning and adjacent land-use decisions; assist NPCA in developing partnerships; and educate the public and the media about park issues. For more information on the activist network, contact our Grassroots Department, extension 221.

HOW TO DONATE: NPCA's success also depends on the financial support of our members. For more information on special giving opportunities, such as Partners for the Parks (a monthly giving program), Trustees for the Parks ($1,000 and above), bequests, planned gifts, and matching gifts, call our Development Department, extensions 145 or 146.

HOW TO REACH US: We can be reached the following ways: National Parks and Conservation Association, 1776 Massachusetts Avenue, N.W., Washington, DC 20036; by phone: 1-800-NAT-PARK; by e-mail: npca@npca.org; and http://www.npca.org/ on the World Wide Web.

EDITOR'S NOTE

Responsibility

The more we learn about nature, the more we realize both how delicate and how resilient it is. Barrier islands are a fragile environment, yet they survive the fury of 100 mph winds. They are designed by nature to be dynamic. Trouble begins when humans build structures on them that are designed to be permanent.

At Cape Hatteras, the Park Service is faced with a dilemma. A lighthouse is in danger of tumbling into the sea. The barrier island on which the lighthouse sits is doing what it's supposed to do: shift. The Park Service wants to move the lighthouse out of harm's way, but residents fear the move will destroy it.

At Yellowstone, an alien trout threatens a native cousin. A misguided angler introduced the alien fish, believing he or she was improving on nature. The lake's ecosystem is an intricate system. Any change upsets the balance.

The lesson both of these stories share is that whenever humans try to improve on, control, or otherwise transform nature, trouble starts. Nature is resilient, but not so much so that it can overcome all human-induced disruptions.

Fortunately, many all of us are aware of our effects on nature. More visitors are participating in a program that encourages taking responsibility for our actions. In this issue, you will find a story that explores the concept of ecotourism, an approach that emphasizes understanding rather than interference.

As you prepare to travel to your favorite parks this summer, remember that these special places are available to be enjoyed because others have worked hard to protect them as they are. Can anyone really improve on nature? Too much evidence exists to show us the folly of that approach.

Linda M. Rancourt
Editor-in-Chief

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Manassas Bypass, On the Road, Personal Watercraft

Roads Most Traveled

I was copied on a letter you recently received from Dave Kruse ["Letters," January/February], which highlights some of the issues and concerns the National Park Service is faced with in its park roads and parkway program.

His letter is right on the mark, although I would like to clarify that the $120 million need mentioned in his letter is the amount required only to prevent further deterioration of the paved park road and parkway infrastructure due to a poor or failed condition. The Administration's proposed park roads funding legislation recommends $161 million annually, with the additional funding to be used to implement alternative transportation systems in selected parks and completion of congressionally authorized parkway projects.

Robert Stanton
Director of National Park Service
Washington, DC

Manassas Bypass

The Park Service needs to do a better job of sustaining the Manassas National Battlefield in Virginia. ["News," March/April] One of the ways to do that is to bypass the heavily trafficked roads around the park. The funds for this are not available today, but until then, the park needs to be a good neighbor.

There were 73 collisions reported at the intersection of Rts. 29 and 234 from 1994 to 1996, an accident rate that made it "very hazardous." These findings are from a 1996 Park Service study. These are not just statistics. Families have been severely affected by these accidents. A good neighbor cannot just sit back and do nothing.

That's why I have supported the Virginia Department of Transportation's (VDOT) proposal to add safety-enhancing turn lanes at this intersection. The Park Service has mischaracterized this initiative. VDOT's idea is simply to add left turn lanes at the very busy intersection of two-lane roads. This would entail taking strips of land nine or ten feet wide alongside the roads. When money is made available to direct traffic around the park, land will be restored.

The American Automobile Association (AAA) agreed to be a mediator in discussions between VDOT and the Park Service. I wrote to Robert Stanton, director of the National Park Service, and Tom Farley, VDOT district administrator, urging them to work with AAA.

Obviously, good people can disagree, and I appreciate those who don't share my views. But as one who represents the people who live here, I cannot sit by and allow one more person to be injured on those roadways. We don't want to see another situation six weeks from now or six months from now in which someone else's mother or sister or brother is injured or killed. My job is to protect the safety and interests of the people who live in my district and those who visit the park. Something must be done, it must be done soon, and it can be done in a way that enhances the park. I hope the Park Service will join in the effort to accomplish this. Not only will it improve safety, but it will make all parts of the park more accessible for visitors.

Frank R. Wolf
U.S. Representative
(R-Va.)

Call of the Wolves

About the only dreariness we have confronted in the 13 years of retirement living a few miles from Olympic National Park has been the irrational anti-park attitude of a very few agitators ["The Music of the Woods," January/February]. As they appear to be unaware of the excellent quality of life afforded and economic stability provided, they must be overlooked.

With few exceptions, the park personnel have performed admirably in preserving the area in accordance with scientific natural resource management practices. The overwhelming majority of nearby residents can live in harmony with the wolves and scientific management to preserve this enchanting and unique corner of the lower 48 states.

John D. Borah
Sequim, WA

I think it would be a big mistake to return wolves to Olympic National Park ["The Music of the Woods," January/February]. There is no point in putting wolves back in Olympic National Park if they are going to be murdered by ignorant inhabitants of the area. Wolves are so magnificent that they deserve a better shake than that.

Florence Orth
Dallas, TX

Gettysburg Tower

While in agreement with your opposition to the placement of communication towers on national parklands, which I urge you to continue to oppose, I would also seek a renewed effort to remove one of the worst eyesores at any national park. I refer to the observation tower at Gettysburg. While I am sure that you have spoken out against this intrusion in the past, a renewal is in order.

David Gulvin
Lincoln, RI

Personal Watercraft

Regarding the letter written by Candace Jordan ["Letters," January/February], yes, responsible riders are a help, but you cannot change the nature of the beast. Personal watercraft are an environmental nightmare, as are most watercraft. They are powered by two-stroke engines, which burn oil along with gas, and no emission controls have ever been mandated by the Envir-

ANSWER TO "YOU ARE HERE"
Devils Tower National Monument, Wyoming

onmental Protection Agency.

Regardless of how polluting or noisy they are, we have to draw a line somewhere. Some places are sacred. PWCs, motorcycles, four-by-fours, and the like already dominate the majority of state land. Take a walk on your state land sometime; you cannot escape the tracks scarring the landscape.

PWCs have their place, but it is not in our national parks. Are PWC owners so enraptured with their machines that they cannot appreciate the solace the parks offer?

To loosely quote the late Edward Abbey, "We don't drive our cars into our churches, so why should our parks be any different? Are they not also sacred?"

Christopher R. Steiner
Traverse City, MI

Maureen Macdonald's comparison of personal watercraft to cars and trucks ["Letters," November/December] is, of course specious nonsense. Cars provide basic transportation in our society and trucks are a vital component in our nation's system of commerce. PWCs, on the other hand, are purely for the recreational use of self-absorbed thrill-seekers who are too lazy to pick up a canoe paddle or learn how to sail.

With respect to Ms. Macdonald's statement that a ban on PWCs is the "easy way out," sometimes the easy and obvious solution to a problem is also exactly the appropriate one. PWCs should be banned from all national parks.

Dave Thomas
Chicago, Il

Parks in Partnership

After reading ["Parks in Partnership," January/February] and having been to Canyon de Chelly last summer, I support the idea of a partnership at this national treasure. My wife and I had the opportunity to hike six miles in the canyon with a Navajo guide. He shared with us a personal history of the area. His family still owned land in the canyon, and he showed us petroglyphs and pictographs that we never would have seen if we were allowed to hike the canyon ourselves. We spent four hours learning about another culture, to which the history books on the Southwest do not devote much attention.

I hope to visit the other national treasures that are in partnership care.

Tom Beatini
via e-mail

Florida Panther

I am very concerned for the Florida panther's future ["On the Edge," November/December, 1997]. I fear that there is none.

The U.S. Fish and Wildlife Service has proposed opening the Florida Wildlife Panther Preserve for recreational purposes—fishing, hunting, hiking, camping, etc. When something is so rare and endangered and on the verge of extinction, how can the government think of opening this area up to recreation?

My greatest frustration is that no one seems to care and that the fight is doomed...just as the panther is.

Maybe someone who has more "pull" would listen and could make a difference. I sincerely hope so, or our children and grandchildren will not know what a natural habitat is.

Nancy J. Smith
Naples, FL

NPCA
Park News

BY KATURAH MACKAY

99 Budget to Address Backlog

Changes in place to evaluate and prevent unneccessary construction expenditures.

WASHINGTON, DC—President Clinton's 1999 budget proposal for the National Park Service (NPS) includes a $94.2 million increase in funding over the FY 1998 enacted level—with its biggest financial boost going to maintenance needs. The increase brings the agency's overall budget to $1.8 billion.

Routine upkeep programs will receive $22.6 million—a 95-percent increase from FY 98—while $37.4 million will go to repairing facilities that are in a more advanced state of decline.

NPCA supports the administration's efforts to reduce the repair backlog, but not at the risk of neglecting the natural and cultural heritage contained within the system's 376 units. For example, according to a 1997 analysis compiled by NPCA, the 20,000-acre Colorado National Monument employs only one permanent staff member dedicated to resource management. NPCA's 1997 analysis found that this unit alone required an estimated quarter of a million dollars in funding for backcountry cultural resource protection work. In 1999, the entire natural resource inventory and monitoring program for the Park Service, which enables NPS professionals to assess resource threats and formulate protection plans, will see an increase of only $2 million.

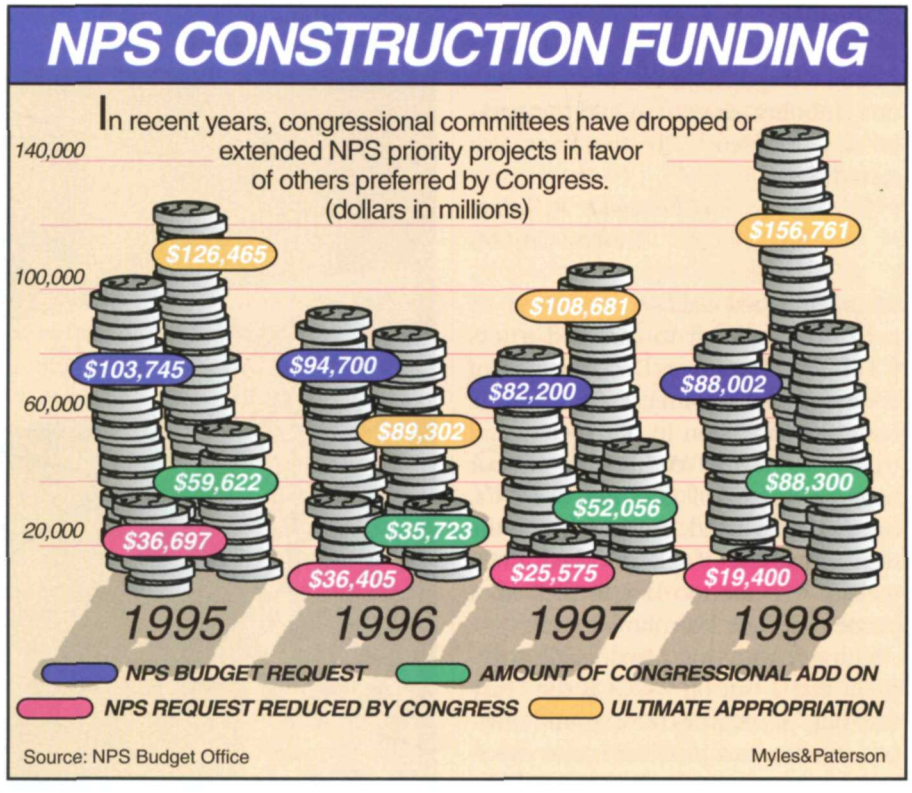
"If it takes allowing the paint to peel and the potholes to accumulate to save species and restore habitat, then that's what we should do, not the other way around," says Kevin Collins, NPCA legislative representative.

The Park Service points out that many maintenance projects will also contribute to resource protection, such as repairing a badly needed sewer line that threatens the groundwater of the Old Faithful area in Yellowstone National Park or repairing the leaking roofs of historic structures at Gettysburg National Military Park.

"Director Stanton and the National Leadership Council realize that the agency's management priorities and funding allocations in the future must reflect broader support for natural resource stewardship, science, and cultural resource management," says David Barna, NPS chief of communications. "They are committed to developing a strategy that significantly strengthens our ability to address these needs."

Another challenge for the Park Service has been restoring credibility to its methods of financial management. A $333,000 restroom facility in the Delaware Water Gap National Recreation Area and a $584,000 ranger home in Yosemite National Park provided excuses for Congress to question the Park Service's list of priority projects.

Consequently, the Department of the Interior and NPS have convened a working group to evaluate and recommend funding for those projects that are most critical among natural and cultural resource needs. The Interior department is



also formulating a five-year plan to address a comprehensive list of the priority maintenance projects compiled by all land management agencies. In the five-year period, only those projects listed will be considered for funding and completion. Furthermore, Interior Secretary Bruce Babbitt has asked the National Academy of Public Administration to evaluate the role of the NPS Denver Service Center, which oversees the Park Service's construction planning, contracting, and design program.

To make room for its own projects, Congress often eliminates NPS proposed projects or extends them over several years. NPCA finds that in the last 12 years, Congress has funded 466 more construction projects, totaling more than $888 million, than were officially requested by NPS. Although the Park Service speculates that its plan for a five-year priority list may bring more discipline to the Interior appropriations process, it will not preclude congressional additions.

Political influence is often an important factor in setting funding priorities. In the last four years, the Delaware Water Gap National Recreation Area alone received more funding for new buildings and trails than Yellowstone, Grand Teton, Glacier, and all other national parks in Wyoming, Idaho, and Montana combined. Rep. Joseph McDade (R-Pa.) oversees the Water Gap's district and is a senior member of the House Interior appropriations subcommittee.

Thanks to Sen. Robert Byrd (D-W.Va.), currently the ranking minority member on the Senate Appropriations Committee, a $2.5-million-dollar restored train station in historic Thurmond, West Virginia, population of eight, now serves as a visitor center for the New River Gorge National River. These types of projects skew priorities and substantially reshuffle the Park Service's restricted funds.

The Park Service has attempted several new programs to help alleviate its funding shortages (see page 17, "Legislative Watch"). NPCA insists, however, that it is inexcusable for Congress to substitute these efforts for expected yearly appropriations.

ADJACENT LANDS

Mining Could Imperil Park Watershed

Springs of first national scenic river at risk from contamination.

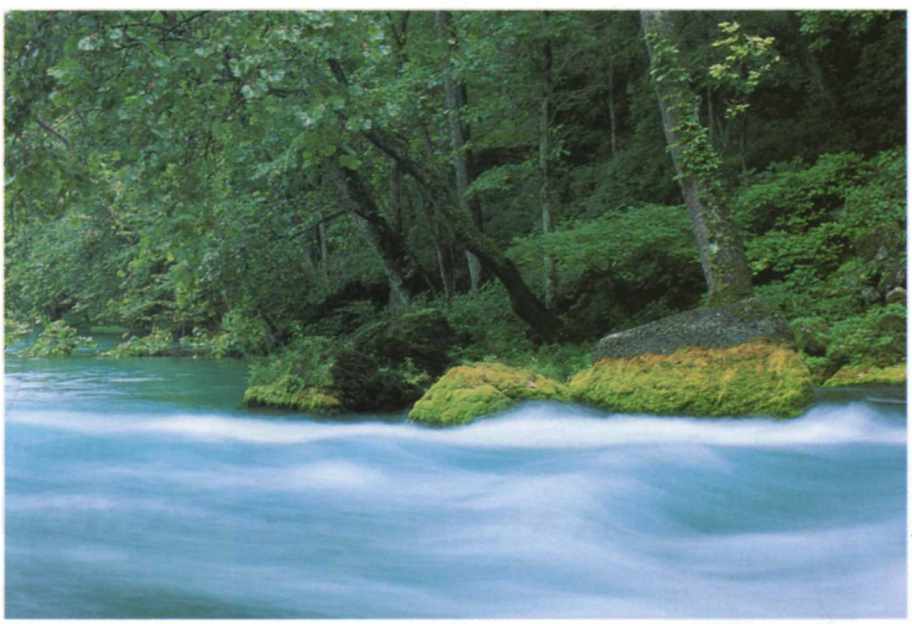
VAN BUREN, MO.—NPCA and its environmental partners are fighting proposed lead mining in the Mark Twain National Forest that may degrade a major watershed of the Ozark National Scenic Riverways.

The Doe Run Mining Company must seek approval from the U.S. Forest Service and the Bureau of Land Management (BLM) for exploratory drilling in the national forest near Big Spring, one of the largest freshwater surface springs in the nation. The company is seeking permits that would allow prospecting within the recharge zone for Big Spring and several other headwater streams in the park. NPCA supports the NPS position in favor of denying the exploratory permits and withdrawing the park's entire watershed from this and any future mining ventures.

"We are at the prime stage of the review process to consider a withdrawal of lands from mining," says Lori Nelson, NPCA's Heartland regional director. "We hope the Department of Interior will be courageous enough to take a bold approach in the face of serious pressure from the mining company and its allies."

More than 134 miles of clear, spring-fed streams and lush vegetation make up the Ozark riverways, which flow between two tracts of the Mark Twain National Forest in south-central Missouri. BLM owns the subsurface mineral rights in the forest. Although sister agencies within the Department of Interior are required to consult with each other, the current statutory and regulatory structure does not require BLM to consider impacts to parklands not within its jurisdiction. The Park Service has very little influence in this decision, yet it is arguably most affected by it.

The Ozark riverway is sustained by complex and unpredictable karst geology, an irregular system of limestone formations with sinks, underground streams, and caverns. Limestone disintegrates quickly, and there is very little soil through which water can leach and become purified. Contamination from potential lead mines would be difficult to predict, monitor, and contain. Furthermore, the Ozark riverway area is



RICHARD DAY/DAYBREAK IMAGERY

Missouri's Big Spring would be threatened by lead mining near Ozark riverways.

located in an earthquake zone, which only increases the risk that technology will not prevent pervasive, harmful contamination to the watershed.

If valuable lead ore is found as a result of Doe Run's exploratory drilling, it will be virtually impossible for the federal government to thwart full-scale mining operations. Denying the company mining rights would inevitably lead to a choice between permitting mining or being liable for buying out Doe Run's interest in the deposit.

"All the data thus far indicates that there will be significant impacts to the water quality and quantity," says Ozark Superintendent Ben Clary. "Our feeling is that if they find anything, the only way to protect riverway resources is to engage in a buyout."

TAKE ACTION: Write to Interior Secretary Bruce Babbitt and urge him to refuse all mining permit requests in the Ozark watershed and demand that the BLM prepare a full-scale EIS. Address: Bruce Babbitt, Secretary of the Interior, 1849 C St., N.W., Washington, DC 20240.

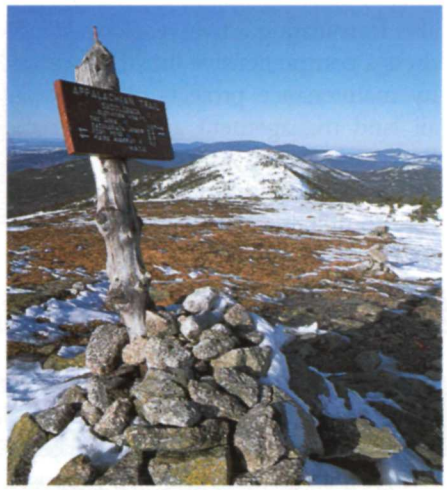
RESOURCES

Ski Area May Scar Scenic Trail

Expansion plans cater to skiers rather than hikers.

RANGELEY, MAINE — Imagine reaching the windswept peaks of Saddleback Mountain, near the end of a serene hike on the Appalachian Trail in Maine. You anticipate a glorious view, only to see the surrounding landscape strewn with ski trails, ski lifts, snowmaking pipelines, and other ski-related development amidst a swath of cleared forest. This may become a reality if a landowner wins a 12-year struggle with the National Park Service over plans to expand his ski area on the largest remaining unprotected segment of the Appalachian National Scenic Trail.

Nearly three miles of trail that cross the long, open Saddleback ridgeline in north-central Maine are known for rare alpine vegetation and glacial rock formations—much of which already has been declared unsuitable for skiing by Maine's Land Use Regulation Commission (LURC). Claiming that skiers have as much right to the mountaintop as hikers, landowner Donald Breen intends to use part of his 12,000 acres to expand the existing Saddleback ski area by as much as ten times its current capacity. The proposed expansion includes many miles of new ski trails and as many as eight new lifts, some within a few hundred feet of the trail and the alpine tundra areas of the mountain.



J. ANDREW WALSH

Sweeping vistas such as this would be marred by Breen's ski proposal.

Breen is interested in an area known as the "bowl" of Saddleback Mountain, an untouched stretch of forest that dominates scenic views for hikers on the Appalachian Trail. Breen's expansion plans entail cutting into the alpine forest of the bowl to bring lifts and trails to higher elevations.

In November 1997, the Park Service completed an appraisal and ski area feasibility study, which stated that the existing Saddleback ski area could sustain much of the increased skier use that Breen wants—four times the current capacity—simply by upgrading existing ski facilities and adding three lifts that are already approved by Maine's LURC. In the last decade, Breen has invested very little capital in the ski area despite these approvals.

The Appalachian Trail Conference (ATC), which manages the 2,160-mile trail from Maine to Georgia through its 31 affiliated hiking and outing clubs, is

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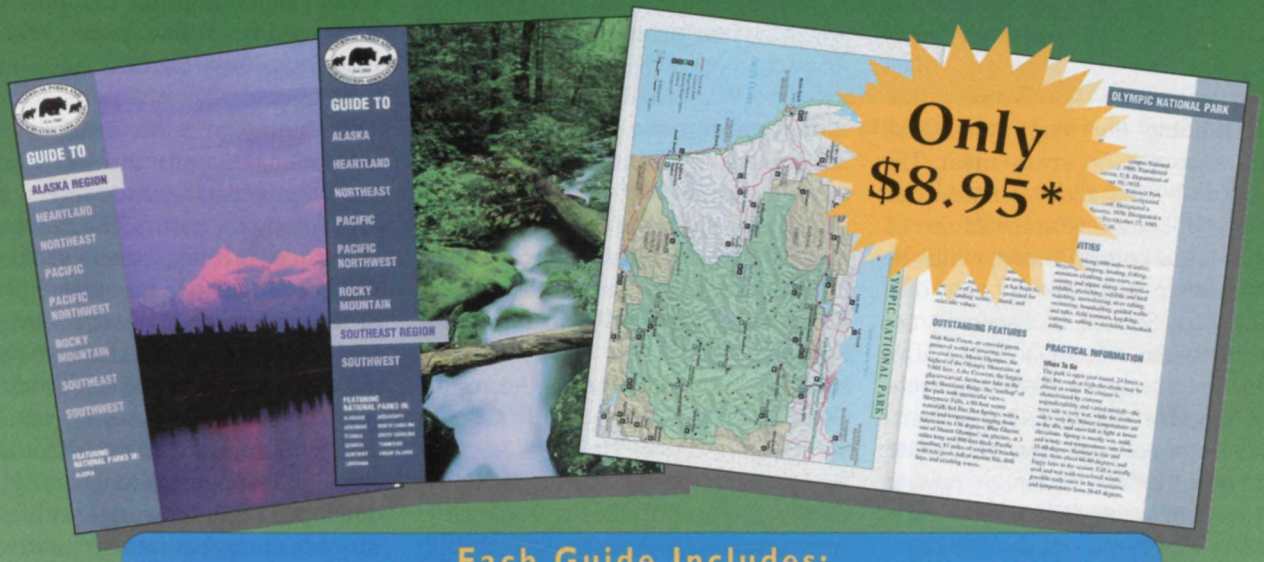

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NEWS UPDATE

▶ **NIOBRARA:** NPCA has filed a lawsuit against the Department of the Interior and the National Park Service (NPS) for an agreement that allows a local council to manage the Niobrara National Scenic Riverway. According to the council's agreement with NPS, the council has primary management authority over the federally designated wild and scenic river, which means the waterway will receive federal funding but requires minimal NPS oversight or involvement. The council's bylaws allow four counties in the Niobrara region ten of the 15 votes on the council board, while the Park Service is limited to only one. "The Park Service is essentially reduced to the role of administrative clerk and a budget pass-through vehicle," says Lori Nelson, NPCA's Heartland regional director. ✍ **TAKE ACTION:** For information on how to get involved with NPCA on this issue, contact Lori Nelson in the Heartland regional office at 612-735-8008; fax: 612-735-8011.

▶ **PWCS:** As the Park Service devises a proposed rule that would prohibit the use of personal watercraft (PWC) throughout the Park System, NPCA urges its members to write to the agency and stress the following points: All parks, both where PWCs are currently used and where they are not, should undergo the same rule-making process; decisions about whether or not to allow PWCs in a particular park should be made through a specialized public regualtion process, not by individual determinations by superintendents. ✍ **TAKE ACTION:** Stress the importance of the above issues in a letter or phone call. Address: Dennis Burnett, Dept. of the Interior, NPS Ranger Activities Division, 1849 C St., N.W., Rm. 7408, Washington, DC 20240; phone: 202-208-7675; e-mail: dennis_burnett @nps.gov

most concerned about aesthetics and physical impacts to resources along the trail. The group maintains that development on both sides of the mountain will squeeze the Appalachian Trail between two highly developed areas. Ski trail crossings of the footpath will be necessary to reach all of the slopes and facilities Breen is proposing.

"It's pretty much a given that the scene you see from the trail now won't be the same a few years down the road," says Dave Startzell, ATC's executive director.

Intending to reach a timely settlement, Sen. Olympia Snowe (R-Maine) has attempted to facilitate several meetings among the parties. The Park Service has made an offer, based on the November appraisal, to purchase 893 acres of Breen's property—the estimated minimum amount needed to protect the trail corridor along the Saddleback spine. Breen and his lawyers responded with a proposed 350-acre "donation," although Breen wants to retain rights to develop ski-trail crossings, ski lifts, and snow-making equipment across the "donated" area.

"Encroaching development is chipping away at the scenic integrity of the Appalachian Trail throughout its entire length," says Eileen Woodford, NPCA's Northeast regional director. "Accepting Breen's 'donation' would contribute further to the degradation of America's oldest national scenic trail."

NPS will prepare an updated environmental assessment that will be open to public comment possibly by late summer or early fall.

✍ **TAKE ACTION:** Write to Sen. Snowe and urge her to reject a "donation" that would defile the scenic beauty of the Appalachian Trail. Address: Olympia Snowe, 250 Russell Building, U.S. Senate, Washington, DC 20510; 202-224-5344; e-mail: olympia@snowe.senate.gov. Contact the National Park Service to comment on the environmental assessment. Address: NPS, Appalachian Trail Park Office, Harpers Ferry Center, Harpers Ferry, WV 25425; phone: 304-535-6278; e-mail: APPA_Project_Office@nps.gov. Web site for trail information on the Saddleback issue: www.matc.org/trlissue.htm.

Trail to Freedom Awaiting Passage

Program will unify sites related to pivotal abolitionist movement.

WASHINGTON, D.C.—Legislation to create an extensive, illuminating program for interpreting the struggles of runaway slaves may become burdened with unrelated anti-park attachments as the bill moves through Congress.

Recently NPCA brought civil rights and environmental groups together to keep the National Underground Railroad Network to Freedom Act clear of an anti-park add-on in the House. Rep. Don Young's (R-Alaska) proposal would have constructed a 30-mile, potentially perilous road through the Izembek National Wildlife Refuge in Alaska.

Because of its relatively uncontroversial nature, legislation such as the Underground Railroad bill is highly prone to irrelevant amendments that would otherwise be difficult to pass through Congress on their own. It was unclear at press time whether more provisions will be added to the Senate version of the bill, but NPCA is working hard to thwart further attachment efforts and keep the legislation clean of harmful, anti-park riders. A final bill may not emerge from Congress until the end of the session in October.

NPCA's grassroots department has secured Tony Award-winning, two-time Grammy nominee Melba Moore as a national spokesperson for the legislation (see Notes, p. 43). Her time and support will be used to promote the bill and foster public interest in linking both federally and privately owned sites to interpret the Underground Railroad.

"This network will provide our youth with a better understanding of the institution of slavery, the progress we have made as a country, and the opportunity to visit a time in our history when many of us put aside our differences and awakened to the fact that if one of us was enslaved, we were all enslaved," says Iantha Gantt-Wright, NPCA's cultural outreach manager.

VINCE DEFOREST, NATIONAL PARK SERVICE

Home of Harriet Beecher Stowe, author of *Uncle Tom's Cabin*, in Cincinnati, Ohio.

Traveling often on foot and under the cloak of darkness, African Americans who braved the "freedom train" left few records of their stops. It has been a painstaking task for historians to piece together their mysterious routes, especially in southern states. National Park Service (NPS) officials have visited numerous sites and communities to verify tunnels, artifacts, burial sites, and written documentation of the thousands of slaves who used the secret network, which is known to stretch internationally from Canada to the Caribbean and parts of Mexico.

The Park Service will oversee the network by weaving widespread state and federally managed sites and institutions into a cohesive, coordinated, and technically supported program. The agency will decide a site's inclusion in the network, based on its proven historical

REGIONAL REPORT

News Briefs from NPCA's Regional Offices

ALASKA Chip Dennerlein, Regional Director

▶ Denali National Park faces a serious threat from potential private development on a former mining claim in the park. A parcel of land located on Spruce Creek was purchased by an individual with intent to develop commercial lodges and acquire surface access to the property. NPCA believes strongly that development of lodging facilities and transportation routes in the Spruce Creek area, a critical riparian corridor for wildlife, would severely compromise Denali's future as a wilderness park and preserve. **TAKE ACTION:** Write to the Park Service and urge them to purchase the Spruce Creek area to halt damaging development proposals. Address: Superintendent Steve Martin, Denali National Park and Preserve, P.O. Box 9, Denali Park, AK 99755.

HEARTLAND Lori Nelson, Regional Director

▶ As it prepares to develop a general management plan, Voyageurs National Park is considering the location and extent of motorized recreational uses in the park, including personal watercraft (PWC). A significant portion of the park is currently managed as wilderness, and if officially designated as such, motorized uses such as PWCs would be prohibited in these designated areas. NPCA supports a ban on PWCs at Voyageurs NP and elsewhere. **TAKE ACTION:** Write to the superintendent at Voyageurs and support a ban on PWCs. Address: Superintendent Barbara West, Voyageurs National Park, 3131 Highway 53, International Falls, MN 56649; e-mail: voya_ superintendent@nps.gov.

NORTHEAST Eileen Woodford, Regional Director

▶ NPCA submitted written testimony at a Senate subcommittee oversight hearing to discuss the issue of a proposed visitor center and museum at Gettysburg National Military Park. NPCA detailed its concerns about the proposal, reiterating its support of a public/private partnership to construct the facilities, but the association will only support a proposal that meets the highest and strictest standards. For viewing of NPCA's testimony on the Gettysburg proposal, please visit our Web site at http://www.npca.org/testify/ewget98.html.

PACIFIC Brian Huse, Regional Director

▶ Yosemite National Park has received approximately 4,000 comments on its Valley Implementation Plan (VIP) and efforts to restore some of the natural beauty of Yosemite Valley. This is the greatest public response to any proposal since Yosemite's 1980 general management plan. The Park Service has begun re-evaluating the transportation and parking portion of the plan and will soon be releasing an addendum that will be open for further public comment. NPCA will notify its members when this new information is available.

continued

connection to the abolitionist movement. A site's participation would be entirely voluntary in the program, which allows for considerable interpretive and structural creativity. For example, a visitor to any Underground Railroad site—historic structure, museum, or educational institution—may be able to tap into a larger, computer-based information network and see how that site played a role in the 19th-century crusade to move slaves northward. The program may encourage eligible sites to pursue recognition for their historic significance, either at the state level or from the National Register of Historic Places.

NPS now protects 27 sites associated with the Underground Railroad. Long unrecognized for its importance in the abolitionist movement, the John Parker House in Ripley, Ohio, was dedicated in 1997 by NPS as a national historic site. Not only was Parker's home notorious for harboring runaways, but Parker was a freed slave himself who aided the escape of 900 others. The agency has identified nearly 400 other sites that could be included in the program.

"The Underground Railroad was one of the most social and humanitarian movements in history because of the diversity of individuals who, by merely being human, urged themselves to do the right thing," says Vince deForest, special assistant to the director of NPS' Underground Railroad Initiative.

LITIGATION

Landfill Proposal Gets Dumped

NPCA garners victory for Joshua Tree National Park.

TWENTYNINE PALMS, CALIF.—NPCA has won its lawsuit against Kaiser Ventures over the proposed Eagle Mountain landfill to be located next to Joshua Tree National Park. The project, surrounded on three sides by the park, would have brought irreversible dam-

age to one of the last unaltered ecosystems on the planet.

"We have stated all along that placing what would have been the world's largest landfill next to Joshua Tree National Park is inappropriate in the extreme," says Brian Huse, NPCA's Pacific regional director.

San Diego Superior Court Judge Judith McConnell ruled that Kaiser Ventures' revised environmental impact report (EIR) failed a second time to address serious environmental impacts on the park from the 1,500-acre landfill. Organisms foreign to Joshua Tree's delicate ecosystem would have been transported via approximately 20,000 tons of garbage daily, which also would have attracted ravens and kit foxes that prey on endangered desert tortoises. Kaiser's second EIR ignored the landfill's potential to severely alter the park's wilderness character, and it neglected to substantiate their claim that the company would take measures to protect the desert tortoise from predators.

NPCA filed the lawsuit in 1992 in response to Kaiser's first EIR, which was rejected and directed for reissue by Judge McConnell in 1993. In the fall of 1997, the company received approval for building the dump from the Riverside County board of supervisors, but NPCA petitioned Judge McConnell that the second EIR be returned to the court for additional review.

"It is extremely unusual for a court to reject an EIR for a second time," says Jan Chatten-Brown, an attorney who filed the petition on NPCA's behalf. "This sends a strong message to supporters of the dump that they will have to be straight with the public about what the damaging impacts of this project will truly be."

NPCA is expecting and preparing to counter any further action from Kaiser Ventures, such as an appeal of Judge McConnell's ruling or another rewriting of the environmental impact report.

"The Park Service is thrilled with the judge's decision," says Joshua Tree Superintendent Ernie Quintana. "She held firm that the EIR was inadequate in protecting Joshua Tree's wilderness character and the endangered desert tortoise."

LEGISLATIVE WATCH

▶ **MAJOR PARK LEGISLATION:** A new bill, introduced by Sen. Craig Thomas (R-Wyo.), could change important revenue sources for national parks through fee collection, filming permits, and concessions reform. Although NPCA has stated that a number of provisions in the bill need amendment, NPCA has applauded Thomas for his attention to the Park Service's growing financial woes.

One provision of the bill supports extending the current fee demonstration program, an experiment that bolstered park fee revenues in 1996 by 88 percent with only 97 units participating. An estimated $142 million in additional funds is expected from the program in 1998.

Thomas' legislation also addresses the potential for increased revenue from filming companies that use national parks for settings in movies, television commercials, and photography. The bulk of these fees would be directed to a variety of high-priority projects that directly affect the visitor experience, such as improved resource protection.

The bill outlines methods to overhaul the NPS concessions system, but NPCA dislikes a provision that removes 85 percent of park business contracts from competitive bidding. The provision requires new concessioners to pay departing business owners for their capital investments.

Thomas' bill also provides an important research and inventory program and new park unit standards.

As the bill moves through Congress, NPCA will work with a variety of park friends groups, other concerned organizations, and Sen. Thomas to revise, strengthen, and improve the final legislation.

REGIONAL REPORT *continued*

PACIFIC NORTHWEST

▶ To secure the future of its 10,000-year-old calcite formations and intricate mineral deposits, Oregon Caves National Monument is seeking to expand its boundaries by 3,000 acres and develop a more solid interpretive program. The boundary expansion would better protect the cave's hydrology and public water supplies. NPS wants to fully manage cave interpretation and establish a visitor center. NPCA will support the monument's efforts to improve protection of cave passages through the unit's new management plan.

ROCKY MOUNTAIN **Mark Peterson, Regional Director**

▶ Located in south-central Utah, Capitol Reef National Park preserves an unspoiled landscape of canyons, colorful domes, and escarpments, including the 100-mile-long Waterpocket Fold. The 242,000-acre park is developing its general management plan (GMP), which will guide park management for the next two decades. The draft GMP is available through mid-June for public comment. NPCA supports preserving the park's wilderness characteristics, maintaining the Burr Trail and other park roads in their current condition, and increasing interpretive facilities in its Fruita Historic District. **TAKE ACTION:** Support NPCA's recommendations and request a copy of the GMP. Address: Superintendent Charles Lundy, Capitol Reef NP, HC-70, Box 15, Torrey, UT 84775; 801-425-3791.

SOUTHEAST **Don Barger, Regional Director**

▶ At a scoping hearing regarding the proposed Fall Line Freeway to connect three Georgia cities, NPCA submitted oral comments on the principal, pertinent issues facing the Ocmulgee National Monument and the surrounding Muscogee traditional cultural property (see News story, November/December 1997). NPCA stressed that the project had direct and cumulative impacts for the natural and cultural significance of the area. **TAKE ACTION:** Write to the Georgia Dept. of Transportation and ask to be put on the mailing list to comment on the draft EIS and for all other information regarding the proposed road project. Address: David E. Studstill, State Environmental/Location Engineer, Georgia DOT, Box 421909, Atlanta, GA 30342.

SOUTHWEST **Dave Simon, Regional Director**

▶ The Vanishing Treasures program received no increase in funding in the proposed NPS FY 99 budget. NPCA strongly supports putting dollars into the program, which will improve the care of deteriorating historic, pre-historic, and archaeological resources in 41 southwestern parks through stabilization work and training of preservation specialists. **TAKE ACTION:** Write to the chairmen of the Interior Appropriations subcommittees and request $3.5 million in FY 99 for Vanishing Treasures. Address: Sen. Slade Gorton, 131 Dirksen, Washington, DC, 20510; Rep. Ralph Regula, B-308 Rayburn, Washington, DC 20515.

ADJACENT LANDS

Road May Carve Hallowed Ground

Proposed connector to encroach on major Civil War battlefield.

CHANCELLORSVILLE, VA.—The Commonwealth of Virginia has approved a four-lane highway to bypass the city of Fredericksburg, a project that will slice through lands eligible for the National Register of Historic Places and terminate less than a mile from National Park Service (NPS) lands at Chancellorsville Battlefield.

Virginia's approval of the road comes despite vigorous objections by several Virginia conservation groups and NPS. Not only would the highway inevitably encourage development on both sides of its corridor, but the proposed connector would also necessitate another bridge over the Rappahannock River, which has been highlighted by NPS for potential designation as a national wild and scenic river. For 20 miles northwest of Fredericksburg, the Rappahannock is protected by the city as one of the longest wilderness river corridors in the eastern United States.

Four major battles of the Civil War are represented at Fredericksburg and Spotsylvania County Battlefields Memorial National Military Park (NMP), where the wide Rappahannock waters protected Confederates from the Union Army. Although the Confederacy secured a victory at Chancellorsville, it was here that the South's legendary leader, Stonewall Jackson, was killed accidentally by his own men.

"This project has huge implications for Chancellorsville Battlefield and the river," says Sandy Rives, superintendent at Fredericksburg and Spotsylvania County NMP. "A virtual city that will engulf our slim holdings at Chancellorsville is almost inevitable."

Located approximately 50 miles south of metropolitan Washington, D.C., Fredericksburg and its western suburbs have produced a fast-growing

population of commuters whose only routes north to Washington are Interstate 95 or Route 1.

Many of the farms and fields that were present during the days of the Civil War are under siege as bulldozers tear up the land daily to accommodate burgeoning new growth. Currently, as much as 40 to 50 percent of the Fredericksburg and Spotsylvania County battlefields are not owned by the Park Service and are therefore vulnerable to the development onslaught.

"It's hard enough to protect the battlefields as they are," says Eileen Woodford, NPCA's Northeast regional director. "This highway is guaranteed to open rural farmlands—where men fought and died—to suburban strip malls, office parks, and sprawling housing developments."

Increasing congestion and the prospect of rising populations in both Stafford and Spotsylvania counties led to a formal study and proposal for the "outer connector" in 1995 by the Virginia Department of Transportation (VDOT). The department's draft environmental impact statement clearly states that the proposed connector "could ultimately become the northwest quadrant of a circumferential highway around the City of Fredericksburg." This likely means the development of what many call a "beltway"—similar to the lengthy loop around Washington, D.C., that often stalls to a virtual parking lot during rush hour.

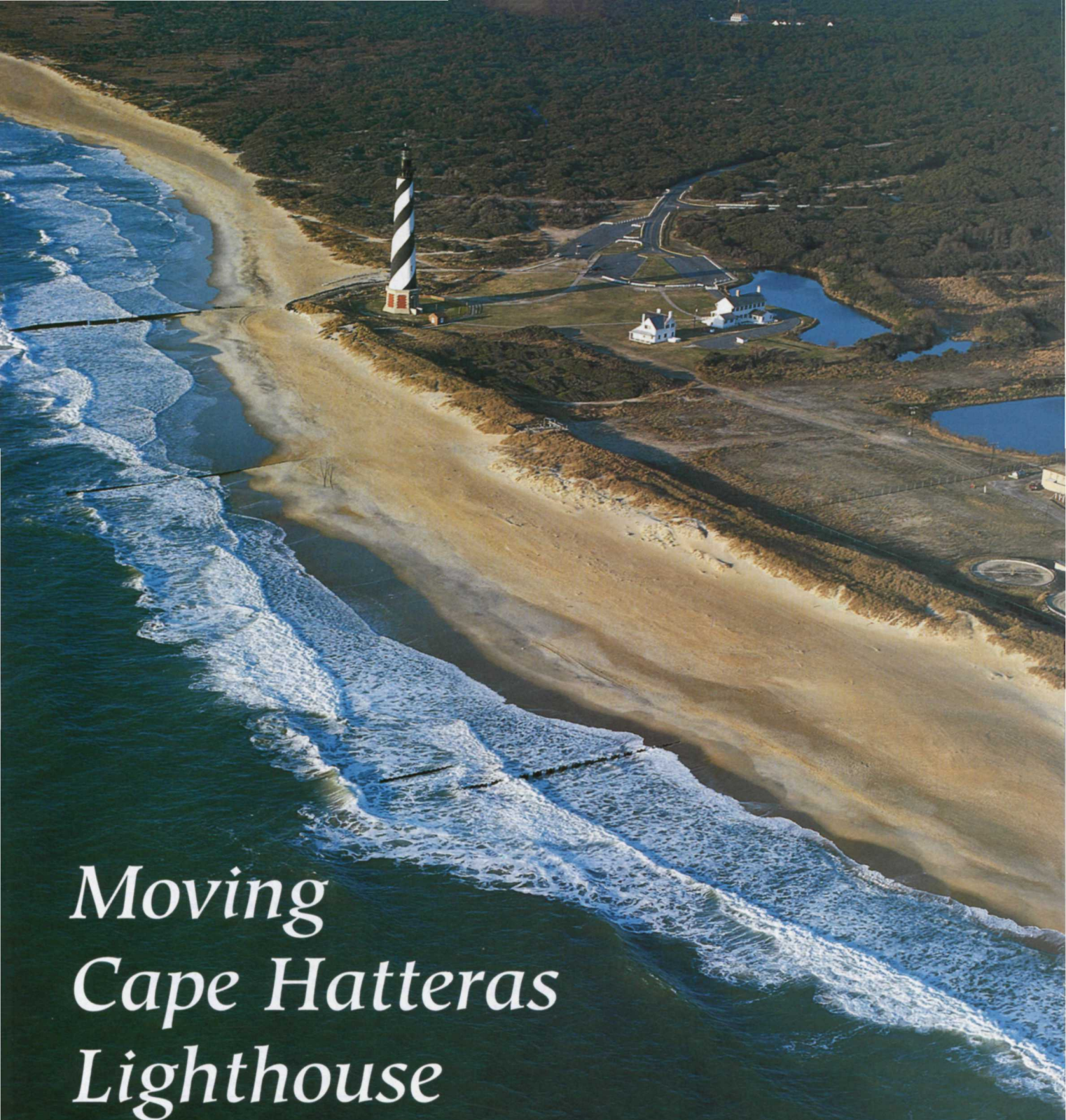
VDOT's draft EIS indicates that, of the five corridor alternatives considered, corridor #1 would have the largest impacts on wetlands, endangered species habitat, cultural and natural resources, battlefield sites, and the scenic nature of the Rappahannock River.

Yet corridor #1, estimated at $100.5 million and one of the more costly of the five, is the commonwealth's first choice. Although the project may be a limited-access roadway, traffic noise and the possible loss of 14 miles of forested lands would change the entire character of the Chancellorsville landscape.

"Chancellorsville represents the epitome of Robert E. Lee's generalship," says Al Eisenberg, NPCA's deputy director of conservation policy, who has studied the Civil War extensively. "Ironically, it cost him his best general and set the stage for the Battle of Gettysburg, Lee's greatest defeat. It was an exceedingly important battle."

Thus far, according to Rives, VDOT and the Federal Highway Administration have not addressed the project's impacts. Rives acknowledges the traffic problems in the region, but, he adds, "the solutions need not come at the expense of one of the most significant historic landscapes in the country."

TAKE ACTION: Express your firm opposition to further degradation of the Chancellorsville Battlefield by the construction of the outer connector around Fredericksburg. Address: Governor James Gilmore, Office of the Governor, State Capitol, Richmond, VA 23219; phone: 804-786-2211; or Secretary of Transportation Rodney Slater, U.S. Department of Transportation, 400 7th St., S.W., Washington, DC 20590; phone: 202-366-1111.



Moving Cape Hatteras Lighthouse

The sands of time are literally running out at Cape Hatteras, where one of the most famous lighthouses in the country may be a storm away from tumbling into the sea. The Park Service wants to move the cultural icon 1,600 feet inland.

BY WENDY MITMAN CLARKE

TO APPRECIATE THE SIZE of North Carolina's Cape Hatteras Lighthouse, first you must climb its steps. All 255 of them. Then, while you stand some 200 feet above the sea catching your breath, look to the dolphins dancing in the waves below, to the Atlantic breaking on Diamond Shoals, to the clouds riding the warm breath of the Gulf Stream just a few miles east. All the world seems to move around you and this lighthouse, so immutable and enduring.

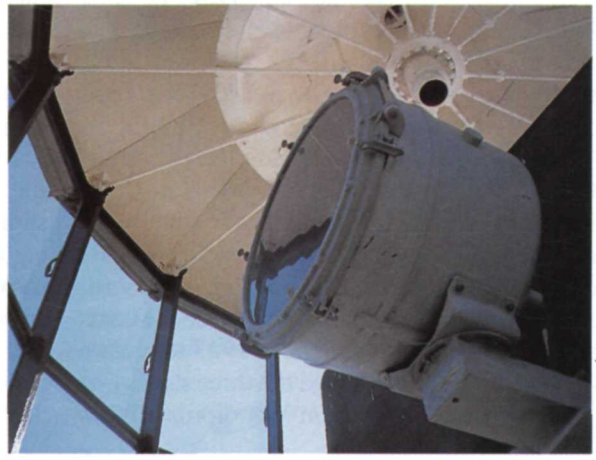
All the world *is* moving around the lighthouse: the water, the clouds, and most significantly, the sand on which it sits—and that is the problem. When the light was built at Cape Hatteras National Seashore in 1870, it stood 1,500 feet from the ocean. Now it is about 120 feet. The beach erodes roughly ten feet a year, according to recent studies. And the National Park Service (NPS), North Carolina's governor and General Assembly, and the National Academy of Sciences say that is too close. They want to move the lighthouse and its associated buildings 1,600 feet inland and 2,500 feet southwest.

"Emotionally, when you look at something that big and you think about moving it, yeah, it does give people pause," says Sean Callinicos, general counsel for Sen. Lauch Faircloth (R-N.C.). "But most folks think this is a good idea."

The NPS proposal to move the light, says Don Barger, NPCA's Southeast regional director, "recognizes the essential nature of a barrier island." Because those islands move, Barger explains, "anything constructed on them is almost by definition temporary unless you're willing to move with the island. The effort to try to fight the natural movement of the island by continuing to just berm up the lighthouse would result in its loss."

The magnitude of the task required, however, has fueled a debate over its advisability. "It's a high risk that shouldn't be taken unless you've got to," says Hugh Morton, president of Save the Cape Hatteras Lighthouse Committee, "and we don't think they've got to."

Opponents argue that moving the lighthouse will cost a fortune (about $12 million, to be exact), endanger a national historic monument, and ruin the character of the historic site and North Carolina's hottest tourist draw. Instead, they propose spending about $1.7 million to build a groin into the sea in front of the lighthouse. Such a structure off the beach, they say, will help sand to accrete and protect the light for at least a few more decades.



MARCIA LYONS/NPS

Cape Hatteras Lighthouse, the tallest in the country, was built to warn mariners away from Diamond Shoals, an area just south of the cape.

"Out here, we deal in short-term responses to Mother Nature," adds Danny Couch, who has lived on Hatteras Island all his life. "We just feel that to propose a 100-year solution on a barrier island that is forever changing is somewhat far-fetched. For a lot less money you can do a 25- to 30-year solution with a minimum of disruption."

The debate over whether to move the lighthouse likely will continue much of this year. Experts say the optimum window to move it is spring 1999, after nor'easter season and before hurricane season. Congress last fall appropriated $2 million for the Park Service to develop a plan and solicit bids. Project manager Dave Laux expects NPS to choose a contractor by June. The rest of the contract—$9.8 million for the actual move—is on hold until Congress passes the fiscal 1999 budget and appropriates the money, potentially not until the end of the year. Meanwhile, Rep. Walter Jones, Jr. (R-N.C.) held a public meeting in April to air the pros and cons, and opponents still hope to convince Congress to hold up the money and stop the move.

Everyone agrees on one thing at least: Cape Hatteras Lighthouse deserves protection. The tallest in the country and with a candy-striped tower, the light is perhaps the most compelling single symbol of our nation's maritime history, drawing more than 250,000 visitors annually. Built to warn mariners away from Diamond Shoals, the 2,800-ton brick lighthouse stands on a bed of red granite. The foundation rests no more than eight feet beneath the sand on a pine timber mat under the freshwater table. Near the lighthouse are an 1892 brick oil house used to store kerosene to fuel the light, as well as two keeper's houses, one built in 1854 and the other in 1871. All are on the National Register of Historic Places.

Though it has withstood the wildest weather on the East Coast, the lighthouse's weakness is the very island on which it stands. Efforts to slow the sand's inevitable movement began as early as the 1930s and have included building artificial dunes and steel or concrete groins; replenishing the beach with sand; and planting real and artificial seagrass to hold the sand in place. In 1936, the Coast Guard so doubted the lighthouse's future that it built a steel light tower at Buxton to assume its duties. But by 1950, the lighthouse was still standing, and the Coast Guard resumed operations there under an NPS permit. It remains a working aid to navigation.

NATURAL EROSION and moving sand have always threatened the light, but human intervention has complicated matters. In 1969, three steel groins were built from the beach. Two of them were built just north of the lighthouse in front of a former naval facility. The third is built about 100 feet south of the

TOM TILL

Cape Hatteras Lighthouse sits 120 feet from the ocean. The beach erodes about ten feet per year.

lighthouse. The groins work to build up sand. But they also erode the beach just south of the groins. In 1988, when the National Academy of Sciences (NAS) studied the lighthouse and options to save it, 160 feet of beach separated the lighthouse from the sea. By 1995, it had shrunk to 135 feet, and as of October 1997, the distance had shrunk to about 120 feet.

The NAS report studied a variety of options for saving the lighthouse, including moving it all at once, moving it a little now and a little later, and building artificial reefs, a seawall, and offshore breakwaters. The National Park Service followed up with studies of specific options and concluded that moving it is the best choice for long-term preservation. An ad hoc committee at North Carolina State University last year reached the same conclusion: "If Cape Hatteras Lighthouse is to be preserved for enjoyment by future generations, it must be moved. Since 1988, additional information about the structure geology of the Hatteras shore, the rate of shoreline retreat, the rate of sea-level rise, and coastal storms indicates that unless the lighthouse is moved, it will be destroyed by the Atlantic Ocean."

"We feel the research and the data substantiate the direction in which we're going," says project manager Laux. "Until the light moves there's always going to be concern about whether or not it can be done. That's the nature of the project. It's a very emotional issue for folks [but] we think it's doable and our confidence level is pretty high."

So, how crazy is it to move a lighthouse?

Not very, using history as a guide, says Wayne Wheeler, president of the San Francisco-based U.S. Lighthouse Society. The Lighthouse Service, he says, has "actually constructed structures that could be moved. The cast iron lighthouse at Cape Canaveral was moved twice, and the lighthouse at Hunting Island, S.C., was moved twice."

Sharps Island Lighthouse in the Chesapeake Bay at one time was a house literally built on wheels and constantly moved to outrun erosion. The north tower at Chatham on Cape Cod, Massachusetts, was moved in 1923 to replace three lights—called the three sisters—at Nauset, says Eileen Woodford, NPCA's Northeast regional director.

OK, but how scary is it to move a 2,800-ton lighthouse?

"Not at all," says Joe Jacubik, project manager for the Buffalo-based industrial smokestack firm, International Chimney Company, which has been moving tall masonry structures for some time.

In 1993, International Chimney and the Sharptown, Maryland-based Expert House Movers, relocated the 120-year-old, 2,000-ton Southeast Lighthouse on Block Island, Rhode Island, with its priceless Fresnel lens. Using a system of tracks and hydraulic jacks, the companies built a grid of beams through the lighthouse's foundation, lifted it, and inched it 360 feet. The operation also included the attached keeper's quarters. The move earned the National Trust for Historic Preservation's 1994 International Preservation Honor Award.

Last year, the same companies moved the 3,000-ton Gem Theater in Detroit, sliding the 1920s vaudeville house eight blocks to a new home. They also moved a 135-foot, 350-ton brick smokestack in State College, Pennsylvania. And in 1996, they moved two historic lighthouses at Cape Cod National Seashore, the Nauset and Cape Cod (also known as Highland) lights.

Cape Cod Light, which is about 140 years old and 66 feet tall, weighs 450 tons. International Chimney and Expert House Movers moved it 450 feet back from an eroding bluff. The move cost $1.7 million and took a month and a half. At 150 tons and 48 feet tall, the 120-year-old Nauset Light was a little easier, moving 150 feet for about $300,000.

"Granted, none of these is as heavy as the Cape Hatteras Lighthouse," says Jacubik. "But the frailty of the structures is all very similar. The problems you're going to have with one, you're going to have with the next."

Opponents remained unconvinced that the lighthouse can be moved unscathed. Those opposed—who include a majority of Hatteras Island locals and the Dare County commissioners—argue that moving the light so far inland will diminish its draw for tourists

PHOTO COURTESY OF INTERNATIONAL CHIMNEY

International Chimney and Expert House Movers successfully relocated the 120-year-old Southeast Light on Block Island, Rhode Island, in 1993.

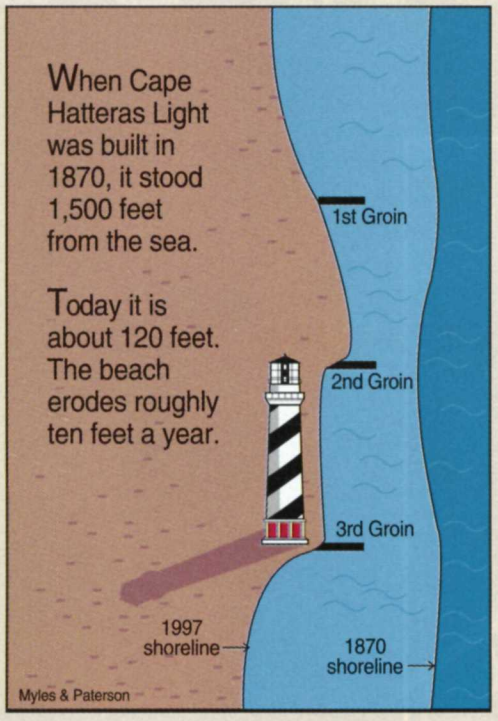
The Dynamics of Sand

THE BEACH at Cape Hatteras National Seashore may seem like solid ground, but the footprints you leave—soon washed away by the Atlantic Ocean—tell the real story.

"Barrier islands are probably one of the most dynamic systems geologically that we have," says Dr. Suzette Kimball, the National Park Service's southeast associate regional director of natural resource stewardship and science, who was acting superintendent at Hatteras from September 1996 through January 1997. "They are influenced by wind, waves, tidal regimes, and by the amount of sediments available."

Mid-Atlantic barrier islands constantly reshape themselves. In winter, nor'easters—storms coming from the north—drive sand north to south. In summer, the Bermuda high pressure system that dominates the Atlantic pushes swells—and sand—northward. At Hatteras Island, Kimball says, nor'easters pack a bigger punch, so the beach is generally heading south.

The sand's movement also is cyclical, she says. The shoreline may build in years when sand moves offshore, either pushed by a stronger wave pattern or when fewer storms arrive to push it back out.



Robert Dolan, a University of Virginia environmental sciences professor who specializes in coastal erosion and storms, says Hatteras Island erodes about four to five feet per year on average. But that number is higher in some areas, such as just south of the lighthouse, where the sand disappears at a rate of about ten to 12 feet each year.

The movement is caused by two groins built in 1969 just north of the lighthouse and a third to the south. Both hero and villain, the groins have slowed the erosion rate north and seaward of the light but have hastened it immediately south.

"It's really within one or two big storms of breaching [the sand and passing behind] the lighthouse," Kimball says. "Once it cuts off the lighthouse there will be some really rapid undercutting and the lighthouse will be in grave danger. That's why taking a wait-and-see approach is not in the best interest of preserving that structure."

—WMC

and its status as a regional and state symbol. And more fundamentally, they say moving it threatens to destroy something priceless to the community.

"The lighthouse to local people is not about science and feats of engineering," says Couch. "It's about history." Local groups, for instance, helped fund both lighthouse moves on Cape Cod and agreed to take on future maintenance. Superintendent Maria Burks credits community initiative and long-term community commitment for saving those landmarks. "These are small towns here," she says, "and these lights are icons. People just weren't willing to give that up."

On Cape Hatteras, most local residents feel strongly about the lighthouse; however, the same options are not available. Couch, the county commissioners, and others say the best option is a proven one: building a groin off the beach in front of the lighthouse.

Couch points out that, if they had constructed a fourth groin when the other three were built, the lighthouse would not be in the predicament it is now. His solution: repair the third groin and install a fourth one south of the light. "It has a proven track record," he contends.

There is a major stumbling block, though. In 1984, the state Coastal Resources Commission passed regulations prohibiting any such structures for the very reason that they interfere with the barrier island's natural movement. The commission did make an exception in the late 1980s, allowing a groin to be built at Fort Fisher in Wilmington, a historic stone and earthen fort threatened by erosion. Couch and others say it should make a similar exception at Hatteras.

But NPCA's Barger says in this case, the artifact can be moved and the beach left alone, and that's the best of both worlds. "If you try to berm up the lighthouse, you're going to be eroding the seashore, so trying to save the cultural resource in place damages the natural resource," he argues. "This is not a case where the two things are in competition with one another. There is in fact a solution that preserves both, and they [the Park Service] have found it."

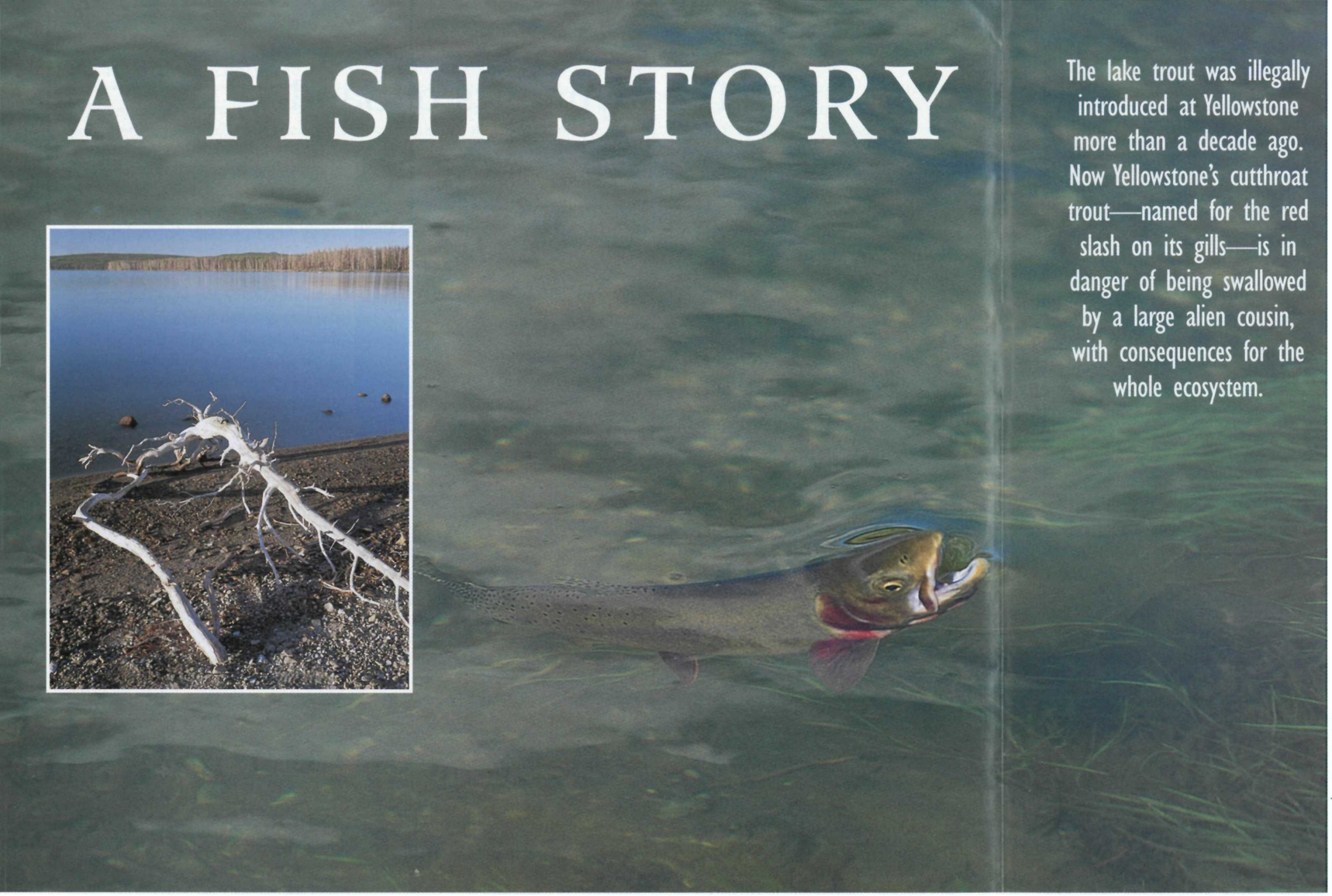
No matter what happens, it's safe to say that the lighthouse at Cape Hatteras—just as lighthouses all around the country—will continue to impress and challenge the Park Service and people who love them.

"Lighthouses, even though they may not be used as aids to navigation, symbolize a lot about our nation's maritime history," says NPCA's Northeast Regional Director Eileen Woodford. "And they're beautiful. You hate to see them tumble into the ocean, and they're never going to be built again."

WENDY MITMAN CLARKE *of Stevensville, Maryland, last wrote for* National Parks *about looting park treasures.*

A FISH STORY

The lake trout was illegally introduced at Yellowstone more than a decade ago. Now Yellowstone's cutthroat trout—named for the red slash on its gills—is in danger of being swallowed by a large alien cousin, with consequences for the whole ecosystem.



JEFF AND ALEXA HENRY/INSET: WILLARD CLAY

Yellowstone Lake, inset, is the largest lake in the West with healthy populations of native cutthroat trout, considered among the world's most beautiful fish.

BY GEORGE WUERTHNER

YELLOWSTONE National Park is well known for many superlatives and achievements: first national park in the world; home to the largest number of geysers and thermal features on the planet; site of the first successful effort to save a nearly extinct species (the bison); and acclaimed for possessing all of the native species it had when the park was established more than 125 years ago. A lesser-known yet extremely significant accomplishment is the national park's role as a sanctuary for the genetically pure Yellowstone cutthroat trout.

In the Western United States, where native fish have not fared well, the Yellowstone cutthroat is in better shape than most. This comparative advantage exists largely because the heart of its range overlaps Yellowstone, where years of protection have isolated the fish from many problems faced by other native cutthroat subspecies.

Named for the red slash on its gills, the cutthroat is one of the most beautiful trout in the world, typically a golden hue with black spots and pinkish-rose sides and throat. This fish once had the widest geographic distribution of any native trout in the West, with 14 subspecies ranging from New Mexico to Alberta and from the Rockies to the Pacific Northwest and southeast Alaska. Despite this huge geographical range, the cutthroat as a species has not fared well: Two subspecies are extinct, ten have suffered steep declines, and only two are thought to be holding their own.

Logging, removal of stream water to irrigate ranches and farms, trampling of riparian habitat by livestock, and hybridization and competition with introduced fish have all taken their toll. The declines have been so severe that the majority of cutthroat subspecies are listed as federal endangered species, and several more are currently under study for potential listing under the Endangered Species Act.

Like other subspecies of cutthroat trout, the Yellowstone cutthroat has declined in numbers across its geographic range. The Montana Department of Fish, Wildlife, and Parks has designated it a "species of concern," meaning that the department considers its future in the state imperiled. Even in Yellowstone, the fish's stronghold, "Only 10 percent of the original stock of genetically pure stream-inhabiting Yellowstone cutthroat trout are still intact today," says Yellowstone National Park fishery biologist Jim Ruzycki.

Nevertheless, according to Ruzycki, Yellowstone Lake is the last large lake in the West with healthy native cutthroat trout populations. The fish is now a key part of the park's ecological balance.

IN THE FIRST HALF of the 20th century, human activities put cutthroat populations in Yellowstone National Park at risk. Commercial fishing (catching fish to feed tourists) and sport fishing removed millions of large trout. Although commercial fishing ended in 1917, aggressive individual fishing continued, so that by the 1960s, Yellowstone Lake's trout fishery had collapsed. In response, the Park Service adopted new regulations in 1975, requiring anglers to return unharmed to the lake all trout larger than 13 inches.

These new regulations, designed to protect spawning-age fish stock, worked better than anyone had imagined. As a result, the lake's cutthroat population underwent a major turnaround, and trout size and numbers increased dramatically. Within a decade, people were again catching dozens of fish a day—nearly all of them larger than 13 inches—and throwing them back. Unlike other cutthroat populations, the future of the Yellowstone subspecies appeared assured.

But happy anglers were not the only consequence. Where spawning runs had previously dwindled to a trickle of fish, thousands of adult Yellowstone cutthroat trout averaging 16 to 20 inches long now jammed the more than 100 spawning streams that enter Yellowstone Lake. As the trout recovery continued, animals from bald eagles to river otters began to use the spawning streams as a food source.

To biologists, the most exciting effect of the growing trout population was the increasing consumption of spawning trout by the park's largest predator—the grizzly bear. "On the good fishable spawning streams, bears can capture a lot of energy efficiently," says grizzly bear management biologist Kerry Gunther. "I watched one bear catch 20 trout in a half hour," Gunther says. "The fish provide grizzlies with one of the highest energy sources per kilogram of food of any resource in the park."

The timing of the spawning run from late May through June is another reason the cutthroat trout is so valuable to bears. At that time of year, grizzlies have just come out of hibernation and need to replenish their energy supplies, but there's not a lot of other food around. Dan Reinhart, management biologist for the Lake District, affirms that "trout are an early season food that helps bears recoup hibernation losses." And it's not just grizzlies that benefit. Gunther says he has seen black bears, mink, otter, and coyotes fishing in the spawning streams—and perhaps even wolves may benefit.

BY THE EARLY 1980S, the restoration of Yellowstone Lake's cutthroat fishery was hailed as a major conservation success story. But the cheering stopped in the summer of 1994, when rangers were presented with a lake trout by an angler who claimed it was taken from Yellowstone Lake. Park officials were dumbfounded. Lake trout are voracious predators of the cutthroat and were not supposed to be in Yellowstone Lake at all. A few days later a second lake trout was caught and reported. Fearing the worst, park officials set gill nets in the lake and immediately captured a few more.

The undisputed presence of those fish prompted park officials to go back and check angling record cards, which all fishers in Yellowstone turn in when they leave. What they found was not reassuring. It turned out that anglers had reported catching lake trout from Yellowstone Lake every now and then for ten years or so. However, none of the fish was brought in for verification, and officials had assumed lake trout reports were the result of misidentification by inexperienced anglers.

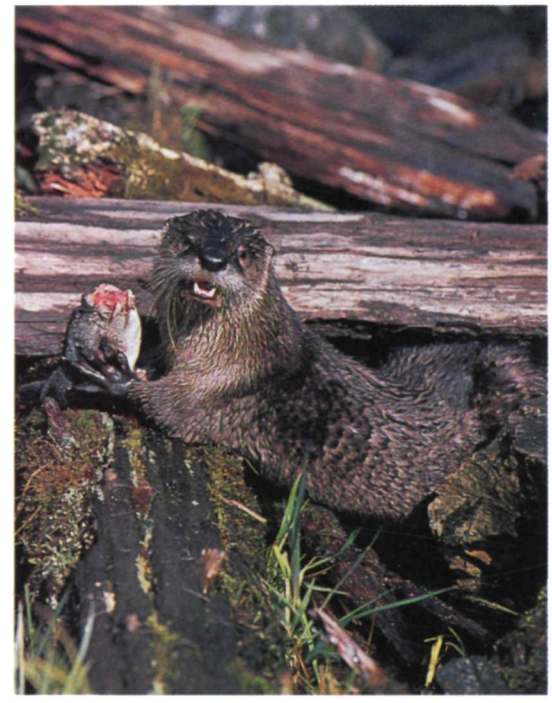
How long lake trout have been in Yellowstone Lake isn't known for certain. According to Stu Coleman, chief of Yellowstone's natural resources branch, the trout were probably introduced be-

tween 30 and 50 years ago. As Coleman explains, "The fish don't mature until they are five years of age, and we have taken some fish that are 18 to 20 years old. They are likely the offspring of fish that were originally introduced."

The fact that few lake trout were caught all these years isn't difficult to explain. Lake trout prefer very cold water, so they appear in shallow water only just after the ice thaws in the spring and just before the lake freezes in the fall. Fishing is closed in the lake during both of these seasons. During the summer, when fishing season is open and the lake is accessible to anglers, lake trout are usually found in waters 50 to 100 feet deep, far below the average depth most people fish.

Exactly how lake trout got into Yellowstone Lake remains a mystery. The fish is not native to the Yellowstone area or even to the West. Its natural range includes most of the northern-tier states from Maine to Minnesota and across Canada into Alaska. Lake trout found in the western United States south of Glacier National Park are almost exclusively the result of introductions.

In the past, stocking exotic fish to improve angling was standard practice for natural resource agencies. Like an army of aquatic Johnny Appleseeds, government employees and private individuals planted non-native fish willy-nilly across the landscape without regard to existing fish populations or the biological consequences. Yellowstone was not immune to this practice. Non-native fish including brook, brown, and rainbow trout were all successfully introduced into some Yellowstone waters. However, there is no record of lake trout being introduced into the lake by the Park Service or anyone else. The most plausible explanation for their presence is that an angler clandestinely planted them there once in a mistaken—not to mention illegal—attempt to improve fishing.



THOMAS KITCHIN/TOM STACK & ASSOCIATES

River otter are among the animals that rely on Yellowstone's cutthroat trout as a valuable food source.

JEFF AND ALEXA HENRY

The lighter colored lake trout, voracious predators, can grow quite large, dwarfing the cutthroats on which they feed. Lake trout may have been introduced to Yellowstone Lake between 30 and 50 years ago.

The damage caused by lake trout extends beyond the desire for ecosystem purity. Lake trout are voracious predators, and they grow quite large. Commercial fishermen in the Great Lakes have caught lake trout of up to 100 pounds. By the time they are about 13 inches long, they begin to feed heavily on other fish. Since Yellowstone Lake has just a few species of fish, the only real prey for lake trout are cutthroats. Fishery biologist Jim Ruzycki says a mature 30-inch lake trout will eat about 90 cutthroats a year: "Since they can eat fish up to half of their body length, there aren't many cuts invulnerable to this."

Whether the lake trout are already affecting the population of cutthroat trout is open to some debate. "We've seen lower numbers of spawning fish in streams for the past few years," says Gunther. "Yet, this past year, spawning fish num-

bers have gone up, except for the West Thumb area, where lake trout are concentrated." While it is tempting to blame the lake trout for these declines, there may be a number of other factors at work. For instance, serious drought in the early 1990s could have affected fish populations.

If left uncontrolled, however, lake trout could come to dominate Yellowstone Lake, which biologists speculate will have significant ramifications for both cutthroat and Yellowstone's other wildlife. Unlike cutthroat trout, lake trout spawn in deep water in the fall, so they are unavailable as a food source to most of the park's wildlife.

The animal garnering the most concern is the park's grizzly bears. Yellowstone National Park's grizzlies have a limited menu of potential food sources compared with other bear populations. Wipe out the trout, and the survival of the entire Greater Yellowstone grizzly bear population may be in jeopardy. In a study done in the early 1990s, Dan Reinhart estimated 44 different bears were eating from spawning streams. This number may represent one-fifth of all grizzlies in the Greater Yellowstone ecosystem.

THE PARK SERVICE is not waiting to see whether lake trout create a problem; it is hoping to halt the problem before it gets worse. One way to reduce lake trout recruitment is gill netting the fish on their spawning beds. "It turns out that lake trout have a real fidelity to certain spawning grounds," says Yellowstone's Coleman. "They usually spawn in ten to 30 feet of water over rocky bottoms."

Finding spawning beds within a 90,000-acre lake isn't easy. To locate these breeding areas, Park Service biologists imbedded radio transmitters inside captured lake trout and released them back into the lake. Radio-tracking the movement of these fish allowed biologists to discover several major spawning areas. Once these sites are identified, gill nets are used to capture mature breeding fish. To avoid capturing cutthroat trout, the park uses nets with holes large enough for most cutthroats to swim through unharmed.

The results have been heartening. According to Dan Mahony in 1996, about 200 lake trout were captured over spawning beds near Carrington Island in West Thumb. In 1997, the Park Service removed another 240 fish from the same spawning site. Because each mature breeding female trout produces 5,000 to 10,000 eggs, Mahony says the capture of spawning fish should reduce the number of lake trout significantly over time.

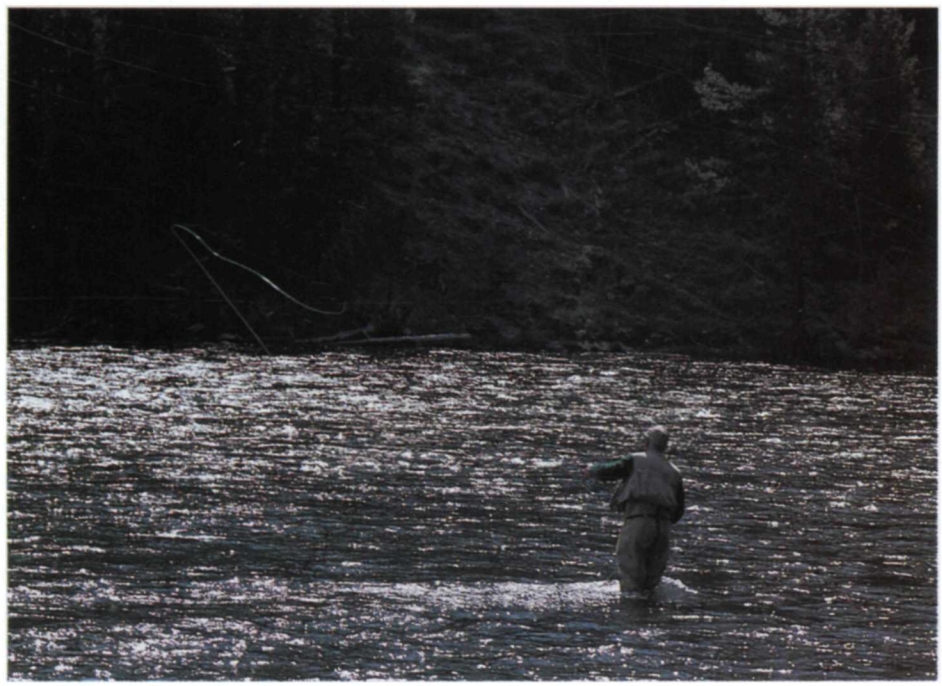
But gill netting is not the only method being used. Yellowstone is getting plenty of assistance from anglers, who are encouraged to keep as many lake trout as they can catch. To enhance the angler take of fish, the Park Service plans to change its regulations to permit fishing starting June 1, typically about the time Yellowstone Lake's ice breaks up. At this time of year, lake trout are in shallow water and should be more vulnerable to angler efforts.

With these two methods, the number of lake trout removed from the lake has increased significantly. In 1994, according to Dan Reinhart, only four lake trout were taken from the lake. In 1995, 200 were taken. By 1996, the figure had jumped to 756, and in 1997, to 1,058. Of course, the growing number of fish captured could just be a reflection of growing lake trout populations. There may be tens of thousands of lake trout in the lake already, according to Jim Ruzycki.

Although most biologists are not optimistic about completely removing lake trout from Yellowstone Lake waters, they say that it may be possible to limit the number of fish.

The park may now face a never-ending program of lake trout control, and containing lake trout numbers is expensive. According to Stu Coleman, 65 percent of the park's fishery budget is now focused on lake trout. "For every dollar we put on trying to solve this problem, that's a dollar we can't put somewhere else," he says.

But the cost of not doing so threatens a world-renowned biological resource —the last large viable population of Yellowstone cutthroat trout in the world. That is a cost that many in and out of the Park Service feel is too high.



JOHN ELK III

The Park Service encourages anglers to take as many lake trout as they can catch. Park managers also remove fish by gill netting them. Through these methods, the number of lake trout removed has increased significantly.

GEORGE WUERTHNER *is a wildlife biologist, freelance writer, and photographer based in Montana. He last wrote for* National Parks *about the Channel Islands.*

The Road Less Traveled

Ecotourism offers an alternative to the "windshield" experience in a variety of national parks. Education and treading lightly are among the goals of this approach.

BY MICHAEL TENNESEN

FOURTEEN TOURISTS gather on a knoll in the Lamar Valley in Yellowstone National Park about 100 yards from where the Rose Creek Wolf Pack feeds on the carcass of an adult cow elk. Sage brush and grasslands adorn the valley, flanked by soaring wooded mountains.

Suddenly a cinnamon-colored black bear trots toward the wolves, drawn by the smell of the fresh kill. The alpha male wolf takes note of the competition and charges the 200-pound bear, chasing him up a tree. For the next half hour, the members of the wide-eyed group eagerly take turns peering through spotting scopes as the wolf keeps the bear at bay.

These tourists have an advantage over other visitors to the park on this early summer morning, for these people, tired of viewing nature on the Discovery Channel, are part of the "Bears and Wolves of Yellowstone" adventure tour. With them are biologists Steve Gehman and Betsy Robinson, who live nearby and are intimate with the habits of Yellowstone's regal predators. Gehman and Robinson teach tour participants not only about the biology of these great predators, but also about the history of the wolf reintroduction effort and the controversy that still exists within the community over that effort. Says Robinson, "We provide another face to nature than what's in the fairy tales."

Gehman and Robinson's tour is offered by Off the Beaten Path, a respected and ecologically aware tour operator out of Bozeman, Montana, which organizes tours for individuals as well as organizations such as World Wildlife Fund and NPCA. Educating tour participants about environmental issues is one of Off the Beaten Path's goals.

Off the Beaten Path and a number of other tour operators, park concessions, leadership schools, and concerned individuals are an active part of a new trend in ecologically friendly tourism in the parks. Ecofriendly tourism or ecotourism, as it is variously known, is more than adventure; it's education. It's learning about the limitations of nature, how to leave it as you found it, and how to view wildlife appropriately. It is also about supporting local environmentally friendly businesses, making wise choices about mechanized travel, and accepting responsibility for one's actions.

The term "ecotourism" began as little more than advertising copy for high-priced travel. But since 1990, it has become a buzzword in both the travel industry and the environmental movement. It has spawned organizations, international conferences, and even a few college courses on U.S. campuses. The dilemma of ecotourism is that our love of nature draws us to experience it personally; yet by traveling to these natural areas we sometimes threaten the very things we seek to protect. Ecotourism's answer is that travelers and outfitters need to limit visitor impacts on the nation's parks and wild places and to pass that message on to others.

Mark Peterson, NPCA's Rocky Mountain regional director, believes the rise of eco-friendly tourism has grown out of a concern for the pressure tourism puts on park resources and a desire to control it. Says Peterson, "We need to recognize that tourism can be as environmentally destructive as mining and logging."

In the Kenai Fjords off southern Alaska, for example, a boatload of tourists guided by Alaska Wildland Adventures spends a day viewing harbor seals, stellar sea lions, and enormous flocks of common murres and puffins, as well as humpback and orca whales. Kirk Hoessle, president of Alaska Wildland Adventures, takes small groups of six to 16 into remote areas of the Alaska wilderness to view nature and wildlife but also to learn about the land and environmental issues. He gives 10 percent

PAT O'HARA

At national parks such as Denali, Isle Royale, and Everglades, tours that promote ecotourism have become popular choices. This approach strives to educate visitors and encourages the support of local environmentally friendly businesses as well as accepting responsibility for one's actions.

LAYNE KENNEDY

CONNIE TOOPS

of his profits to environmental groups in Alaska and encourages his customers to donate $2 a day to those same groups. He also tries to form business relationships with local and environmentally aware businesses, saying, "We want to create an economic benefit to the local community for the protection of these natural areas."

The trend toward ecotourism in parks and wildernesses around the world is a bit different from what we have in the United States. Ecotourism in foreign countries has centered largely on support for local communities, to give locals a reason not to exploit timber, wildlife, and other natural resources in protected areas. Though the exploitation of parks by its neighbors is not as big an issue in the United States, Megan Epler Wood, president of the Ecotourism Society, a group of 1,400 professional tour operators in 55 countries, believes the principle still applies. Says Wood, "What's good for Costa Rica is good for Idaho as well. If park neighbors see an economic benefit from the park, they are more likely to support its vital issues."

According to Wood, part of being eco-friendly is blending in with the natural surroundings. National parks in the United States are world leaders in preserving backcountry wildernesses, but Wood believes the park officials come under a lot of criticism for what the society calls "front country management."

By way of example, she points to Yosemite and Glacier national parks, where the old lodges were designed with rugged timbers, rough sawn woods, and restrained access. But in the 1950s and 1960s, park lodgings were designed to look more like motels, and the entrances to parks were paved with asphalt and concrete. Says Wood of the Ecotourism Society, "In the end, it creates an impression [that] you are entering another shopping mall."

Tour operators such as Alaska Wildland Adventures instead emphasize facilities that fit the surroundings. One of the most popular of its overnight lodgings is the classic Yukon cabin tent. According to Hoessle, these facilities provide floors, heaters, and comfortable beds, "but you can still hear the birds and the rushing creek through the canvas ceiling."

Maho Bay Camps in Virgin Islands National Park on St. John has won numerous awards for its tent cottages, which blend into the tropical background, and for its environmentally friendly approach. The tent cottages, built on 16-square-foot platforms, are made of translucent fabric on wooden frames, with screened terraces to catch the cooling trade winds. The facilities use solar and wind energy, composting toilets, and energy-efficient appliances. Old newspaper is the only protective wrapping used at the Maho Bay Store, and the camps' bar gives a 25-cent discount if guests reuse their mugs for refills of beer.

CORRECT LODGING is only part of the eco-friendly tourism approach. Appropriate vehicles are another. Everglades National Park is encouraging park visitors to abandon their motorboats and take to canoes. Says Kristin Bardsley, Flamingo District ranger, "Canoes provide a totally different park experience than cruising through the Everglades at 35 miles per hour in a motorboat. You see a whole lot more wildlife from a canoe."

Three mornings a week, district rangers give free four-hour guided tours of the south end of the Everglades to teach visitors the joys of canoeing. Though motorboats are still allowed in most portions of the Everglades, one section of the park, known as the Nightmare, is reserved for canoes. The Nightmare is a narrow section of the swamp, overhung by mangroves, where visitors can see egrets, herons, roseate spoonbills, and osprey. Alligators occasionally jump into the water as visitors pass.

Backcountry enthusiasts can rent a canoe in Everglades City or Flamingo for a journey on the 99-mile Wilderness Waterway between the two cities. Canoeists are encouraged to reduce their impact on the backcountry by washing dishes away from waterways, bringing out all their trash, and keeping far enough from wildlife not to interrupt the animals' natural behavior.

Mechanized vehicles of all types are a challenge to the preservation of many wild areas. According to Peterson, "We've enjoyed unbridled tourism for a century. But now snowmobiles, Jet Skis, and four-wheel-drive vehicles enable people to spend more time and get back farther." Peterson points to snowmobiles in Yellowstone as an example. When the park first allowed them in 1972, it was "no big deal" because the numbers were small. Twenty-six years later, an estimated 90,000 snowmobiles show up for the winter season. "Use is skyrocketing," Peterson says. "At West Yellowstone, where snowmobiles have to stop and pay their fees, air pollution last year exceeded national pollution standards on a number of days."

Peterson believes that tours led by responsible

KENNAN WARD

The Awahnee Hotel in Yosemite National Park was built to blend into the surroundings. It was designed with rough-sawn woods, rugged timbers, and restrained access.

eco-friendly outfitters may be the answer: "Tour operators act to control groups better and limit their impact. Many individuals are not as aware."

Del Smith leads a five-day training course for tour guides called the Masters of Leave No Trace for the National Outdoor Leadership School in Lander, Wyoming. Since 1991, 500 individuals have taken the course. According to Smith, Leave No Trace standards may exceed park regulations for backcountry uses. For example, Smith teaches participants not to use soaps in backcountry lakes, even if the soap is biodegradable. "Where people use soap, it creates an algal bloom," she says. "That inhibits insects which, in turn, inhibits birds and fish."

Instead, she recommends washing dishes 100 feet from a water source as well as straining dishwater, broadcasting it over the ground, and packing out food scraps. "Garbage scraps don't break down in cold water, and fish don't eat them," Smith says. If you bathe, you should rinse your body 100 feet from the water as well. She also recommends burying human waste and carrying out the toilet paper, as animals may dig it up.

She encourages backpackers to camp on hardened, well-used sites only rather than creating new ones. She thinks that making people aware of these concepts is the job not only of outfitters and Park Service personnel, but of retailers as well. Some retailers, like REI, have Leave No Trace information at checkouts. And some sleeping bag manufacturers, like Slumberjack, Jansport, and L.L. Bean, have instructions sewn onto their bags that list Leave No Trace principles.

The idea of educating the public about environmental issues is a cornerstone of eco-friendly tourism. The Four Corners School of Outdoor Education in Monticello, Utah, offers tours of Canyon de Chelly National Monument in which noted folklorists and Navajo storytellers tell the traditional stories behind Spider Rock, Mummy Cave, and other fascinating sites. Participants stay in rustic Navajo hogan bed and breakfasts and learn about Indian life.

The school also leads an early summer tour for NPCA members called the Dinosaurs of the National Parks. Participants on this tour visit Petrified Forest National Park, Arches National Park, Dinosaur National Monument, and other sites, learning about these rich prehistoric treasures from a paleontologist who leads the tour.

The school also leads tours to study Indian rock art sites in and around Southwest parks. Participants are taught to leave behind what they find, so that other people and later generations can enjoy our cultural and paleontological heritage.

Requiring tours and tour guides is not new for some areas in the park system. According to Eileen Woodford, NPCA's Northeast regional director, "You don't wander around the Adams National Historic Site [home of John and John Quincy Adams] just anywhere you want. But there is this built-in expectation that you can go anywhere you desire and do anything you want in the natural areas. It hasn't been true for many historical sites for a long while."

Managing tourism's impact in natural environments often requires innovative thinking. NPCA's Southeast Regional Director Don Barger recently visited Isle Royale National Park in Michigan, which is 90 percent wilderness. Yet even in this wilderness, where human intervention is not supposed to show, the Park Service has built boardwalks in many of the boggy areas. Barger points out that when people walk through a boggy area, the mosses break down under foot, creating muddy trails that gradually widen with steady traffic. With a wooden path, however, the damage is constrained. Says Barger, "The principle is to use the minimum tool for the least amount of impact. And in this case the boardwalks are the minimum tool."

But Peterson does not believe the principle applies in reverse. Though we may use certain tools to reduce the impact of tourism in the parks, he doesn't believe in paving all roads or installing staircases to soften the impact of the park on tourists: "People need to accept the fact that some of these environments are harsh. They should come prepared to enjoy the park on its own terms."

Woodford agrees that the issue of ecotourism is complex. "It's not a simple matter of providing tours," she says, "but using a variety of techniques to keep the visitor's experience in balance with precious park resources."

ANDREWS-ORANGE/PHOTRI

Backcountry enthusiasts can rent a canoe in Everglades City or Flamingo and paddle a portion of the 99-mile Wilderness Waterway between the cities.

MICHAEL TENNESEN *is a freelance writer living in Lomita, California. He last wrote for* National Parks *about air quality.*

Anchors Aweigh!

Sailing aboard a traditional windjammer provides a wonderful way to view the national parks.

BY EBBA HIERTA

THE 123-FOOT, gaff-rigged schooner *Grace Bailey*—a 116-year-old relic from the age of sail—ghosts into Somes Sound in Maine's Acadia National Park, where cliffs rise sharply on both sides of the narrow channel.

Those on board feel enveloped in a cocoon, completely surrounded by nature in the eastern United States' only fjord. The seven-mile sound narrows to just 100 feet at its midpoint with mountains on either side—the 852-foot Norumbega Mountain to the east and the 646-foot Acadia Mountain to the west. Passengers with binoculars line the rail looking for bald eagles and eider ducks that nest in the upper areas.

It's a quiet journey, but not a silent one. The still, protected water gurgles against the wooden hull. Timbers on the ancient ship creak, its canvas sails rustling in the breeze. The piercing cry of an osprey hunting overhead joins the ship's song. Seals splash on the rock-lined shore.

The ocean is integral to this island park, established as a national monument in 1916 and redesignated a national park in 1919. Three million visitors each year stand in awe at the top of Acadia's hills and mountains, peering down at the sea. A much smaller group experiences its grandeur from the sea itself, aboard one of the classic tall ships in Maine's windjammer fleet.

"It's a completely different experience," says Ray Williamson, captain of the *Grace Bailey* and a 16-year windjammer veteran. "You aren't dealing with traffic and cars and motors. When I'm heading up that way I envision what it must have been like a few hundred years ago when people first sailed through here. The view hasn't changed all that much."

Another part of seldom-seen Acadia that is often included in the *Grace Bailey*'s itinerary is Isle au Haut, a small offshore island about 17 miles from the main park on Mt. Desert Island. On this sail, harbor porpoises and gray and harbor seals are an everyday sight. Occasionally a Minke whale will surface, and a rare Atlantic puffin, sometimes called a "sea parrot" because of its red-tipped triangular bill, will fly by.

The island itself is another step back in time. Most of it is within the park boundaries, preserved in its natural state with hiking trails the only intrusion. A

TED DILLARD

The *Grace Bailey* glides through the waters off of Acadia in Maine.

EBBA HIERTA *lives in Atlanta, Georgia, and recently returned from a windjammer trip.*

LAYNE KENNEDY

small seaside village is home to a hardy group of families who reside there year-round, eking their living from the sea.

Visiting the park by tall ship also carries the opportunity to learn how to sail an antique. Experience is not required, and participation is not mandatory. But most passengers relish a chance to be a part of the working crew. They raise and lower the sails, trim them to the wind, weigh anchor, and learn some basic navigation.

Most ships in the fleet are restored originals, not replicas. A registered National Landmark, the *Grace Bailey* was built in 1882 to carry hard pine from the forests of Georgia and South Carolina to a lumber mill in New York. The schooner also made frequent trips to the Caribbean to haul rum and sugar to the Northeast United States and in its later years hauled granite from Maine quarries to New York.

Unlike boats that have been refitted with diesel engines, the *Grace Bailey* has been left in its original condition, with

RICHARD J. GIGUERE

TOP: Crew and passengers aboard *Angelique*. ABOVE: Some fortunate passengers may see an Atlantic puffin during a cruise.

an outboard-powered "push" boat to assist in tight quarters.

The day starts early with coffee and freshly baked muffins at 6 a.m. Daring souls may take a dip in the brisk Atlantic, while others row ashore for a hike or sail around the anchorage in a sailing dinghy. A big breakfast is served family style at 8 a.m. The boat usually gets under way by 10:30 a.m., and lunch—hearty fare like chowders and chili with salads—is served on deck around noon. After the boat anchors for the day by 5:30, a hearty dinner is served. In the evening, there are card games in the saloon and sing-a-longs on deck under the stars.

Most of the Maine windjammer fleet is based in Penobscot Bay, west of Acadia. The *Grace Bailey* sails from Camden; Rockport and Rockland are home port to a number of other ships. Itineraries are usually left open, because weather determines the direction and distance of the cruise. But nine out of ten week-long summer cruises include Acadia, says Meg Maiden of the Maine Windjammers Association (800-807-9463).

If you don't have the time or sea legs for a week-long cruise, several tall ships make day trips out of Bar Harbor, including the 129-foot schooner *Natalie Todd* and the 85-foot schooner *Bay Lady*.

JEFF FOOTT

For information, contact the Bar Harbor Chamber of Commerce at 207-288-5103.

Channel Islands

There are other coastal parks in the National Park System that can be visited by tall ship. On the West Coast, replicas of two schooners that were built in the 1800s cruise to Channel Islands National Park off the coast of California. Both offer educational programs for children and college students as well as adult-oriented cruises.

GEORGE H.H. HUEY

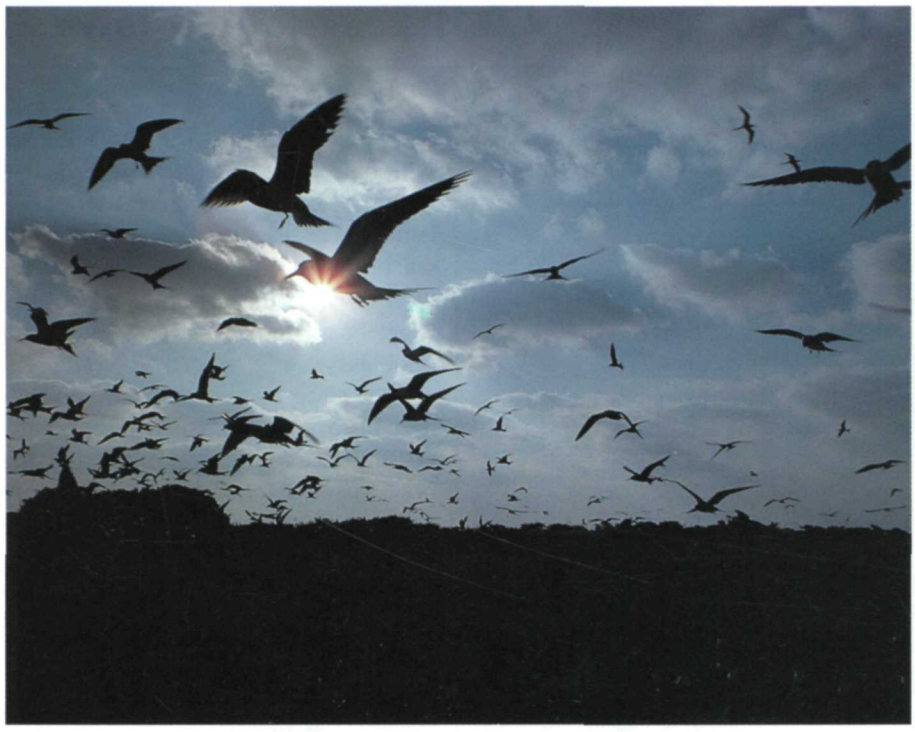
ABOVE: A sea otter feasts on a squid off Channel Islands, where visitors may also see a bat star.

From mid-winter to early spring, passengers witness the gray whale migration. These giant mammals make their way from their breeding grounds in Mexico to their summer habitat in Alaska each year, often stopping to feed in the fertile waters surrounding the park. Sightings of blue and finback whales also are not uncommon. Sea lions, elephant seals, northern fur seals, and sea otters are permanent residents and are spotted year-round.

The three- to-five-day cruises include shore trips to several of the park's eight islands, 20 miles off the coast southwest of Santa Barbara. Home to more than 800 species of plants and animals, the islands are known as America's Galapagos. Naturalists on both ships' crews offer informal lectures about the islands and their unique geology.

One of the two ships, the 145-foot topsail schooner *Californian*, is a replica of a ship that was built in 1848 for the forerunner of today's Coast Guard. Today, it carries up to 16 passengers on overnight trips. For more information, contact the ship's owner, the Nautical Heritage Society, at 800-432-2201.

The other ship, the 118-foot schooner *Pilgrim*, was launched in 1983 and



GLENN VAN NIMWEGEN

TOM HILL

ABOVE: Sooty terns are among the species found on Dry Tortugas, also home to Fort Jefferson.

is a replica of a Revolutionary War privateer. It carries up to 20 passengers on overnight trips. It was recently purchased by Wade and Susan Hall of Newport, who have expanded the ship's mission to include adult Channel Island Cruises.

In addition to the nature cruises that focus on the Channel Islands' environment, the *Pilgrim* also does weekend cruises specifically geared toward artists. Pen-and-ink artist Scott Kennedy provides instruction in technique while passengers interpret the natural beauty of the Channel Islands in the medium of their choice. Contact the *Pilgrim* at 714-966-0686.

Passengers on both ships may assist the crew in running the ship, and informal instruction in seamanship and navigation is included.

"We think it's the best way to get out and see the islands," says Eric Christman of the Nautical Heritage Society. "The experience of getting up and seeing the sun rise over the water with the Channel Islands as a backdrop is breathtaking."

Wade Hall, the *Pilgrim*'s owner, says, "When you are sailing a ship like this you get so tuned in to your surroundings. You have to step out of your normal mode and get in touch with wind and the weather and the tides.... You can really get away from it all."

Dry Tortugas

Another remote island in the park system visited by tall ship is Dry Tortugas National Park in Florida—a small cluster of coral-ringed islands at the tip of the Florida Keys about 70 miles west of Key West.

With just 40,000 visitors a year and ten year-round residents—all Park Service employees—Dry Tortugas is a little-known slice of tropical paradise. Snorkeling on the park's pristine coral reefs is a favorite activity, and bird watching is unsurpassed during the April and May migration, when as many as 200 species stop to rest on

their journey north. The small islands with little vegetation offer the birds few hiding places, giving birders an excellent view. Transient species join 30 to 40 sea bird species that make the islands their year-round home, including frigatebirds, terns, pelicans, gulls, and boobies.

This outpost is also popular with military history buffs. Located at the southern entrance to the Gulf of Mexico, the previously uninhabited islands were deemed strategically important during the mid-1800s. Fort Jefferson, a massive, moat-surrounded brick hexagon on the park's Garden Key, is the largest coastal fort ever built in the United States.

Featuring more than 2,000 vaulted arches constructed of roughly 16 million bricks, the fort is believed to be the largest masonry structure in North America. One of the fort's most famous inmates was Dr. Samuel Mudd, who was imprisoned for providing medical assistance to John Wilkes Booth after he assassinated President Lincoln.

The Dry Tortugas are a popular destination for *Ocean Star*, an 88-foot steel schooner that operates a sail and navigation training program in conjunction with *Ocean Navigator* magazine. Students learn the ancient art of celestial navigation, with classroom instruction below decks during the day and star-sighting practice at night. While navigation training is the main purpose of *Ocean Star*'s voyages, each trip includes a minimum two-day layover at Dry Tortugas for leisure activities.

"Of all the places we go, the Dry Tortugas is my favorite," says senior captain Virginia Wagner, who has piloted the ship on trips throughout the Caribbean, Bermuda, and Northeast. "It's remote and that's a big part of the allure. You can only get there by boat or seaplane. It's not developed. There are no T-shirt shops or bars. It's not for everyone, and I guess that's why I like it so much. I've been there 50 or 60 times, and I'm always ready to go back."

For information about *Ocean Star*'s programs, call 207-772-2466.

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Bird on the Brink

The Cape Sable seaside sparrow is threatened by water management practices near Everglades National Park.

BY KATURAH MACKAY

FOUND ALMOST entirely within Everglades National Park and Big Cypress National Preserve, the Cape Sable seaside sparrow (*Ammodramus maritimus mirabilis*) has the most restricted range of any bird in eastern North America. The species is at the mercy of a water-dependent agricultural industry, creeping development, and poor water management practices in south Florida. Experts predict that the sparrow will be extinct within two decades unless natural water flows in the Everglades are restored.

STUART PIMM

The Cape Sable seaside sparrow.

The non-migratory, medium-size sparrow was first listed as endangered in 1967, and its numbers have continued to decline at an alarming rate. Three core populations existed at the time of a census in 1981—eastern, western, and the Old Ingraham Highway population—but the latter is the only one to remain reasonably healthy and stable since the census was taken. The eastern population has declined by 50 percent since 1992, and the western population has suffered a 90-percent decline in the past six years. Sparrow experts insist that the bird can survive only if these three core populations are maintained.

Marl prairies, home to the sparrow and one of the richest ecosystems for plant species in the Everglades, form the shallow banks of the park's sawgrass rivers and, according to sparrow experts, have been the easiest ecosystems to abuse. Drainage systems, such as canals and levees built to accommodate south Florida development, have obliterated 25 percent of the region's marl prairies. Another 25 percent has been lost to the spread of non-native vegetation that thrives in either drier or wetter conditions created by altered water flows.

These altered water flows can have a devastating effect on the sparrow. Flood control systems north of Everglades National Park continually rechannel water to the population's range. Unnaturally high water levels soak sparrow nests, make eggs vulnerable to rice rats and snakes, or otherwise halt nesting. The bird typically breeds from March to June. Three or four eggs are laid two or three times per season.

According to Dr. Stuart Pimm, professor of ecology at the University of Tennessee and the foremost expert on the sparrow, misdirected water flows are the principal reason for the extreme conditions affecting sparrow populations.

Agriculture and development have overdrained the sparrow's eastern range, which encourages extreme and ill-timed drought conditions and habitat vulnerability to fires. Fire is necessary on an infrequent basis to keep hardwood trees from invading the prairies, but too much burning prevents regeneration of suitable sparrow habitat.

Currently, there are no sparrows in captivity, but Pimm says that capturing and reintroducing the birds is a last resort for saving the species. "It's like trying to save people with heart bypass surgery rather than encouraging a more healthy lifestyle," says Pimm. "It doesn't address the major issue of how we manage Everglades National Park."

Adding to the sparrow's woes, the Army Corps of Engineers has proposed redirecting water from an area known as the 8.5 Square Mile into the sparrow's western population. The Corps has held back water from this area to protect private property from flooding, but residents there are not entitled to federal flood protection and some of the homes were built in violation of local zoning ordinances.

NPCA, one of many local, regional, and national environmental groups working to restore the Everglades, has warned that it may pursue legal action against the Corps and the South Florida Water Management District for violating the Endangered Species Act.

KATURAH MACKAY *is News Editor for* National Parks.

Park Gateways

Communities next to parks are important stopovers for visitors and magnets for Americans seeking to escape the congestion of the suburbs.

BY ED MCMAHON AND LUTHER PROPST

AMERICANS ARE on the move. And a lot of them are heading for the cities and towns that serve as gateways to our national parks and other public lands. In the 1990s, 2 million more Americans moved from metropolitan centers to rural areas than migrated the other way. With their natural beauty and high quality of life, gateway communities have become a magnet for Americans seeking to escape the congestion, crime, and fast pace of life in the nation's sprawling suburbs. In fact, rural counties with federally designated wilderness areas grew six times as fast in the 1980s as counties without designated wilderness areas.

DOUGLAS MACGREGOR

Estes Park, Colorado, gateway to Rocky Mountain National Park, and St. Georges, Utah, gateway to Zion National Park have become havens for retirees looking for picturesque places to spend their golden years. People who want to live close to outdoor recreational opportunities are invading towns like Moab, Utah; Maryville, Tennessee; Blowing Rock, North Carolina; and other towns adjoining national parks and wildlife refuges. "East Tennessee has just exploded," says Randy Brown, a Maryville resident, "and the people moving here all want to live near the park."

Traverse City, Michigan; Flagstaff, Arizona; Durango, Colorado; Talkeetna, Alaska; and Fredericksburg, Virginia, are just a few of the many gateway communities trying to cope with rapid growth. And it is not just retirees and telecommuters fleeing soulless suburbs that are affecting once isolated gateway communities, it is also an ever-growing stream of tourists. For example, Bar Harbor, Maine, population 4,500, copes with nearly 4 million tourists a year, most of them on their way to nearby Acadia National Park.

In fact, residents of tourism-dependent resort communities are among the hardest hit by rapid growth. In Vail, Colorado, three out of every four dwellings are now second homes occupied only a few weeks a year. Most of Vail's police and firefighters cannot afford to live in or near town. Likewise, in Bozeman, Montana, suburban real estate prices have jumped dramatically from about $600 an acre in 1981 to more than $10,000 an acre today.

The wave of migration to gateway communities also portends major changes for natural ecosystems and historic landscapes. A 1994 survey of national parks found that 85 percent were experiencing threats from outside their boundaries. Likewise, a report on the National Wildlife Refuge System found that more than half of the country's refuges and the wildlife that depend on them face external threats. In Jackson Hole, Wyoming, for example, residential subdivisions adjacent to the National Elk Refuge have diminished the grazing habitat of the nation's largest elk herd. "Sixty head of elk used to winter right where that house is," says Refuge Manager Mike Hedrick, pointing to a new subdivision on the refuge borders. The elk that winter in the refuge are the same animals that move to nearby Yellowstone and Grand Teton national parks in the summer. At the same time, the area has become so popular with outsiders that a typical family earning the county's average income can no longer afford most of the houses in the area.

Gateway communities are important not just because they provide food and lodging for Americans on their way to visit national parks and other public lands. They are also portals to our most

ED MCMAHON *is director of the American Greenways Program at the Conservation Fund in Arlington, Virginia.* LUTHER PROPST *is Executive Director of the Sonoran Institute in Tucson, Arizona.*

cherished landscapes and "ground zero" for the nation's increasingly popular smart growth movement. Indeed, they define the park experience for many visitors. This is why it is imperative that we integrate the human needs of both visitors and residents with those of our natural and cultural resources.

Gateway communities offer important lessons for other rural communities grappling with growth and change. Ben Read, a writer in Jackson Hole says, "that these communities are perhaps the first to contend with the limits to growth in an area." When suburbs get too congested, growth just leapfrogs farther out, but gateway communities often don't have the option. Much of the land on their outskirts is publicly owned and off-limits to development. In an evermore crowded world, the lessons provided by gateway communities will be increasingly valuable to all.

Over the past 15 years, we've worked in more than 100 gateway communities. We've talked to resource managers, elected officials and local citizens and we've listened to their experiences, concerns, and ideas. We also undertook an extensive survey of land use patterns and economic trends shaping gateway communities. Here's what we found:

▲ Many gateway communities are overwhelmed by haphazard growth that fails to meet local needs or aspirations and that detracts from the integrity of public lands.

▲ A majority of gateway community residents, both newcomers and old timers, feel a strong attachment to the landscape and to the character of their town. They want a healthy economy, but not at the expense of their natural surroundings or community character.

▲ Many residents and local officials feel helpless in the face of rapid change. People know what they like about their communities and what they don't like about new development. They just don't know what they can do to preserve what they love without saying no to jobs and economic development.

▲ Progress does not demand degraded surroundings. A number of gateway communities have already implemented successful initiatives to cope with rapid growth and high visitation.

Across America, dozens of communities are demonstrating that economic prosperity doesn't have to rob natural surroundings of their character or turn them into crowded tourist traps. Many of these initiatives resulted from partnerships involving both gateway communities and public land managers.

The importance of partnerships cannot be overstated. Gateway communities and resource managers need to cooperate for mutual benefit. This is because the health and quality of park resources generally depend upon its setting within an ecosystem or historic context that often extends well beyond park boundaries. Likewise, the quality of the visitor experience is greatly influenced by the character and aesthetic appeal of neighboring communities. Also, with the changing role of the federal government, the National Park Service is unlikely to have the funds or staff to adequately protect all park resources without partnerships.

In our new book *Balancing Nature and Commerce in Gateway Communities*, we provide examples of successful partnerships such as those between the City of Sanibel, Florida, and the J. M. Ding Darling Wildlife Refuge. We also are working with the Interior Department, NPCA, and other organizations to bring what we've learned to both gateway community leaders and to public land managers throughout the country.

Some gateway communities have maintained local character and quality of life in the face of rapid growth, while others are losing the very features that once gave them distinction. Both local communities and Park Service officials are also starting to recognize the importance of partnerships beyond park boundaries, and government agencies are moving towards collaboration with sister agencies. Even many landowners once adamantly opposed to planning and growth management now recognize that no place will retain its special appeal by accident. The question is whether enough communities will recognize this before it's too late.

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NPCA Notes

BY MARILOU REILLY

Everglades and Babbitt Recognized

► On March 19, NPCA held its annual dinner to celebrate the first 50 years of Everglades National Park and recognize the challenge of restoring and protecting America's "River of Grass" for the future. NPCA also honored Secretary of the Interior Bruce Babbitt for his outstanding commitment to the national parks, highlighting his leadership on behalf of the parks of south Florida and the unique ecosystem that sustains them. NPCA presented Secretary Babbitt with the William Penn Mott, Jr., Park Leadership Award, given annually to a member of Congress or public official who is a strong advocate of the parks.

Approximately 350 guests, including government officials, NPCA board members, and corporate sponsors, attended the dinner held at the Renaissance Mayflower Hotel in Washington, D.C.

White House Press Secretary Michael McCurry was the program host for the event. Nathaniel P. Reed, former Assistant Secretary of the Interior and a member of NPCA's National Council, chaired the dinner. Proceeds from the dinner will support park protection efforts on behalf of the Everglades and the national parks of south Florida. A special video, produced for this occasion, featured the importance and the beauty of the Everglades ecosystem and the efforts under way to restore and protect it.

NPCA Opens Florida Field Office

► Kim Anaston Swatland was selected as field representative for NPCA's newly established South Florida field office. Swatland brings a wealth of partnership and outreach experience to NPCA. Most recently she was a senior educator for the National Audubon Society's Everglades Ecosystem Restoration Campaign, where she oversaw ten field study programs, represented Audubon at conferences, and served on various environmental and educational committees.

Swatland will represent NPCA on the Everglades Coalition, a group of 40 local, regional, and national environmental groups dedicated to the restoration of the Everglades ecosystem.

Besides working on the Everglades issue, she also will represent NPCA on issues involving Biscayne and Dry Tortugas national parks and Big Cypress National Preserve.

A generous grant from the Munson Foundation enabled NPCA to establish the South Florida office.

Applaud Melba Moore, Spokesperson

► Concerned citizen and Tony Award-winning Melba Moore has agreed to aid NPCA in its efforts to pass legislation to establish the National Underground Railroad Network to Freedom. Congressional action is expected this summer on the proposed Underground Railroad legislation—an effort to link both federally and privately owned historic sites involved in the abolitionist movement.

NPCA sponsored an Underground Railroad art and essay contest at Washington, D.C.'s, Lincoln Multicultural Middle School. One of Moore's initial activities as honorary spoksperson for NPCA will be to present awards to the contest winners. These awards will be presented at the Mt. Zion cemetery, a well-known site that links the District of Columbia to the Underground Railroad.

Parkwatcher Survey

► NPCA's Grassroots Department recently conducted a first-ever survey of its 50,000-member Park Activist Network. The survey sought members' interests and opinions on a variety of topics. The network is made up of NPCA members and other park supporters who are willing to take action to help preserve the National Park System.

NPCA asked all members of the network which parks and issues they were most interested in, and how best to contact them when their help was needed. So far, about 1,500 people have returned the written survey. Here are some preliminary results:

Parks of Interest: Many of the most popular parks were the large Western natural areas. Nearly 20 percent of those responding identified Yellowstone as the park in which they were most interested. Yosemite and

Grand Canyon followed at 13 percent and Great Smoky Mountains, at 9 percent. Gettysburg National Military Park was the most often cited historical park at about 7 percent.

Issues of Concern: Out of seven potential topics, 77 percent chose wildlife as the number one concern, followed by pollution (70 percent), funding (54 percent), development pressures (53 percent), congestion (40 percent), historical preservation (27 percent), and visitor access (22 percent).

The survey was not intended as a scientific study. Rather, NPCA will use the results to ensure that members receive information that most interests them. If you would like to join the Park Activist Network or fill out the survey, call 1-800-628-7275, extension 229, or write to: NPCA/Grassroots, 1776 Massachusetts Ave., N.W., Washington, DC 20036. E-mail: sseay @npca.org.

Take Action On a Clear Day

▶ More than 300 people responded to the call to action in *Parkwatcher FLASH* and "On a Clear Day," [November/December], a story by Michael Tennesen about air pollution. Readers were invited to submit written comments on the Environmental Protection Agency's proposed regulations to address regional haze. Thank you to all the readers who responded.

March for Parks

▶ NPCA's ninth annual March for Parks kicked off National Park Week, April 20-26, 1998, and was part of a nationwide effort to promote environmental awareness. NPCA would like to thank the many people who took part in this Earth Day event. If you are interested in participating in March for Parks 1999, contact Leigh Bailey at 1-800-628-7275 extension 225, lbailey@npca.org.

NPCA Online

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Column of Stone

The remains of an ancient volcano, this national monument is a sacred site to several American Indian tribes.

LARRY ULRICH

BEFORE ITS DESIGNATION as a national monument, this ancient volcano was called "Bear Lodge" by American Indian tribes in the region. A popular rock climbing destination, the monument is still used by several tribes for spiritual ceremonies around the summer solstice. The Park Service instituted a voluntary rock-climbing ban during the month of June, while awaiting a court ruling on whether climbing there violates religious freedoms. Have you visited this monument? Can you name this sacred American Indian site? [ANSWER ON PAGE 8.]

Next to a refinery, this is our most innovative design.

You're looking at a tidewater wetland. Quite healthy and fully functional, it's literally next to our refinery in Pascagoula, Mississippi. And while we've been known for designing refineries, we also designed and constructed the wetland. Agreement to create this wetland allowed us to expand our refinery operations, but we surpassed requirements for the wetland both in design and acreage. We worked with several government agencies, and one of our own employees, a marine ecologist named Dan Allen, was the project designer. Wetland creation is an exacting task, requiring a specific elevation for tidal flooding. That allows for the exchange of nutrients and food, ensuring it functions like a natural marsh. So, we properly graded the land. Then vegetation was manually transplanted from an existing marsh and fertilized to accelerate colonization. A tidal channel was dug to provide water to the site, and its depth carefully calculated to optimize water flow but avoid choking plants. Did our design succeed? Years later, studies by Mississippi State University clearly prove that it did. Today, the wetland is still a habitat, nursery and feeding ground for a variety of wildlife. Typically, our technology is used to affect our balance sheet. But when we consider the continued loss of wetlands in America, few projects have been more rewarding than this one.

Adjacent to our refinery in southern Mississippi is a tidal wetland we designed and built. This warm, buzzing place interconnects a wondrous web of life - from mullet, crabs and periwinkles to heron and alligators - proving that wetlands can actually be created from scratch. For more on how we did it, visit us at www.chevron.com.

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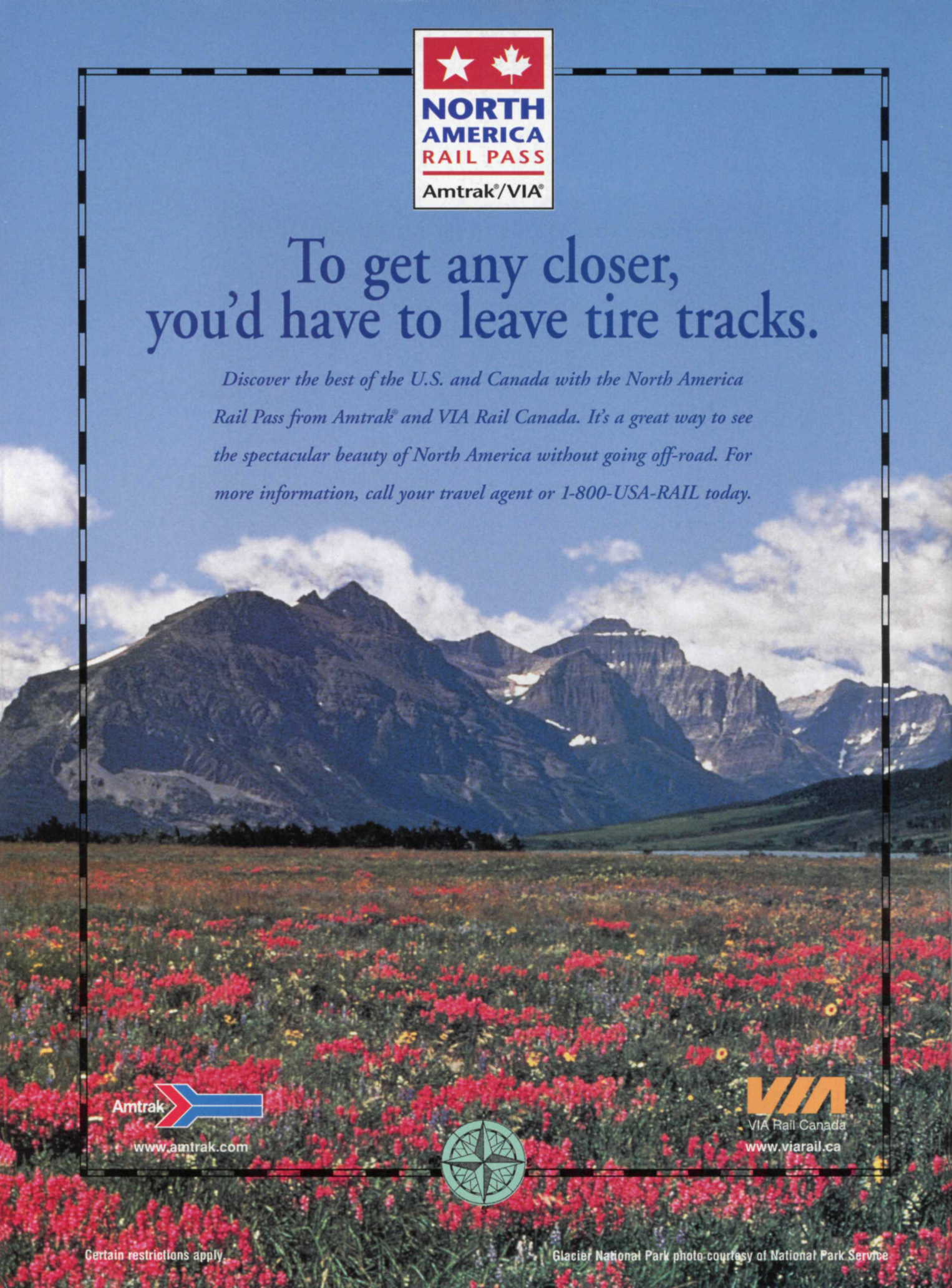
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