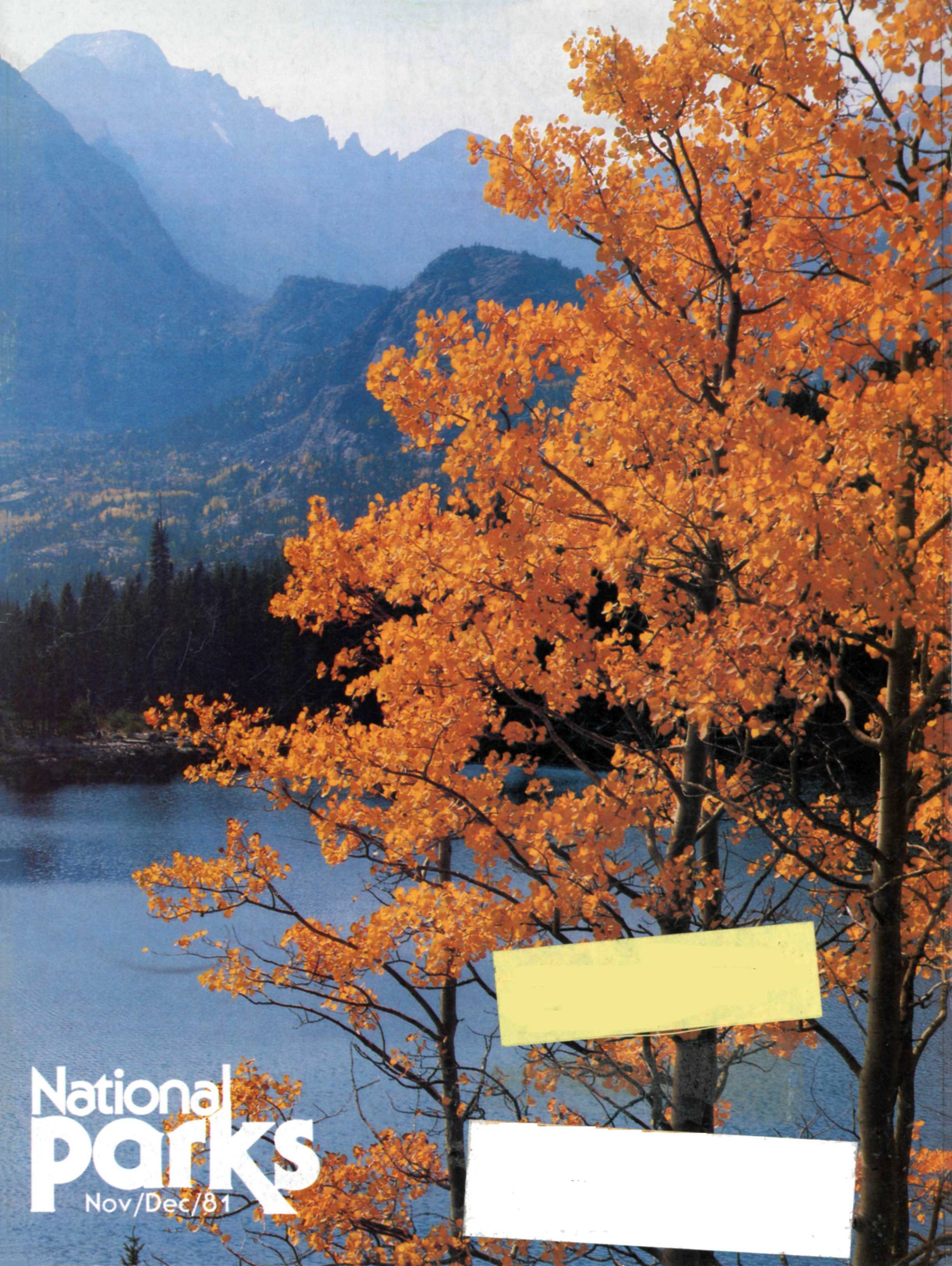

National
parks
Nov/Dec/81

Commentary

The Vortex

Many currents make up the mainstream of our national life. Their headwaters source in the individual American—in the power that derives from his freedom and independence.

Prominent among these currents is the environmental movement. It has done much to energize the flow of the mainstream and give forward thrust to our nation, notably in this century.

The state of the mainstream has been turbulent of late. The waters roll and swirl with conflict. Side currents, moving counter to the flow, curl back in treacherous eddies.

We Americans are caught in one. We are being pulled from our course—back, down, and around in an ever-deepening vortex. It tugs at the mainstream, retarding its impulse. It clutches at our social and political structures, threatening many of the advances we have built into them. It tears at the vitals of our environmental protection system.

The national parks have been caught in it, which is placing them on a retrogressive course in the matter of basic area protection—from the threat of snowmobile penetration in Yosemite, Sequoia-Kings Canyon, and Lassen Volcanic national parks in California to expanding use of motorized rafts in Grand Canyon, and commercial fishing and recreational airboating in the Everglades park in Florida. Budget cuts strike at the core of the Park Service's mandate, undermining its ability. The prospect of deauthorization looms for a number of the system's areas—Santa Monica Mountains, Cuyahoga Valley, Indiana Dunes, Fire Island, Sleeping Bear Dunes. Interpretive services, so important to the public's understanding and enjoyment of the parks, decline. The brakes have come down hard on new land acquisition vitally needed to relieve the pressure on an already overburdened system.

The "ship of state," itself, would seem to be in the grip of this maelstrom, which seeks to draw it ineluctably under. Nor can we depend wholly on the hands at the tiller.

It is up to us, the people, to aid in stemming this drift in our affairs. It is up to the private sector, individual and corporate, to shoulder its responsibility for preserving *our* land, *our* forests, *our* waters, *our* parks, and maintain them at a level consonant with their need and our need.

We, at NPCA, believe that this retrogressive phase through which we are passing is a temporary phenomenon, out of sync with mainstream America—a break in the continuity of our national life. We believe that, working together, we can straighten out our course and get back into the mainstream. It will call for strenuous efforts, for it is the very sweep and power of the main flow—our vitality and freedom as a nation—that gives these eddies their strong, tangential pull.

Should we fail to save this land of ours from the forces that would eviscerate and turn it into a hollow, used-up husk, we will have failed ourselves as an enlightened, progressive, self-governing people.

—*Gilbert F. Stucker*
Chairman of the Board

Editor's Note

If you visited a national park this year on vacation, you may have noticed fewer rangers, more trails needing repair, or a shorter season for campgrounds. Other effects of inadequate funds are less obvious to the visitor; but as inflation continues to gnaw at our pocketbooks, it deeply affects operations of the national parks as well. (See page 26.)

Concluding his series of articles about problems of the National Park System, this month, Mike Frome proposes ten ways to help ensure the future health of the national parks (page 10). In the same spirit, NPCA sponsored a planning conference in September to bring together concerned planners, attorneys, writers, teachers, businessmen, and conservation leaders and advocates to develop the framework for a comprehensive National Park System plan. We'll tell you about the recommendations of that conference in our next issue.

Beginning on page 20, Jean Hocker—who, incidentally, made invaluable contributions to the planning conference—describes some innovative proposals for ways to preserve the open space of rural lands to protect wildlife habitat and scenery near national parks and in other great scenic areas.

Finally, escape with naturalist Ed Kanze to Gulf Islands National Seashore and sink your toes in the warm sand, loll in the shade of live oaks, or explore historic Civil War structures (page 4).—*EHC*

National Parks

Vol. 55, No. 11/12, November/December 1981

The magazine of the National Parks & Conservation Association

Commentary

Features

Departments

COVER Long's Peak and Bear Lake, Rocky Mountain National Park, by Ed Cooper

Occasionally, visitors to this mountain park claim sighting a lone river otter playing along a streambank or swimming in a clear, clean lake, although the species has been considered virtually extinct in the area for many years. Now, the park's Colorado River drainage is the site of a reintroduction effort whose success depends, to a large extent, on the pristine, natural habitat provided by the park. (See page 14.)

National Parks & Conservation Association—established in 1919 by Robert Sterling Yard with the support of Stephen Mather, the first Director of the National Park Service—is an independent, private, nonprofit, public service organization, educational and scientific in character. Its responsibilities relate primarily to protecting, promoting, and enlarging the National Park System, in which it endeavors to cooperate with the National Park Service while functioning as a constructive critic. Life memberships are $750. Annual membership dues, which include a $7 subscription to *National Parks*, are $150 Sustaining, $75 Supporting, $30 Contributing, $22 Cooperating, and $15 Associate. Student memberships are $10. Single copies are $3. Contributions and bequests are needed to carry on our work. Dues in excess of $7 and contributions are deductible from federal taxable income, and gifts and bequests are deductible for federal gift and estate tax purposes. Mail membership dues, correspondence concerning subscriptions or changes of address, and postmaster notices or undeliverable copies to National Parks & Conservation Association, 1701 Eighteenth Street, NW, Washington, D.C. 20009. When changing address, please allow six weeks' advance notice and send the address label from your latest issue along with new address. *National Parks* is published bimonthly. Contributed manuscripts and photographs are welcome on speculation. They should be addressed to the Editor at Association headquarters and should be accompanied by a stamped, self-addressed envelope. No responsibility can be assumed for unsolicited material. Articles are published for educational purposes and do not necessarily reflect the views of this Association. Printed in the United States. Second-class postage paid at Washington, D.C., and at other offices.

E. J. Kanze III

For one short summer, this northerner broadened his horizons working as

A Yankee Naturalist . . .

Early last April I loaded up my tired old '64 Ford with an assortment of gear and headed south. On the shelf beneath the rear window lay a beige, rigid-brimmed stetson, the hat I would be wearing in my new job as "Seasonal Park Technician GS-4" with the National Park Service. My destination was Santa Rosa Island, a narrow, elongated ridge of sand paralleling Florida's Gulf Coast near Pensacola. I knew little more of the place than the name of the park: Gulf Islands National Seashore.

I learned that Gulf Islands was a relatively new addition to the National Park System, conceived in the early 1970s and formally authorized in 1972. On the map, the park consists of a series of barrier islands, peninsulas, and mainland holdings straddling 150 miles of the Gulf Coast from Florida to Mississippi. The Florida district, where I was to be employed, sprawls over sections of two barrier islands, a peninsula rich in archeological sites, and a small section of the mainland containing forts of great historical interest.

Gulf Islands sunset, by National Park Service

For me—silly as the notion may seem in retrospect—one of Gulf Islands' strongest attractions, aside from the glamour of working in a national park, was the mailing address of my prospective home: "Gulf Breeze, Florida." I was a naturalist at a nature center in suburban New York, busily involved in the annual northeastern rites of maple-sugaring, when the opportunity to work at the seashore presented itself. After a month of splitting wood, hauling buckets of maple sap through chilling March rains, converting sap to syrup colonial-style in a primitive cauldron, all the while explaining the process to an endless procession of school groups and scout troops, the prospect of escaping to a peaceful, sunny place named "Gulf Breeze" proved irresistible.

Without delay, I made arrangements for the journey. Within a week I found myself crossing the Navarre Bridge over the calm waters of Santa Rosa Sound, arriving, without notice or ceremony, upon the stark white sands of Santa Rosa Island.

My first acts as an islander were to swerve off the pavement, park the car on the sandy shoulder, anchor my feet in the hot sand, and revel in the view. Behind me were a thousand miles of monotonous driving. I could go no farther. A pebble's toss before me lay the Gulf of Mexico, warm and wet and glistening in shades of jade and turquoise. Whatever doubts I might have entertained about coming to Florida instantly vanished with the cool breeze—the *Gulf breeze*—that blew from the southern horizon, and the strong sun that steamed the last remaining chill of northern winter from my bones. White sand, blue sky, rainbow water, clear air—here was paradise, or at least a fair approximation.

But I soon learned that paradise was not without pitfalls. Upon returning to my car, I discovered that my wheels were stuck in the soft sand. By alternating from low gear to reverse, rocking the car back and forth in a technique learned on northern snow, I was eventually able to ease the wheels back onto the pavement. Later, I learned that I

. . . On the Gulf Coast

Bastion B at Fort Pickens, by National Park Service

Gulf Islands' historical heritage is rich and varied, ranging from early Spanish colonization attempts to Civil War conflicts. Fort Pickens (left), on Santa Rosa Island, served as an isolated Union stronghold during the Civil War. The park's barrier islands, noted for their sugar-white sands, also feature a variety of hardy, adaptable plants. Below, a sturdy sawleaf palmetto thrives in the salty environment behind the dunes. Right, a lifeguard watches over beachcombers and swimmers while sea oats stand guard over the constantly shifting dunes.

had been one of the lucky few. Most of the cars that enter the sands of Santa Rosa Island must be extricated by a wrecker. Indeed, so many vehicles become mired in the island's soft shoulders that Gulf Islands National Seashore has erected a special sign at the entrance to the Fort Pickens area of the park. The sign says, "Notify Wrecker Before Parking On Shoulders"—proof that not all government officials lack a sense of humor.

Fortunately, my second lesson on the island was of a more pleasant nature: southern hospitality remains alive and flourishing. Anne Dudley, my boss for the summer, welcomed me with warmth and enthusiasm, as did the rest of my fellow "rangers." I was shown to my quarters, given a tour of the park, and generally treated like a V.I.P. for the first few days of my stay.

Before long I settled into my island home and began to consider my new role as park ranger. While my working wardrobe in New York State had consisted mainly of dungarees and flannel shirts, I would now earn my pay in a stiff, broad-brimmed hat; a slate-gray shirt with epaulets, nametag, and badge; green wool trousers with neatly pressed creases; and a shiny new pair of plain-toed, cordovan oxfords. Although at first I felt silly in my strange new outfit, I soon learned to appreciate the protection from the harsh sunshine afforded by my oversized hat, and the importance of standing out as a symbol of authority and benevolence in a park of such large proportions.

It was immediately apparent that there was more to working as a ranger than just wearing the uniform. Because of my background in geography and natural history, I was assigned to both historical and environmental duties. This meant, of course, that I had an extraordinary amount of learning to do in a short period of time, for the park was bustling with tourists and school groups. Historians Jeff Parsons and Suzanne Lewis were especially helpful in recommending books and sharing their knowledge of Santa Rosa Island's long and colorful his-

Lifeguard-protected beach, by National Park Service

tory. Before long I had gained a general familiarity with the area's special features.

Many structures of historical interest are found within the park's boundaries. Among the oldest is Fort Pickens, built by the Army Corps of Engineers during the early days of Florida's statehood. The sprawling pentagonal structure, isolated on the western tip of Santa Rosa Island and commanding the entrance to the harbor, remained an important Union stronghold throughout the Civil War. This fact proved hard to swallow for some of the visitors on my fort tours. On one occasion, an argumentative fellow from Mississippi took issue with what he called "a Yankee's version of the story." Most of my listeners were courteous and friendly, however, and my hours as an historian always passed swiftly.

Sawleaf palmetto, by National Park Service

In addition to preserving historic structures, Gulf Islands National Seashore protects the barrier islands and their fragile ecosystems from development or destruction. Santa Rosa Island, like other barrier islands, contains no bedrock, but consists of tons of shifting sand particles that have been sculpted by wave action into a narrow ridge protruding from the waters of the Gulf. The island is extremely narrow—less than a mile wide over much of its length. The ability of barrier islands to withstand the harshest storms depends almost entirely on the intricate root-systems of sea oats and other native grasses. This delicate fabric can stave off wave action better than any number of steel-reinforced jetties. Today, commercial and residential development pose great threats to the stability of many barrier islands, largely because the construction involved inevitably destroys the plants that hold the islands in place. Parks like Gulf Islands National Seashore help ensure the long life of both barrier islands and the mainland areas they protect.

At first, much of the flora and fauna of my island home seemed strange and exotic. The two kinds of pines—slash and sand—seemed like stunted and sickly versions of their northern relations. And the live oaks, with their low, spreading trunks and oval, evergreen leaves, seemed hardly like oaks at all. But the live oaks—like all the plants on these offshore islands where fresh water is at a premium—are well adapted to survive beneath the desiccating rays of the sun. Thick, rubbery leaves allow the trees to function with a minimum of evaporation. In addition, the salt spray that drifts over the narrow island keeps most of the vegetation, including the live oaks, dwarfed and shrub-like. Among the woody plants typical of this sandy, salty environment are vines and low shrubs like greenbriar, sawleaf palmetto, yaupon holly, and Spanish bayonet yucca.

Among the island's wildflowers I could recognize a few familiar species. Spiderwort, passionflower, and

A variety of wildlife finds sanctuary in Gulf Islands National Seashore's protected habitats. Right, this loggerhead sea turtle, found injured in the surf, was later rescued by a team of park naturalists. Below, a brown pelican perches to preen. Brown pelicans, along with many other species of birds, rely on the limited barrier island habitats of the Gulf Coast for undisturbed nesting and feeding grounds.

ground cherry all appear in familiar shapes and colors. Amelie Blyth, a local botanist, and Paula Valentine, a park naturalist, both provided kind assistance in helping me to identify unfamiliar blossoms. Squareflower—a low creeping plant whose white flowers bloom in lacy, rectangular clusters—and standing cypress—a tall, spectacular wildflower whose brilliant red blossoms appear in great profusion—are two of the most beautiful varieties. Late in the season, goldenrod starts the summer's last wave of color.

Wildlife along the coast ranges from the tiny, phosphorescent organisms called noctiluca, which sometimes illuminates the waters of the bay, to the tall and stately great blue herons that stand like rigid sentinels along the shoreline. One of the most interesting interpretive programs at the park is "Seeing Sealife," in which visitors get a chance to wander through the shallows at the water's edge with seine nets, dip nets, and viewing basins. Creatures encountered on these forays include pinfish, smooth puffers, tonguefish, pompano jack, and many species of crabs. The mixing of seawater from the Gulf and nutrient-rich fresh water from the mouths of mainland rivers creates an ecosystem called an estuary, rich in an amazing variety of sealife.

Steve Garnett, a fellow seasonal ranger and active herpetologist, took advantage during his stay of the fact that the island was haven for a number of interesting reptiles. All summer long, he studied and photographed racerunners—small lizards active even during the heat of the day, anoles—diminutive creatures with the color-changing ability of chameleons, water mocassins, and diamondback rattlesnakes, whenever the opportunity arose. One of the items in the diet of the island's rattlesnakes is a much-studied mammal called the Santa Rosa Island beachmouse, a species of rodent found exclusively on that island.

Occasionally the park's poisonous snakes present a problem when they turn up in heavily visited areas. Thanks to my past experience with handling reptiles, on more than one such occasion I had the dubious honor of capturing a diamondback and releasing it in a remote location. Perhaps the most interesting reptile I encountered during my stay was a loggerhead sea turtle, weighing hundreds of pounds, wounded and exhausted, drowning in the surf along Santa Rosa Island's northern shore. A team of rangers hauled the massive creature from the water and arranged for its care. Given food and rest and allowed to recuperate in a large tank, the turtle recovered its health and was later released. The rescue—an exciting experience for me and the others involved—dramatized our roles as protectors of the seashore's wildlife.

A daily delight for me throughout the summer was watching the spectacular array of birds that flocked to the protected island habitats. Great blue herons, green herons, yellow-crowned night herons, gray kingbirds, and least bitterns were among my most interesting neighbors. Gulls, terns, and plovers nest on the islands. During spring and fall migrations the park also gives shelter to marsh hawks, cormorants, bobolinks, and numerous species of warblers en route from one continent to another.

One morning I stood and watched scores of migrating hawks streaming out of the northern sky. The day was warm, but the previous night had been unusually cool. October had arrived, signaling the end of my stay at the park. Just as I had begun to feel at home on the Gulf—living among plants and animals and people that had seemed strange a few months earlier—the season was ending. I packed my belongings, said goodbye to old friends, and, opposing the flow of the southbound hawks, headed north.

Loggerhead sea turtle, by Stephen Garnett

This winter, I am back working as a naturalist in the wilds of New York. These days, when the northern chill settles in my bones, I think back to my days at "Gulf Breeze," and the memories warm me better than my thick flannel shirt or the fire roaring within my old cast-iron stove. □

The author, a self-described "naturalist of great ambition and humble accomplishment living in Ossining, New York," is often seen with a straw hat, a Hawaiian shirt, and a dreamy look in his eye.

Brown pelican, by Budd Titlow, Naturegraphs

WHEN YOU GO . . .

Mississippi Section

The islands in this section are about 10 miles offshore and can be reached only by boat. From Gulfport and Biloxi, concession boats transport visitors twice daily to West Ship Island, Memorial Day through Labor Day, once a day in spring and fall, with service discontinued between October and April. Charter boats and private boat docks are available for access to nearby islands. Fort Massachusetts is a popular stop for visitors, with guided tours in the summer. Camping sites are open year 'round at Davis Bayou on the mainland; facilities include electric and water hookups and a dump station. Primitive camping is permitted on several islands in the section, but access is by private boat only. West Ship Island has a sandy beach with lifeguards on duty during the summer. Fishing is permitted in saltwater areas without a license. For further information on the Mississippi section of Gulf Islands National Seashore, write to the assistant superintendent, 4000 Hanley Road, Ocean Springs, MS 39564.

Florida Section

Unlike its Mississippi counterpart, the Florida section's islands and peninsulas are easily accessible by car from Pensacola on the mainland. A campground with electricity, a store selling food and supplies, and laundry facilities are located near Fort Pickens. Picnic areas are provided at Fort Pickens, Santa Rosa, and Okaloosa, with a snack bar at Santa Rosa. Several swimming beaches with lifeguards on duty and bathhouses are located on the islands. Rangers at Fort Pickens can recommend good areas for scuba diving. Surf fishing and charter boat fishing are permitted without a license, and both self-guided and ranger-guided nature hikes are provided at several locations. For further information, write to the superintendent, P.O. Box 100, Gulf Breeze, FL 32561.

THE NATIONAL PARKS: A Plan for the Future

If we are to protect park resources, we must limit visitation to carrying capacity

Michael Frome

The sanctuaries we call national parks play their most important role as an antidote to pessimism. Primeval nature has been a factor in the search for happiness since mankind began. Without parks and the chance for outdoor living, all that is best in civilization would be smothered. Little wonder that the more parks we establish, the greater becomes the demand.

Yet national parks have more to offer than physical recreation and release from care. They provide a source of learning the laws of nature that extend above and beyond laws of men. Joseph Wood Krutch, the drama critic, discovered an entire new way of looking at life when he moved from New York to Arizona and began exploring the Grand Canyon. If we do not permit the earth to produce beauty and joy, he wrote, it will not, in the end, produce food either. If we do not value the earth as being beautiful, as well as useful, it will ultimately cease to be even useful.

That is what the national parks basically are about. In light of unending rising pressures, however, they no longer can be all things to all people. Crowds, congestion, noise, intrusions of man-made structures, pollution of air and water—all these phenomena interfere with enjoyment of the natural scene, for which people flock to the parks in the first place. It's unfortunate that Secretary of the Interior James G. Watt lacks the perception, or sensitivity, to recognize these values. His concepts of stewardship are narrow and limited, and he is addicted to worn-out shibboleths about "affluent elitists" trying to keep the poor old public out of the parks.

In western Wyoming, Grand Teton National Park is one of America's best loved nature sanctuaries. The pristine air and quiet of the park and the valley known as Jackson Hole, unfortunately, are endangered by opening the local airport to accommodate scheduled commercial jets. The airport was established forty years ago, long before the site and adjacent land were incorporated into the park. Once flying became a serious affair, the airport might have been moved easily, but this was not done. It is hoped the battle is not yet over, and some future time may see this noisy intrusion picked up and moved to some existing airport elsewhere.

The time is at hand to stop regarding national parks as outdoor entertainment centers with space unlimited. As long as they are treated as such, they will continue to go downhill. So will the quality of visitor experience. There is plain need to limit numbers in order to ensure protection of the resource and to provide optimum enjoyment, rather than maximum use.

The idea is somewhat like limiting the number of passengers on an airplane to seats available, or in a hotel to beds available, or in a theatre or restaurant. There is a difference: in those types of places carrying capacity can be readily determined, whereas in a national park numbers are hard to come by, and all the factors are not understood. Too little has been done to determine carrying capacity on a scientific basis.

South Africa is way ahead. It controls access to Kruger National Park (which is twice the size of Yellowstone) at seven entrance stations. Visitors are required to have reservations for huts, bungalows, and campgrounds at one of the eleven developed areas. Even day-use visitors make reservations; during peak periods each station is assigned a quota, and, once the quota is filled, the gates are closed.

Limiting the use of individual parks doesn't necessarily restrict the tourist potential of the National Park System, but rather points to the value of establishing new national parks. This may not be in keeping with the program of the

Reagan administration, which would rather close established parks—or make them smaller—than rescue endangered parcels of heritage while there is still a chance. But Republican (as well as Democratic) members of the Senate and House are hearing from their constituents, and they cannot fail to respond to them, or fall themselves.

The proposal for a major park in the tallgrass prairie of Kansas belongs atop the list. Here is a region where the songs of the coyote and meadowlark are still heard, where flowers bloom across the rolling countryside, from the windflower in April to sunflower in autumn. Currently there is strong opposition to the idea in parts of Kansas, as there was in Wyoming years ago to the proposal for a Grand Teton National Park. But just as the Tetons have become a major asset and source of pride to Wyoming and the nation, so could the open prairie be to Kansas.

A Tallgrass Prairie National Park would be fitting commemoration of the westward expansion, a complement to the rodeos, fairs, and historic attractions of Kansas. Approximately 40 million travelers cross the state each year, mostly to get somewhere else; but if they could be induced to stay an average of one more day, they would leave an estimated $80 million extra in tourism and related expenditures.

"The new national parks and monuments now coming on line will be a great asset to the visitor industry of the state," declares Robert Giersdorf, president of Alaska Tour and Marketing Service, referring to the 43 million acres of federal land in Alaska designated for preservation. These include the largest park in the world, Wrangell–St. Elias National Park and Preserve, covering more than 12 million acres, with the greatest concentration of high peaks on the continent and more than a hundred major glaciers; Gates of the Arctic National Park and Preserve covering 7.9 million acres in the Brooks Range, richly endowed with wildlife; and Lake Clark National Park, 3.6 million acres of wilderness peaks, glacial valleys, sparkling lakes, waterfalls, and towering semiactive volcanoes.

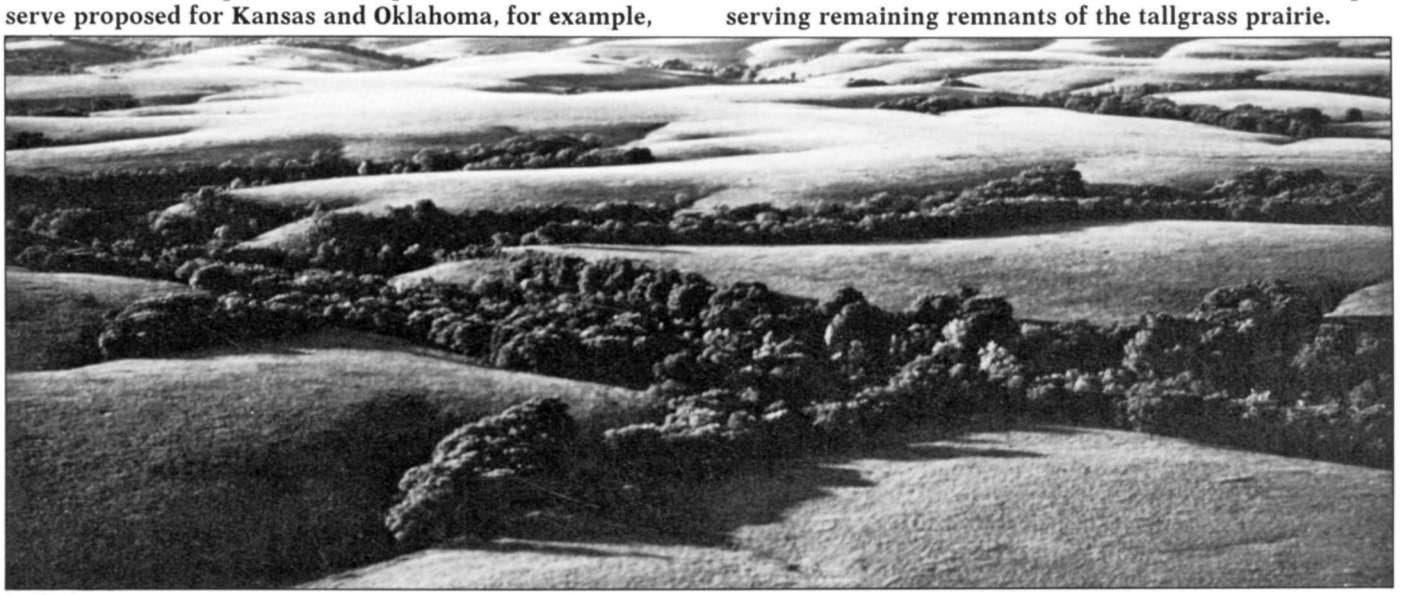
Giersdorf, who also operates the concession providing visitor services in Glacier Bay National Park and Preserve, conceives a harmonious relationship between preservation and use—providing there is adequate planning for both. As he puts it:

"Some of the older national parks no doubt have been badly exploited and over-impacted, reflecting lack of management. With the new areas in Alaska we have the opportunity to do things right, insuring a broad spectrum of experience.

"I agree with wilderness and the idea of sanctuary for backpackers and campers, and for kayakers and sailors, free of noise and mechanical intrusions. But there should be a place for motor-powered boats and motor coaches. These vehicles contribute, too, through energy-efficiency and controlled access.

"It should be possible to view and enjoy as well as protect, to share the wonders of Alaska with the American people, and not simply those

To relieve pressures on national parks, visitation should be limited, and dispersed to new parks. A national reserve proposed for Kansas and Oklahoma, for example, would attract visitors and could contribute additional millions of dollars to the states' economies as well as preserving remaining remnants of the tallgrass prairie.



Ron Klataske

with ability and agility. Most of our visitors come to Alaska in their later years, because of the cost, distance, and time involved.

"But the real estate is large enough to do things right, given two essential factors. First, the Park Service needs the funding for adequate master planning of the parks, with full involvement. Second, we in the industry must discipline ourselves to accept a concept of proper visitation and access and a limit to carrying capacity."

Glacier Bay has become a testing ground of the carrying capacity concept. One of the principal attractions of the 50-mile-long bay—particularly for major cruise vessels traveling the inland passage to Alaska—is the spectacle of humpback whales that come north in summer to feed on shrimp and small organisms. But the number of whales seen during the past few years has declined significantly, with the blame being placed on increasing human disturbance. According to preliminary studies conducted by the National Marine Fisheries Service, whales generally have been avoiding the bay for the past two years because of rising cruise traffic and because of small pleasure and charter boats traveling erratic courses.

As a result of findings and recommendations, Giersdorf has made extensive modifications on the two concession-operator tour ships, *Glacier Bay Explorer* and *Thunder Bay*, to reduce their noise levels. The Park Service has restricted the number of cruise ships into the bay, and the same needs to be done with smaller charter boats.

In the long run, determining carrying capacity may prove the simplest aspect of national park use. How to make the parks demonstration models of ecological harmony and how to impart to the visitor an understanding of the natural life-support system represents a greater challenge.

Death Valley National Monument, as a case in point, offers an object lesson in choices ahead. It shows that human restraints—even a change in lifestyle—are likely to be required for the survival of parks as places where future generations can observe the last remaining fragments of unspoiled, original America. The heart of Death Valley, set aside to preserve natural processes of rare desert ecosystem, is being torn apart by strip mining and open-pit mining authorized under an old law that should have been revoked ages ago. Visible scars will last for centuries.

In 1976 Congress voted a four-year moratorium on development of new mining in Death Valley. The moratorium has now expired. The choices are now (1) to adjust the monument boundaries and reduce its size to exclude the mines; (2) to allow mining to continue under federal control; or (3) to purchase mineral claims to several thousand acres at a cost of at least $60 million. All three choices come with a high price tag attached.

Today's visitor to Death Valley views a gash in the earth 300 feet deep, 1,000 feet wide, and 2,000 feet long. This one site has been mined out of colemanite, a nonrenewable material used in the filament of light bulbs. There still are other holes to be dug, but like all nonrenewables, the supply must ultimately run out. Possibly the National Park Service should interpret the specific scene as a means of informing the public of its options: to consider serious changes in lifestyle either now or later, as a last resort.

National parks constitute a gallery of American treasures. They are more than destinations; they are a way of travel. In an era of growing population and shrinking space, they become ever more valuable.

The future of the national parks, however, depends on awareness, concern, and sense of custody of the public they serve. In a democracy we get what we deserve and leave a legacy that reflects ourselves and our time. If you would rather have the same expression in more concrete terms, I give you the ten-point Frome Plan to Ensure the Future of Our National Parks:

1. Stop regarding national parks as outdoor playgrounds. Limit numbers of visitors to provide optimum enjoyment, rather than maximum use.

2. Close Yellowstone National Park for five years to automobile traffic. Use that period to develop a true ecosystem plan, embracing bordering national forests, as a model for other parks.

3. To preserve the peaceful environment essential to full enjoyment, establish vast quiet zones, free of automobiles, dune buggies, motor-powered boats, and low-flying airplanes and helicopters.

4. Reduce automobile access. Encourage restoration and resumption of train travel. Within the parks, develop extensive systems of shuttle buses.

5. Reevaluate the place and purpose of each concessioner. If the service can be provided just as easily in a nearby community, close the concession and move it out. Close the souvenir shops now.

6. Reassess overnight lodgings in the parks. Deemphasize hotels and motels and place new emphasis on simple hostels in keeping with the settings.

7. Grant full congressional funding to the Land and Water Conservation Fund in order to expedite purchase of privately held "inholdings" and new parklands.

Make future authorization of parks include appropriations so they are not parks-on-paper only.

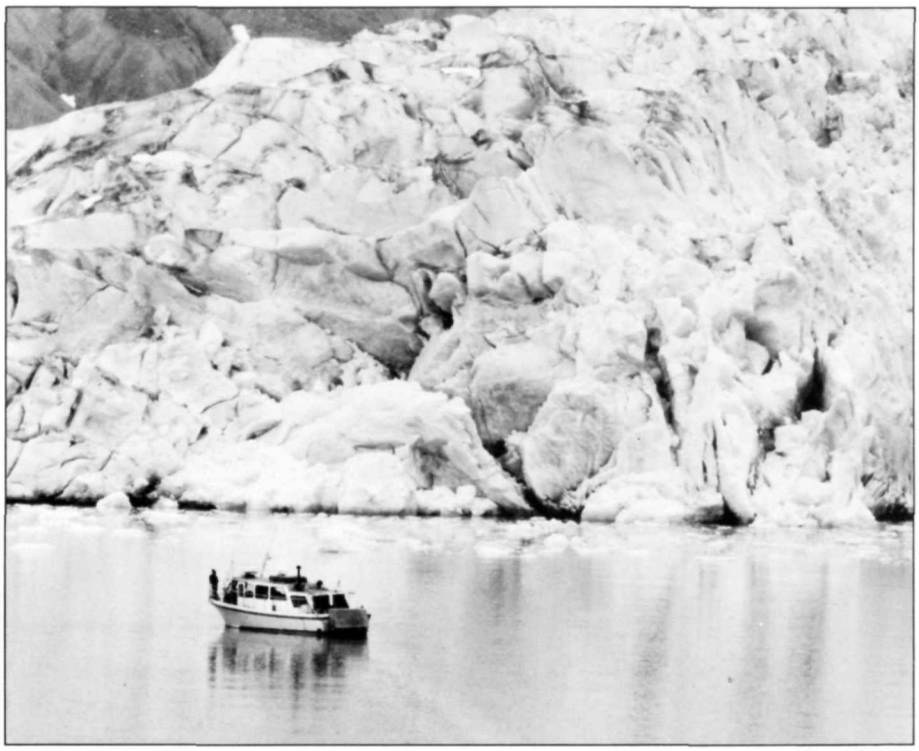
8. Grant full funding to national park areas close to major population centers, including Santa Monica Mountains, California; Jean Lafitte, Louisiana; Cuyahoga, Ohio; Chattahoochee, Georgia; and Gateway, New York.

9. Develop a list of historic structures in need of urgent repair, like Independence Hall, and grant adequate and early appropriations.

10. Adopt a strong Clean Air Act, assuring national parks maximum protection from polluting industries. □

This article is the final installment of Michael Frome's five-part series, other portions of which appeared in our January, February, June, and September/October issues. Mike has recently completed a definitive book (scheduled for 1982 publication) about the U.S. Forest Service and the national forests while author-in-residence at the Pinchot Institute for Conservation Studies. His work was aided by a grant from the National Press Foundation. Earlier, Mike received the Mort Weisinger Award from the American Society of Journalists and Authors for the best magazine article published by a member of the Society during 1980 ("The Un-Greening of Our National Parks," a series in The Travel Agent, *from which the articles in* National Parks *in 1981 have been adapted).*

In September, in Jackson Hole, Wyoming, NPCA sponsored a conference on The State of the National Parks: Planning for the Future. Fifty park experts came together to draw up guidelines for park planners. A summary of those principles will be published in the next issue of National Parks.—*Ed.*



Clarence Summers

Glacier Bay National Park (above) is testing the "carrying capacity" concept. Increased boat traffic is blamed for disturbing humpback whales, as fewer whales have been coming to the bay in recent years; so the Park Service has limited the number of cruise ships permitted in Glacier Bay.

The American public will be forced to make fundamental choices in response to increasing conflict between the desire to preserve unique natural systems in national parks and the demand for natural resources. An old law already permits strip mining in Death Valley National Monument (below).

Dan Perry

Photo by Haines, National Park Service

Klasina VanderWerf

After eight years of mixed results, Rocky Mountain biologists have come up with some new ways to work toward the

Return of the River Otter

In the late fall of 1980, high in the Rockies, a man stood over a snow-drifted beaver den, with a quizzical expression on his face. Dave Stevens had been tracking a river otter all day through the snow, and had lost the trail for the past half mile. Now, all of a sudden, his radio receiver was picking up a strong signal from the transmitter implanted in the belly of the animal. The otter must be right underfoot! How had he gotten there without being detected? It was enough to frustrate anyone.

Stevens is research biologist for Rocky Mountain National Park, a unit of the National Park System that is ambitiously pursuing the goals set forth in its 1973 Master Plan: To reintroduce the species originally found in that habitat, including river otters. The effort to reintroduce otters, in spite of recent innovations using radio transmitters, has had only spotty success so far. The team of park and Colorado Division of Wildlife specialists aren't giving up, though. They realize that the lack of background information on the river otter makes reintroduction an uncertain business, but they believe the trouble is worthwhile.

From 1973 until 1976, park biologists compiled data on the probability of success of otter reintroduction within the park. Finally, in a special report on the project, Dave Stevens wrote, "nothing short of releasing the animals and determining their survival could answer the question."

Much of the information available on the river otter comes from studies and trappers' reports dating from more than a century ago, when the species was still relatively plentiful and much valued for its unusually thick, soft fur. The river otter is described by experts as intelligent, curious, and playful. Its body is well adapted to underwater pursuits—long, sleek, and tapered, with a rudderlike tail and webbed hind feet. Its luxurious dark brown fur keeps the animal warm and dry year round, both in and out of the water. According to observers, otters spend much of their day in earnest pursuit of a good time. Belly-flopping into streams from muddy banks and playing tag and hide-and-seek are favorite pastimes for the energetic clowns. The otter is an industrious worker as well, outswimming its supper of fish, diving deep for crayfish, and skillfully catching frogs and salamanders on land.

In general, researchers have surmised that the otter's most critical requirement for habitat is a stable water supply throughout the year, of great enough extent to allow for the wide-ranging travels of males during mating season. Mating and reproduction have not been extensively studied, but biologists know that the female is capable of "delayed implantation" in which a fertilized egg may remain undeveloped for up to eight months until conditions are ideal for pregnancy. River otters are infamous for "borrowing" or sharing beaver dens rather than building their own. This kind of information was helpful to reintroduction planners to some extent, but it is sorely lacking in detailed documentation for habitats in Colorado.

Once extending into almost every state of the Union, the animal's range has dramatically decreased during the past hundred years. In fact, Colorado is one of the areas where populations held out the longest. Although visitors to Rocky Mountain National Park still occasionally claim sighting the otter, the creatures have been considered extirpated there since 1950.

A variety of reasons for the otter's decline have been hypothesized—poisoning from chemicals concentrated in food fish, diminished water supply, over-trapping for furs,

Photo by James Tallon, © Outdoor Pix & Copy

A transplanted river otter makes its first tentative step into a new environment in the Kawuneeche Valley at Rocky Mountain National Park (above left). Park biologists chose sites to release otters based on optimal food supply, availability of dens, and access to water. Above, a river otter displays sleek fur and a long rudderlike tail, invaluable in its underwater pursuits.

Julie Caufield outfits a river otter with a radio transmitter implant. Park biologists hope that implanted otters will provide information that will aid the reintroduction effort—information about choice of habitat, migration patterns, and reproduction. This data has been difficult to obtain using standard tracking methods. Right, river otters are sociable creatures among their own kind; in this case, an otter finds a convenient pillow in the form of a sleeping neighbor. Far right, a river otter stands erect, using its tail for balance, to survey its domain.

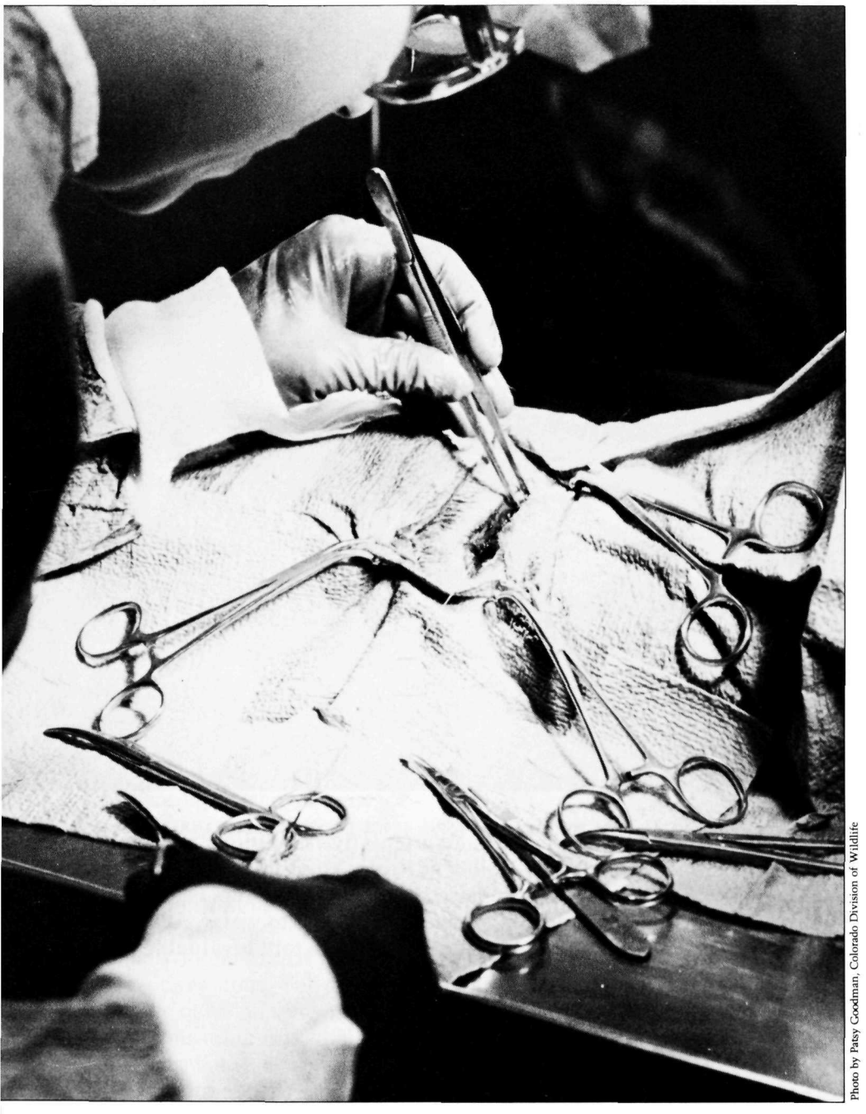


Photo by Patsy Goodman, Colorado Division of Wildlife

Photo by Budd Titlow, Naturegraphs

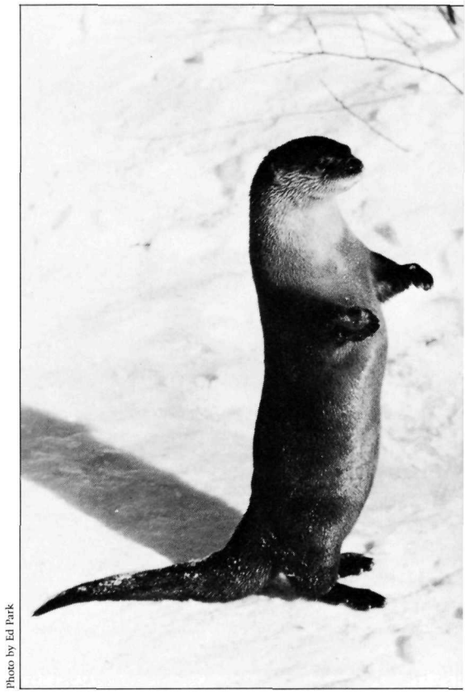


Photo by Ed Park

and general encroachment by civilization on wetlands and stream habitats. But reintroduction team members admit that they don't know which, if any, of these factors are the ones most crucial to the survival of a stable otter population.

In 1977, after much debate, a plan for otter reintroduction in the park was approved. The plan stipulated that the best site possible be found for releasing otter, that animals be obtained from a habitat like that of the park, and that a monitoring program be followed to find out as much as possible about the behavior of the released otters in their new home.

First, the team settled on the Colorado River drainage in the Kawuneeche Valley as the best release area in the park. The valley stretches for sixteen miles, includes Grand Lake and its tributaries, and ends in a natural boundary at Shadow Mountain Reservoir. This drainage had an excellent water supply, plenty of the otter's favorite foods, and many beaver dens.

That settled, the search for donors began, a task that proved much more difficult than anticipated. Yellowstone National Park, the nearest possible source, was unable to supply the project because it had too few otters. The team contacted Ontario, where officials helped find trappers who would use special gear to obtain live, unharmed otters. Despite all efforts, for two years not a single otter could be live-trapped. Otters, it was discovered, do not respond to a baited trap, as they are not scavengers by nature.

Finally, five years after the project's start, the Colorado Division of Wildlife was able to obtain live, healthy otters from Newfoundland, Washington, Oregon, and Wisconsin for release in the park. One of the more successful trapping methods involved placing traps near otter slides—thus appealing to the animal's playful personality.

In the fall of 1978, the first river otter was transplanted to the Kawuneeche Valley, soon followed by six others, both male and female. Dave Stevens had some success spotting otter signs that winter. He located tracks and an otter slide in the Kawuneeche Valley in February. Though the otter is in its element in water, it still travels well on its short legs on land. Stevens has always appreciated the animal's whimsical gait. "They take a couple of nice jumps through the snow and then slide. They don't just mush through the snow like most animals," he comments.

David Hanna, a wildlife technician, walked the Kawuneeche Valley in September 1979 and reported that he had trouble spotting otter signs in the rugged drainage system. The dots and dashes of the otter's steps and slides didn't show up on the rocky substrate. Only small, isolated mud flats in the area registered the "Morse code" of the otter gait.

Although these reports indicated that at least some of the otter had survived, there was no conclusive means of determining whether those otter had reproduced and, if so, under what conditions. A spring litter in 1979 would not necessarily mean that the released otter were pairing in their new habitat, because of delayed implantation. The appearance of young otter in 1979 could mean that mating had taken place in Wisconsin, not Colorado. In any case, no sign of young could be found. It became clear, at this point in the reintroduction effort, that a better means than visual sighting was needed to glean as much information as possible from these elusive creatures.

When the idea of using radio transmitters to track the otters came up, Patsy Goodman, nongame biologist for the Division of Wildlife, did some homework. Researchers at the University of Idaho had studied the use of both radio collars and implants in otters. To confirm their conclusions, Goodman traveled to the Cheyenne Mountain Zoo in Colorado Springs, measured their captive otters and determined that the adult otter's neck is indeed larger

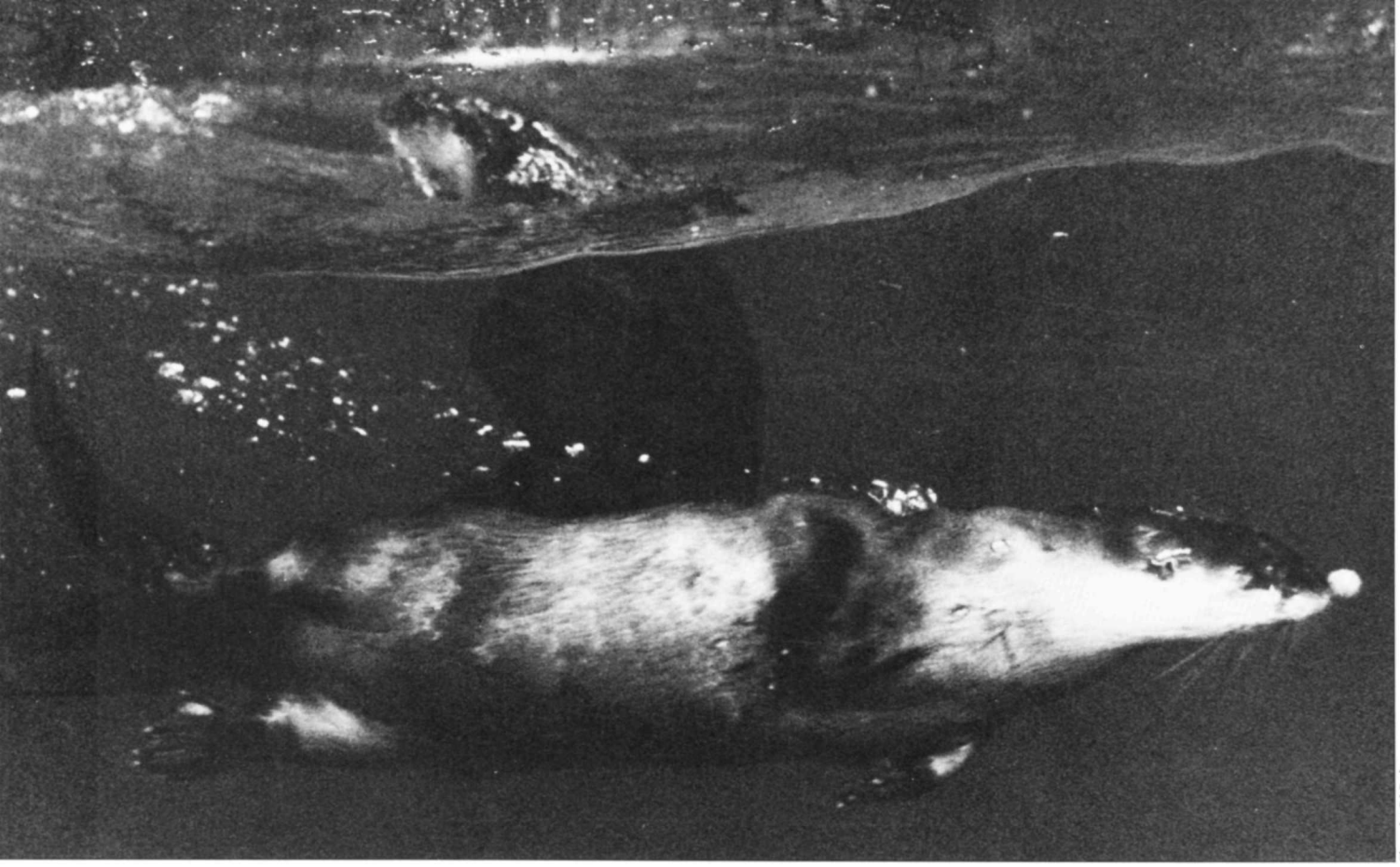


Photo by Ed Park

than its head, making escape from a collar likely. The use of radio implants seemed the logical solution. Thus, a new phase in the park's reintroduction program began.

The park obtained two male otters in 1980 and implanted transmitters in their abdominal cavities, where the implants would not alter the sleek contours of the animal's body nor interfere with natural functions. The transmitters would emit a signal for up to eighteen months. Patsy Goodman still marvels at the resiliency of the otters that underwent the operation. "Within two hours of surgery, the otters were eating, drinking, moving around as if nothing had happened," she notes.

Tom Lytle, nongame biologist for Colorado's northwest region, and Dave Stevens have been monitoring the two implanted otters since their release. They say that finding evidence of the otters' existence is as difficult as ever—even *with* the transmitters. What information the two researchers have come up with so far is somewhat surprising. "They're not traveling as far as we expected," Stevens says. "They're staying fairly close to the put-in. They've moved two or three miles at the most." This lack of movement may be due, in part, to the harsh winter weather. Both otters set up house in beaver dens, but without tracking devices on females, finding out about reproduction rates, or the lack thereof, remained difficult.

In the spring of 1981, researchers lost contact with one of the males. "Either his radio quit, or he migrated outside our monitoring area," Stevens concludes. During the course of the year, some visitors have reported sighting otters within the park, possibly those from the original seven which lacked radio transmitters. The park still actively solicits the contribution of otters from Wisconsin, the most reliable source so far, but without much success. At this point, the park would like to obtain several female otters to implant with transmitters. They could help team biologists study ways to keep a reproducing population in the park.

Despite the many disappointments, delays, and inconclusive findings in the Rocky Mountain National Park's otter reintroduction program so far, enthusiasm for the program remains high throughout Colorado. Dave Stevens looks forward to next spring, when, he says, it's just possible that young otter, bred from the newly introduced otters, will be documented. The creatures are, after all, extremely adaptable; and they are protected in the park from man's encroachment to a far greater extent than they would be elsewhere in Colorado. If any team can do it, the Rocky Mountain staff in cooperation with Colorado's Division of Wildlife can. After all, they've had plenty of experience! □

Klasina VanderWerf published an article on Rocky Mountain National Park's peregrine reintroduction efforts in National Parks *in 1979.*

Photo by Leonard Lee Rue III

Photo by Leonard Lee Rue III

Opposite, underwater otters play keepaway with a riverbottom pebble. Hard working, efficient hunters, otters fish with agile forefeet at the river's edge (above), and consume the catch on the spot (above right). In the winter, bounding tracks reveal the presence of an otherwise elusive otter (right).

Park biologists hope that this winter's tracking efforts will reveal, for the first time in many years within the park, some evidence of the beginnings of a reproducing population of otters. If this reintroduction effort succeeds, it may provide valuable information for programs to reintroduce the otter in other national parks.

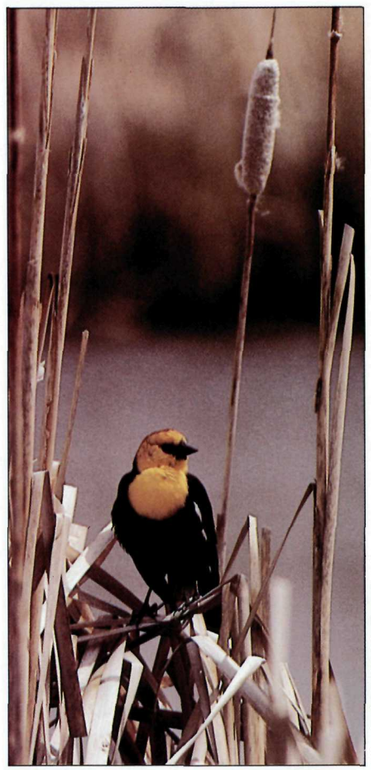
Photo by Dave Stevens, Rocky Mountain National Park

The Jackson Hole valley could be a model for innovative open space preservation

At Home on the Range

Jean Hocker

South Park, by Phil Hocker



Yellow-headed blackbird, by Tom Mangelsen

"When my grandfather homesteaded this place, he should have dug a big trench and buried those Tetons. Then we wouldn't be having all these problems. People would just leave us alone."

The rancher's words are only half in jest. Certainly, the Tetons have drawn people to the Jackson Hole valley for nearly a century. Today almost four million tourists come each year to savor the unparalleled combination of scenery, wildlife, recreation, and Old West atmosphere for which Jackson Hole is world renowned. They linger in Grand Teton National Park, visit the National Elk Refuge, hike on national forest lands, and enjoy the hay meadows of working cattle ranches that border, and in some cases lie within, the federal reserves.

In unprecedented numbers, people are coming to settle, build houses, buy condominiums, start businesses, and cash in on the boom that beauty has brought to Jackson Hole. The southern approach to Grand Teton National Park until recently revealed serene meadows dotted with grazing Herefords and golden haystacks. Now, though meadows remain, the route displays an encroaching clutter of trailers, town houses, sprawling subdivisions, and warehouses. The Gros Ventre Buttes, whose windswept slopes provide winter habitat for mule deer from the park, have succumbed to subdivisions—the one already scattered with houses and sliced by roads, the other approved for three hundred luxury condominiums and a hotel.

Jackson Hole vividly illustrates the problems of a nationally significant area where public and private land ownerships are intermingled, although its public resources—scenery, wildlife, clean air, and pure water—transcend boundary lines. The conflicts of land use and management just among the several federal owners, the Park Service, Forest Service, and Bureau of Land Management alone can create obstacles to wise management. Mix in nearly 70,000 acres of privately owned land in the valley and its tributary drainages, plus the western attitude that "you can't tell a man what to do with his own land," and the difficulty of protecting this fragile valley becomes evident. Finally, add those millions of visitors, a burgeoning ski area, and a regional energy boom creeping ever closer to the valley (see *National Parks,* June 1981) until preserving the valley's complementary mix of public and private uses and open spaces seems a gargantuan task.

Yet the assignment is not hopeless—merely imposing and pressing. Mechanisms to preserve the ranch lands and open space of Jackson Hole and to maintain the valley's wildlife and scenery have already been suggested. This range of possibilities, if vigorously applied, could compete with the developer's dollar in determining the future of these vital private lands.

Even within the vast wild lands of northwest Wyoming, these few thousand acres of private lands make a difference for both wildlife and human visitors. For the elk that migrate across these private ranches between summer range on park and forest land and winter feed grounds on the valley floor continued subdivision development would lead to changes in herd size and location. Moose browse on willows along the Snake River in winter, when food on public land is in short supply. Mule deer from Grand Teton National Park that winter on the Gros Ventre Buttes need the private lands. And for the bald eagles of the northwest Wyoming region, Jackson Hole's private lands may be critical. Nine nests are known to be located on or adjacent to private lands in the valley, and the reproductive rate in these sites seems higher than that in the nineteen

The rolling hills of the South Park area stretch toward the mountains that surround Jackson Hole. The open spaces of ranches and farms in the valley provide important habitat for wildlife and offer protection to neighboring Grand Teton National Park. At left, the gregarious yellow-headed blackbird lives in fields and marshes. Many species of wildlife thrive while sharing the range with ranchers and cattle.

Spring Creek Ranch condominium development, by David Stump

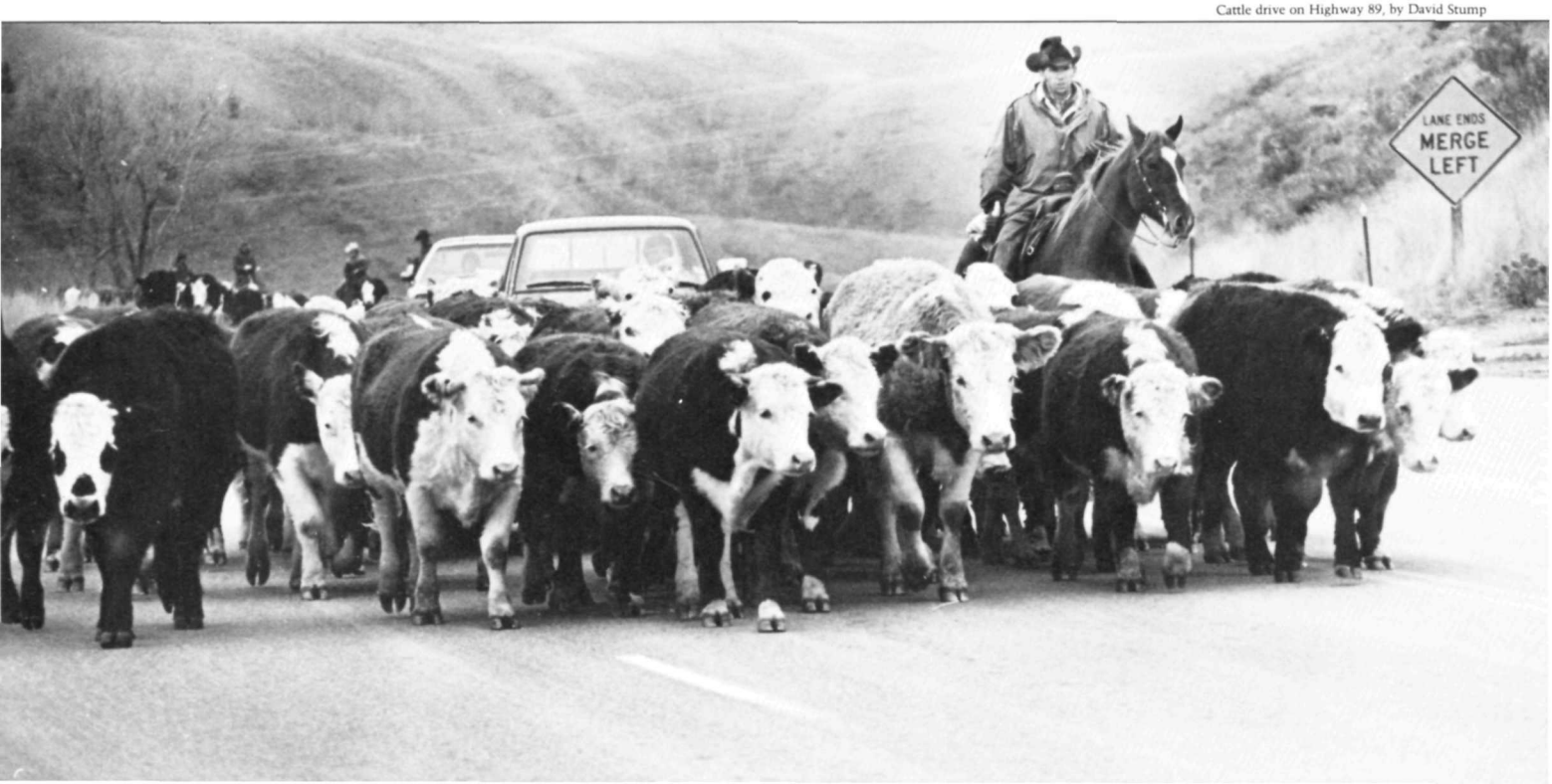
nests in Grand Teton and Yellowstone parks. Biologists now think that the long-term success of nesting balds in the entire region may depend on the highly successful nesting habitat provided by Jackson Hole's private lands. A subdivision lot with a bald eagle nest was sold last year; this year, the eagles did not return.

The private lands matter, too, to the millions of people who each year seek something special in Jackson Hole. "My husband and I, being residents of a crowded corner of Pennsylvania, look upon our Western vacations as a true blessing," a concerned woman named Carol Campbell wrote after a visit in 1979. "We don't want to come to Jackson Hole to play golf, or go to a disco, or eat at the Pizza Hut. We want to stand in that magnificent valley as we so often have and hope to hear a coyote or see an antelope. We want Jackson Hole to remain a special and different place."

Like a coveted jewel, Jackson Hole has repeatedly kindled controversies over its ownership, control, and use. The area lies high in the mountains of northwest Wyoming, just south of Yellowstone and Grand Teton national parks. The jagged, ice-sculpted peaks of the Tetons form the Hole's western flank. Gentler, older mountains and high plateaus complete the encirclement of the valley.

Grand Teton National Park itself was created in 1929, but it included only the most spectacular portions of the Teton Range—about 95,000 acres of public land that had been part of the Teton National Forest. The new park contained almost none of the lowlands of the Jackson Hole valley, many of which by then had been homesteaded and were in private ownership. Some crucial wildlife lands, including the elk migration routes from the National Elk Refuge—home of the world's largest elk herd—and calving areas, were omitted; nor did the relatively small park protect the visual foreground of the Tetons on which gas stations, food stands, and billboards were even then beginning to intrude. Proposals to expand the park bitterly divided the people of Jackson Hole. Several times in the 1930s Congress considered and failed to pass legislation to expand Grand Teton. Finally in 1950, after several compromises on hunting and grazing, Congress established an enlarged 310,000-acre park. In that year Grand Teton National Park recorded 200,000 visitors.

Cattle drive on Highway 89, by David Stump



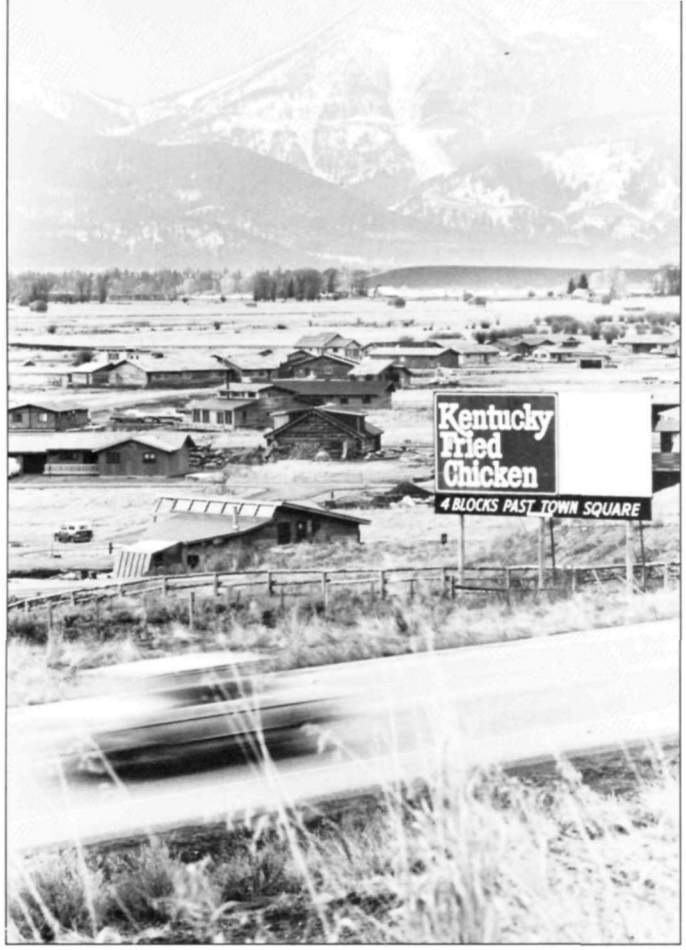
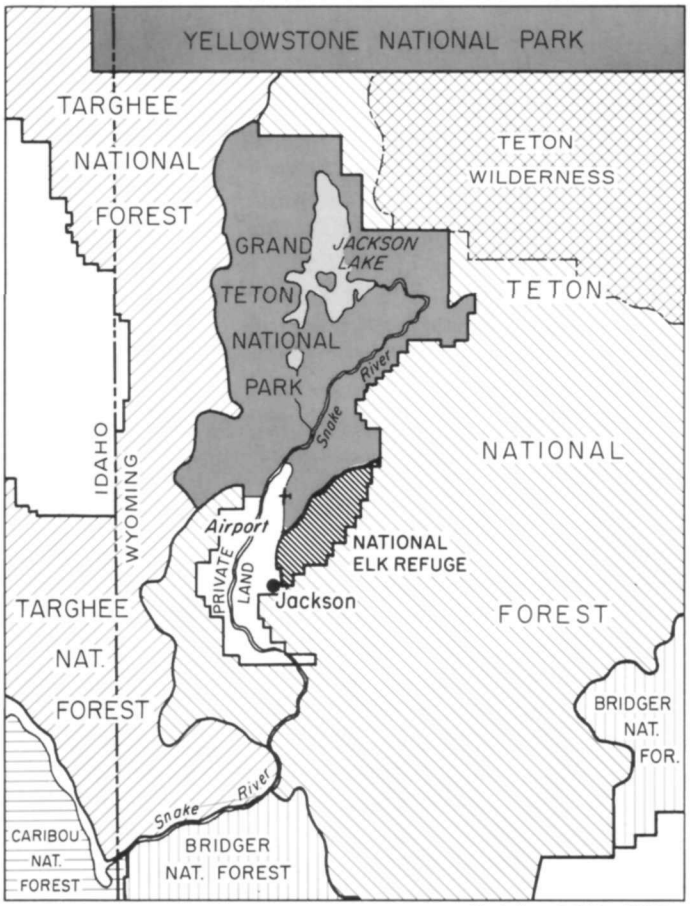


Photo by David Stump

All the trappings of modern development increasingly press in on the traditional ranching life of Jackson Hole. Left, cattle share the roads with tourists. Many visitors return year after year to enjoy the atmosphere of the rural west. Above, condominiums and fast food restaurants gobble up open space. The boom in second home development, fed by the attractive blend of public and private open space, threatens to destroy the very attributes that bring people to the area.

JACKSON HOLE AND SURROUNDING PUBLIC LANDS



Map by James F. O'Brien © NPCA

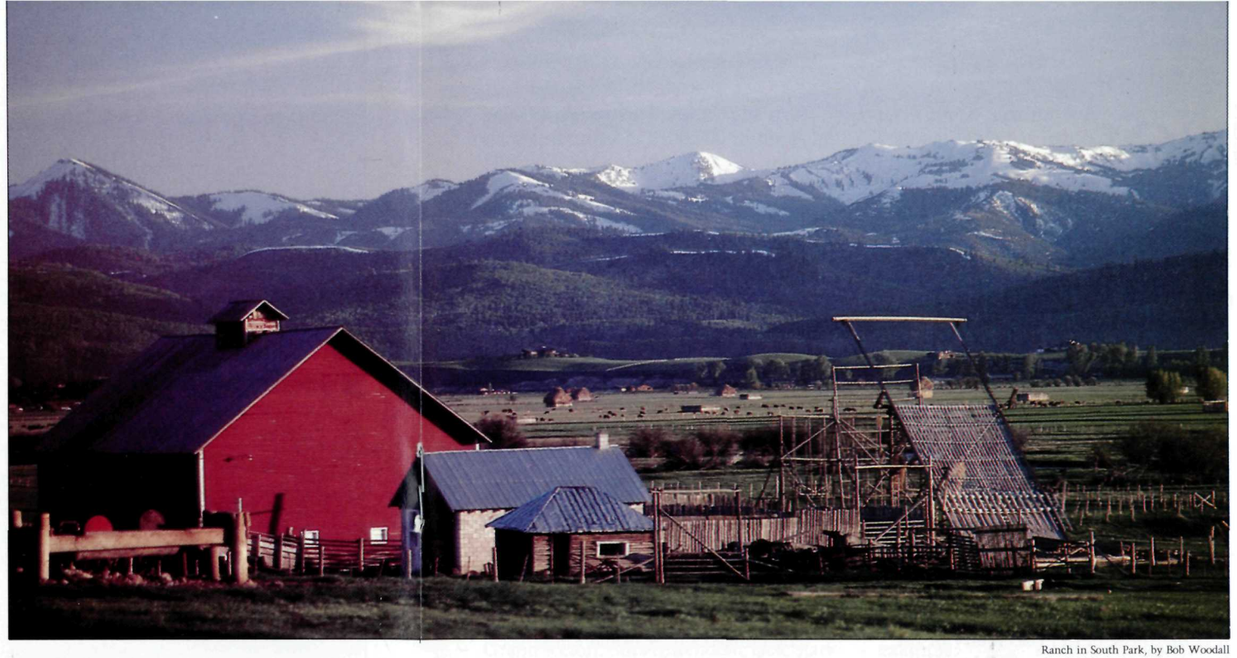
A block of more than 50,000 acres in private ownership in the southern part of the valley and some 14,000 privately held acres in major drainages still lay outside of the expanded park. Most of this private land was in ranching, however—a suitable complement to the national park. The valley's population was then less than 3,000.

Not private ownership per se, but the social and economic changes that have come to the valley since 1950 threaten the historic harmony between the productive use of private land in the valley and the area's scenic and wildlife resources.

Three decades have brought incredible changes to Jackson Hole. No longer a cow town with a summer tourist business, it is quickly becoming a booming year-round resort. Population grows at an estimated 10 to 12 percent annually. Around 10,000 permanent residents now live in the valley. Office buildings, shopping centers, and warehouses compete for space with second homes and condominiums. Developers pay thousands of dollars an acre for ranch land. No one buys land in Jackson Hole anymore for running cattle. Although the visitor can still see cowboys driving cattle to the summer range as they did a hundred years ago, the cowboys now are ranchers and their families hanging on to a traditional way of life despite increasing temptation to sell.

In 1975 the National Park Service did a boundary study of Grand Teton National Park. "The countryside adjacent to the park generally complements the natural and scenic attributes of Grand Teton National Park," says the report. "If indiscriminate development were allowed to occur on these pastoral lands, the rural character of the county and the regional experience

Red barns and green pastures in South Park provide a vivid contrast to the snow-draped mountains in the background. Left, an elk and three calves graze in a meadow. The undeveloped areas of Jackson Hole complement the National Elk Refuge and other federal lands to preserve vital migratory routes for the elk. A far-sighted plan for the valley would leave land in private hands and yet protect wildlife habitat through easements, land trusts, and other alternatives.



Ranch in South Park, by Bob Woodall

presently available would be impaired."

Two years later it was not the Park Service, however, but a group of Jackson Hole residents, appointed by the Teton County Commission, that drafted legislation to establish a Jackson Hole Scenic Area. The proposal, which addressed only the valley's private lands, was introduced in both the Senate and House of Representatives in 1977. It would have authorized federal acquisition of scenic easements, or development rights, over some of Jackson Hole's ranch lands, although most private land would have remained in private ownership.

The Senate never did pass the Jackson Hole legislation, although the House approved a modified version of the proposal. The next local election chose a county commission whose majority did not want any federal action to curb development. The scenic area idea was not reintroduced in Congress.

In the four years since the Scenic Area Bill was introduced in Congress, the number of acres in recorded subdivisions has more than doubled in Teton County (about 3,800 acres in September 1977 and 8,400 acres by August 1981 outside the town of Jackson). Even so, a surprising amount of open country remains on private lands, a real credit to the ranchers who are still hanging on.

The large ranches are vulnerable, however. Several owners talk now of selling; it's increasingly difficult to ranch in an area that is growing and changing as this one is, and the developers' offers are enticing. Unless concentrated efforts can provide alternatives to subdivision, the meadows and pasture lands that are the setting for Grand Teton National Park will inevitably disappear.

Elk and calves, by Tom Mangelsen

On the streets of Jackson the dwindling number of ranchers and the ranch hands mingle with "cowboys" created by movies and the dictates of fashion. The ranches of the valley still follow rhythms attuned to the seasons of pastures, cattle, and haying. Even in those fields where cattle graze and balers bind the long grass, much open space still remains marked more by the hand of nature than by man. Rainfall and temperature are yet more important on these ranches than asphalt and plane schedules.

Ranching as it is practiced on the lowlands of the Jackson Hole valley not only is compatible with the wildlife of the public lands surrounding the area; but it also preserves the sweeping vistas and the western atmosphere that delight the visitor to the valley and its mountains. As much as the park, elk refuge, and national forests are treasures to be protected for future generations, so too is the agricultural life so bound up with Jackson Hole. These working ranches are as important a resource and as much deserving of protection as the mountains, lakes, and forests on public land. Any plan for the area must find a way to guarantee this living relationship to the land and not merely turn Jackson Hole into another homogenized tourist resort or stage-managed museum.

Local government is not likely to do that job. It is unrealistic to expect a community of 10,000 people to protect open space for four million annual visitors, even if all local residents were inclined to do so. Furthermore, local laws and programs are notoriously impermanent, subject to change with each new election.

Jackson Hole is, however, an ideal testing ground for many of the land protection tools that the Reagan administration and congressional leaders say they want to explore. In July invited panelists at a Senate workshop on public land acquisition and alternatives discussed land protection tools ranging from federal acquisition of land to local zoning, including tax incentives, land exchanges, scenic easements, and private initiatives.

For some private lands, like inholdings within national parks and wildlife refuges, it is hard to imagine a strategy other than eventual federal ownership that would permanently protect the resource. Scenic or conservation easements, whereby only incompatible development rights are acquired, might in some cases be a second-best choice for inholdings.

On other national interest lands, like the Jackson Hole ranches adjacent to Grand Teton, a combination of tools may be the most successful approach. Here, where the goal is to selectively preserve open space, protect scenery, and maintain a pastoral atmosphere, conservation easements may be the most appropriate tools because of their flexibility and lower cost (although easements can sometimes be almost as costly as full acquisition if the terms are very restrictive).

Tax incentives for donations of conservation easements are available at present, but are attractive only to people with substantial incomes. Income or estate tax credits would be a powerful encouragement for donations and, again, could be authorized for specific areas of national interest.

There is a role, too, for private initiative. Jackson Hole residents recently organized a private, nonprofit, tax-exempt corporation, the Jackson Hole Land Trust, to accept deductible donations of land and easements, and money to buy them. Its success will depend on its creativity and the group's ability to obtain these donations. Many people believe that if private philanthropy for land protection can work anywhere, it can work in Jackson Hole.

The outlook for Jackson Hole is uncertain at best. Without some deliberate assistance, the future of the valley's private lands is already determined. The special character of the area will fade into the mediocrity of so many trendy resort areas.

The opportunity exists to make Jackson Hole a model of new land protection initiatives. But there are days when even the most committed believer cannot help but be haunted by the words written by author and Jackson Hole dude rancher Struthers Burt in his *Diary of a Dude Wrangler*. It was 1924, and efforts to establish a national park in Jackson Hole were just heating up, when he wrote: "I am afraid for my own country unless some help is given it—some wise direction. It is too beautiful and now too famous. Sometimes I dream of it unhappily." □

Originally from upstate New York, Jean Hocker moved to Jackson Hole several years ago. A board member of the Jackson Hole Land Trust, the Jackson Hole Alliance, and the Izaak Walton League, Hocker is the coordinator of the League's Jackson Hole Project, which seeks alternatives to development of ranchland and open space.

Budget Blues

Faced with inflation and salary increases, parks have cut visitor services and maintenance

You can't get blood out of a turnip, and superintendents in the National Park System can't get much more work out of a dollar stretched to the limit by rising visitation, rampant inflation, and inadequate appropriations during the past decade. Despite often imaginative and resourceful efforts, the shortage of funding has affected garbage pickup, road repairs, campground hours, trail maintenance, and nature walks, an NPCA survey of fourteen parks shows. Although almost every superintendent contacted by NPCA looked forward to the Reagan administration's emphasis on improvements in the parks, the current concentration on buildings and roads does not address the most pressing problem revealed in NPCA's survey—the deterioration of visitor services caused by reductions in staffs and operating budgets. (NPCA staff talked to superintendents and other park officials at the following parks during the last weeks of August: Yellowstone, Big Bend, Grand Canyon, Yosemite, Great Smoky Mountains, Sequoia-Kings Canyon, Grand Teton, Cape Hatteras, Shenandoah, Everglades, Cape Cod, Zion, Arches, and Olympic.)

The problems aren't limited to any one park. At Yellowstone, with everything from heating oil to hay costing more each year, Superintendent John Townsley has had to cut some programs and ask more from his staff to preserve certain visitor services and to keep the park safe. Grant Village visitor center has been closed; roads will be groomed less often this winter and were plowed later last spring, thus effectively delaying the opening of the park; backcountry trails received a lot less maintenance.

"We have a stable budget, but it hasn't risen to meet increased operating costs due to inflation," commented Richard Smith, Assistant Superintendent for Everglades. The park has had to defer studies on fishery resources and coral reefs, postpone the restoration of former agricultural lands in the park, and ignore normal maintenance schedules.

The situation can't be laid at the feet of the Reagan administration, although it is up to the current Secretary of the Interior to propose a workable solution. For the past five years—even longer in the impression of some superintendents—park budgets have remained about the same while inflation has risen by 8 to 10 percent annually. Yellowstone's budget has hovered near $9 million since 1979; visitation was up about 25 percent this past summer.

The need to save money often runs head on into the parks' mandate to protect natural resources and visitors. Soaring energy costs, for example, are sometimes unavoidable. To avoid problems with bears in Yellowstone, the garbage must still be collected twice a day along 350 miles of park roads and hauled to a dump 50 miles outside the park whether gas is 70¢ or $1.30 a gallon. In Yosemite National Park in California, the cost of operating an oil-fired sewage plant has more than doubled in the past five years, but, says Yosemite Superintendent Bob Binnewies, "That's a fixed cost we have to meet."

Most parks have been forced to look at staff reductions as a major method for balancing the budget. Cutting seasonal staff was one of the first measures most parks took, NPCA found. Yellowstone cut its fall seasonal maintenance staff from eighty people to thirty-nine. Grand Teton National Park eliminated 25 out of 176 seasonal positions. Cuts at smaller parks, although less dramatic in absolute numbers, affect operations even more drastically. At Arches National Park in Utah, Superintendent Larry Reed has had to cut three seasonal positions this year—25 percent of his seasonal staff. Other parks such as Big Bend, Zion, Olympic, and Shenandoah saved by hiring the same number of seasonals as in previous years but had them start work later in the spring and leave earlier in the fall.

The cutbacks in seasonal employees will be felt even more next year: the Administration has proposed the elimination of the Young Adult Conservation Corps (YACC) and the Youth Conservation Corps (YCC), both programs that provided extensive amounts of labor at minimal cost to the Park Service. At best, Congress may provide minimal funding for the YCC. In Olympic National Park Superintendent Roger Contor estimated that the YACC performed about $500,000 worth of work in 1981 at a cost to taxpayers of about $30,000. Cutbacks in the numbers of permanent employees, viewed as a last resort by most park superintendents, were not taboo this year. Grand Canyon and Sequoia-Kings Canyon left thirty and sixteen positions vacant, respectively, for part of the year to save money. Reductions in the numbers of permanent employees comes on top of previous lowering of employee ceilings. Sequoia-Kings Canyon now has a ceiling of eighty-four permanent positions; in 1979 the work force had been set at 102.

Congressionally mandated pay increases without matching congressional appropriations have left many park superintendents frustrated and park coffers empty. In the past three years Congress has voted pay raises for Park Service employees, but it appropriated only 40 to 60 percent of the money needed to cover them: the rest of the increase has had to come out of other

areas of the parks' budgets. The pay raise amounted to $100,000 in Big Bend last year, but only $60,000 was appropriated by Congress. Assistant Superintendent Russell Berry estimates that pay increases during the past three years have cost Big Bend $120,000 from other budget categories.

Although loathe to do it, many parks have resorted to shortening the campground season. At Shenandoah the park staff delayed opening three campgrounds from April 3 to May 22. Last year Cape Hatteras kept three campgrounds open only through November. Three years ago they were open all year. This fall the three campgrounds will close in mid-October.

Given the choice between keeping campgrounds open and keeping them in top shape, most parks have opted for keeping them in use, NPCA found. At Grand Teton, Superintendent Jack Stark had to eliminate two caretakers: the campsites are simply a little dirtier this year. Another superintendent explained the rationale behind these park decisions: "Once you've been in the service a long time, there's a compelling urge to make the best of it, instead of facing up to it."

In many cases, although the campgrounds remain open, other visitor services still have been cut. At Cape Hatteras, the 25 percent reduction in the seasonal force has reduced the number of swimming beaches with lifeguards from seven to three. Once open twenty-four hours a day during the summer, this year entrance stations at Sequoia–Kings Canyon have cut back on summer hours and skipped entire days during the winter. People still come in at times when the stations are closed but the Park Service can't tell them where to camp or how to behave with bears.

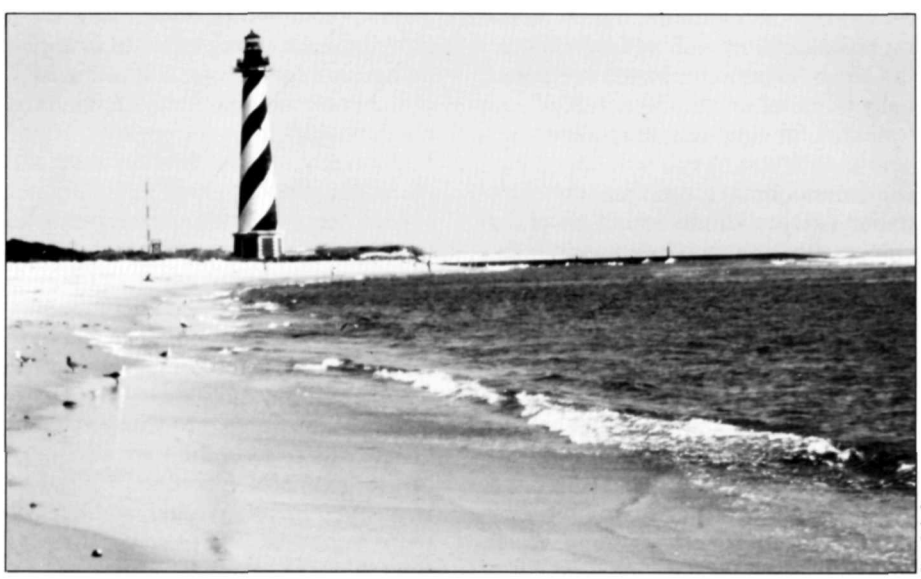
Besides documenting visitor center closings—one and one-half winter months at Cape Cod's Salt Pond, and the early part of the year for Cape Hatteras' Bodie Island—the NPCA survey also discovered cutbacks in interpretive programs. The environmental education program at Shenandoah, which offered four workshops a year for local school teachers, was eliminated this year, for example.

Although most superintendents interviewed by NPCA felt that park facilities have received adequate maintenance to protect visitor health and safety, they worried about the effects of deferring maintenance projects. In some cases parks have tried to do patch jobs in situations where major maintenance was required but not funded. In Yosemite roofs on several buildings that really need complete replacement undergo constant repairs. At Big Bend the park has recently identified about $200,000 of cyclical repairs needed each year, but it has received only $75,000 to $125,000 annually. "We're worried about the long-term effects of cutting back on road and building maintenance," Grand Teton Superintendent Stark said. "You neglect that for a couple of years, and it catches up with you."

Many park superintendents expressed confidence that they could catch up if funds were forthcoming soon, but more foresaw the need to replace major facilities at each park that were simply wearing out due to age. "We basically need to bring park facilities from the 1920s into the 1980s," said Yosemite's Superintendent Binnewies. For the older parks—those established before 1950—the very fabric of the park often seems to be wearing out. Still, some park officials like Assistant Superintendent Berry at Big Bend rightly point out that more money for buildings and utilities isn't the whole solution. "We will be able to catch up in maintenance, but we'll still be hard pressed in maintaining basic public services. We'll be able to provide these, but it will depend on our creativeness and our ability to find new solutions."

The parks haven't lagged in ingenuity in meeting this challenge, either. Everglades chief of maintenance Grant Farrar, for example, called upon the civil engineering air force reserve unit based at Homestead Air Force Base to stretch his limited budget. Since 1974 the eighty-five-member crew has done fifty projects for the park, saving, Farrar estimates, $1 million in the last six years.

Efforts like those of Farrar and other Park Service employees can make a difference. Budget cuts have inspired creativity and forced the Park Service to become more efficient; but now, for park after park, creativity and efficiency have reached their limits. Either the Reagan administration will have to find the funding to provide adequate visitor services in well-maintained facilities, or Secretary Watt's desire to make the parks more accessible to the public will become a cruel joke on all who love and use the National Park System.—*Kirsten Engel, NPCA intern, and Jim Jubak, Assistant Editor of* National Parks.



Jim Jubak

At Cape Hatteras National Seashore, park officials have closed campgrounds earlier, reduced the number of lifeguards, and shut one visitor center in order to save money. Faced with inflation and salary increases at a time when many parks are experiencing high levels of visitation, park superintendents have deferred maintenance and reduced visitor services.

NPCA Report

Shipwreck Case to Decide Fate of Spanish Galleon

A court case that could determine the fate of hundreds of submerged archeological sites within the National Park System went to trial in Florida last month. The dispute involves a shipwreck first discovered by Gerald Kline, an amateur diver, amidst the coral reefs of Biscayne National Park near Miami. Following current interpretation of admiralty law, Kline was granted temporary custody of the vessel. The Park Service and the state of Florida intervened, arguing that the wreck was an historic site. Preliminary investigations by NPS archeologist George Fischer suggest that the ship, possibly the *Nuestra Sênora del Populo,* part of the 1733 plate fleet carrying the wealth of the New World back to Spain, sank between 1730 and 1745. A preliminary injunction has given the Park Service control of the site.

The issue here is not merely the ownership of one wreck, but the legal recognition of shipwrecks as legitimate archeological sites. A wreck can be among the best preserved and informative of sites, a time capsule freezing an instant of history in Pompeii-like completeness. The controversy hinges on a question of jurisdiction. Traditionally, under admiralty law anyone who salvages a wreck has a right to either cash compensation or part of the cargo. Federal and state governments, however, have a responsibility to protect historic sites on their lands, which include most offshore waters. Previous attempts to assert governmental authority over such sites are still pending in courts across the country. In the most famous case, involving the *Atocha,* a Spanish gold ship, a court ruled that existing laws did not give the federal government any claims to wrecks in U.S. waters. An appeal of that case is scheduled to be heard by the Supreme Court later this year. Private divers without formal training in archeological techniques often salvage material objects, but at an incalculable loss of archeological data.

The fate of underwater wrecks on federally owned lands such as national parks and national recreational areas hinges on the Biscayne case. Because the wreck lies in a national park, the Park Service's legal mandate to protect all resources may take precedence over other rights. A decision in favor of preservation could affect the outcome of related cases involving wrecks on the Outer Continental Shelf.

ORVs and Oregon Inlet Head Agenda for N.C. Seashores

Protecting the fragile dunes of the two national seashores on North Carolina's barrier islands remains the focus of new management decisions at both Cape Hatteras and Cape Lookout. Like predators circling baby loggerheads on their way to the sea, the problems of off-road vehicles and beach stabilization threaten this relatively undeveloped island chain.

The off-road vehicle (ORV) policy will undoubtedly be the most controversial part of the management plan for Cape Lookout National Seashore now undergoing revision. ORV users want access to the seashore, the last section of undeveloped barrier island in North Carolina. Conservationists, pointing to the damage ORVs do to the plant communities of dunes and wetlands, want the beach buggies eliminated or substantially curtailed on the Cape. NPCA fears that the final plan may allow excessive ORV use in this wild barrier island environment given the Administration's recent withdrawal of major ORV regulations on other public lands.

At Cape Hatteras National Seashore, Interior Secretary James Watt has rejected a permit for the controversial Oregon Inlet "stabilization" project. The $101 million project, which would combine an attempt to end the inlet's southward migration with the creation of the Wanchese Seafood Industrial Park on Roanoke Island, includes two mile-long jetties. Several scientists have questioned the project's wisdom, stating it would disrupt natural beach replenishment and cause severe erosion to the seashore's barrier islands. The fishing industry in Wanchese Harbor seems to be thriving without the jetties.

Unfortunately, the project is not dead; North Carolina Governor Hunt is seeking a transfer of lands managed by the Department of the Interior to the Army Corps of Engineers, eliminating Interior Department authority over the project. The project might then go ahead: Corps money for part of the project is already earmarked despite the cost and dubious benefits.

An Environmental Assessment for Cape Hatteras, just released for comment, proposes expanding day use and campground sites, and constructing bicycle trails. The assessment will be used in formulating the seashore's management plan. In comments on the assessment NPCA stressed the need to prevent excessive development in order to protect the natural resources on the islands.

Local Efforts End Threat to Petersburg NB

Local officials have reprieved the hard-pressed Petersburg National Battlefield. On September 1, the Petersburg city council voted to use public housing money for the rehabilitation of existing dwellings rather than building new housing on the edge of the battlefield. The Department of Housing and Urban Development, which had already approved the site of the new 101-unit public housing complex on the boundary of the battlefield, has halted action on the development of the property. Four high-density housing developments already skirt the battlefield.

Mid-August discussions between Interior Department officials and special assistants to HUD Secretary Samuel Pierce resulted in a general agreement to allow Petersburg officials to consider other locations for needed housing. Two years of hard work by Ms. Dama Rice, chairperson of the Concerned Citizens Group of Petersburg, led to the latest decision. NPCA is grateful to Senators Harry F. Byrd and John W. Warner, and Representative Robert W. Daniel for their support of the battlefield.

NPCA and other national and local conservation organizations were concerned that a fifth housing project on

Continued on page 31

Mineral Bills Propose More Leasing and Less Protection for Federal Lands

In the rush to develop synthetic fuels and stockpile strategic minerals such as platinum and chromium, an avalanche of mineral leasing bills has descended upon Congress. Although the bills deal with a wide range of subjects, the aim of virtually every bill is to "expedite and promote" the development of mineral resources on federal lands. Industry officials argue that large amounts of minerals lie on or beneath federal lands in the West and blame federal sluggishness in developing those resources for everything from American dependence on foreign oil to cost overruns in synfuels projects.

Most parks and monuments are protected from mineral development in their enabling legislation, although there are exceptions. (Death Valley National Monument, with its extensive borax and talc mines, is the most notable example.) Private inholdings and privately held mineral rights on public lands make this protection less than complete. Moreover, mineral development does not have to occur in a park to damage it; mining on adjacent lands can cause serious problems. In addition, one of the bills, the National Mineral Security Act, would allow the Secretary of the Interior to open all public lands (including national parks) to mining.

Several bills accelerate the leasing of tar sands and oil shale, both of which are usually strip-mined. A large strip-mine on a park border can cause erosion and acid run-off, possibly destroying lakes and streams, and can produce air pollution and destroy scenic vistas. More than one proposal would increase the size of the area a single company could lease above the current 5,210-acre ceiling and allow the off-site disposal of waste rock. Conservationists fear that such a step would lead to huge open-pit mines like that promoted by Rio Blanco Oil (a Gulf and Amoco operation) since 1972.

On the geothermal front, Representative Jim Santini (D.-Nev.) has introduced a bill promoting the development of this promising energy source. His bill would authorize the Secretary of the Interior to issue geothermal leases on additional federal lands, to increase the size of the leases, and to allow leases in wilderness study areas. The legislation creates a fifteen-mile-wide "buffer zone" around Yellowstone National Park and a one-mile zone around the southern border of Lassen Volcanic National Park. The zones are a meager attempt to protect the unique thermal features of the two parks; no scientific data has been produced to show that either zone is adequate to protect the parks' thermal features. Geothermal wells adjacent to the parks might drain steam reservoirs, destroying Old Faithful, for example. NPCA believes that the zones must be proven to protect park thermal features before nearby geothermal development is allowed. As drawn, the buffer zone around Yellowstone excludes the Island Park Caldera, a promising geothermal area near the Idaho border of the park. The bill also fails to provide any protection for Mt. Rainier National Park, another park with high geothermal potential.

Last and perhaps most damaging, Rep. Santini's National Mineral Security Act (H.R. 3364) would open any federal land, including parks and wildlife refuges, to mineral development with the approval of the Secretary of the Interior. The bill also establishes a taxpayer-financed council to lobby for mineral development and elevates mining above all other uses on land managed by the Bureau of Land Management. The act overturns the carefully developed system of multiple use just now being applied to BLM lands. It disregards the habitat needs of fish and wildlife and the demand for outdoor recreation.

All-in-all, the mineral development bills blame federal land policies for supposed shortages of strategic minerals and fossil fuels. Contrary evidence suggests that many deposits of strategic minerals located in undeveloped areas simply cannot be profitably mined at prices competitive in the world market. Many mineral deposits on remote public lands may never be developed.

—Fred Etheridge, NPCA intern

National Parks
Nov/Dec 1981 issue

Reader Interest Survey

We want to know how interesting readers found each item in this month's issue of the magazine. Please circle the number in the column to the right of each title that best describes your reaction. You may enclose comments or suggestions if you wish. Please mail the form to **Editor, National Parks, 1701 18th Street, NW, Washington, DC 20009.**

	Very Interesting	*Somewhat Interesting*	*Not Interesting*
COMMENTARY *(inside front)*	1	2	3
EDITOR'S NOTE *(inside front)*	1	2	3
YANKEE NATURALIST (p. 4)	1	2	3
FUTURE OF PARKS (p. 10)	1	2	3
RIVER OTTER (p. 14)	1	2	3
JACKSON HOLE (p. 20)	1	2	3
BUDGET BLUES (p. 26)	1	2	3
NPCA REPORT *(pp. 28-34)*	1	2	3
Shipwrecks	1	2	3
NC Seashores	1	2	3
Petersburg NB	1	2	3
Mineral Bills	1	2	3
Mining in NRAs	1	2	3
Park Watch	1	2	3
World Heritage List	1	2	3
NP Carrying Capacity	1	2	3
NPCA Lecture Series	1	2	3
Salinas NM	1	2	3
FEEDBACK (p. 35)	1	2	3
BOOKSHELF (p. 36)	1	2	3
THE LATEST WORD (p. 42)	1	2	3

	Excellent	*Good*	*Fair*	*Poor*
How would you rate the cover?	1	2	3	4

Additional comments _____

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Memo Halts Regulations, Opens Path to Mining in Five Park Service NRAs

Although mining is prohibited in most units of the National Park System, five national recreation areas under Park Service management face increasing numbers of drills and bulldozers in the Reagan administration's drive to open more federal land to mineral development. A June 10 memo from G. Ray Arnett, Assistant Secretary of the Interior for Fish, Wildlife, and Parks, halted regulations, due to go into effect in August, that would have limited mineral development on the recreation areas. The regulations would have allowed mining for uranium and thorium, but prohibited other mineral development as too disruptive to the recreational use of the areas.

Originally a unit of land surrounding a dam built by a federal agency, national recreation areas (NRAs) have come to include such land and waters set aside for recreational use as the Golden Gate NRA in San Francisco and the Chattahoochee River NRA in Atlanta.

The legislation that established the five threatened recreation areas—Glen Canyon NRA in Utah, Lake Mead NRA in Nevada, Whiskeytown NRA in California, and the adjoining Lake Chelan and Ross Lake NRAs in Washington—permitted mineral development. Exactly which minerals this includes has been a subject of a long-standing controversy between the Bureau of Land Management, which administers all mineral leasing on federal lands, and the Park Service. BLM claims "leasable" minerals include all hardrock minerals—gold, copper, and silver, for example—found in the area. The Park Service, however, had hoped to limit mineral development to such energy minerals as uranium and thorium.

In directing the Park Service to change the regulations that the Carter administration had issued to end this conflict, Assistant Secretary Arnett urged that the regulations permit the leasing of all locatable minerals. Park Service assessments indicate the five areas have potentially rich deposits of zinc, copper, nickel, chromium, silver, gold, and lead among other minerals.

Officials at the Glen Canyon NRA are frankly worried about the effects of the memo. BLM and the Department of the Interior are evidently withholding their approval of the wilderness proposal for that NRA until a decision has been reached on expanding mineral development.

In the meantime, the Park Service can only guess at the consequences of widespread mineral leasing in the recreation areas by using their experience with oil and gas leases as a guide. In Glen Canyon, six oil leases have been sold and one well has already been drilled by a Denver oil company. Three hundred thousand acres in Lake Mead NRA have been leased or are in the process of being leased to several different oil and gas companies.

The Park Service's role in leasing has been minimal. The lease and the permission to drill is granted by the Bureau of Land Management. The environmental assessment is prepared and the drilling is supervised by the United States Geological Survey. "The only thing we can do besides make suggestions," explained Glen Canyon Superintendent John Lancaster, "is regulate access to the site."

Energy and mineral development in these five NRA's might seem to be exceptions to general practice in the National Park System; but although Congress prohibited new energy and mineral development in the national parks, this pertains only to federally owned park land. No federal regulation can prevent oil or mineral leasing on state-owned land or private inholdings in national parks. In Dinosaur National Monument, for example, where Utah owns 1,900 acres of the surface and 2,400 acres of mineral rights, the state has issued seven oil leases. "I don't know of any actions we can take to mitigate the effects when drilling is begun," says Steve Petersburg, Dinosaur's resource management specialist. The state of Utah owns a total of 72,175 acres of land in the national parks located in the state and the mineral rights on another 55,346.

—Kirsten Engel, NPCA intern

NPCA Report

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the boundary would have led to further damage to the battlefield's historic Civil War earthworks. The battlefield site is far removed from downtown stores and services in an area not served by public transportation.

NPCA Joins with Local Residents to Watch Parks

NPCA Executive Director Paul Pritchard announced the formation of the National Park Action Project (NPAP) on September 8, calling it "a new beginning for the national parks. Local people speaking about the parks they know best will give the NPAP a leading role at a time when the parks are facing serious threats and inadequate federal budgets."

The NPAP initially consists of fifty concerned citizens from areas near national parks who will coordinate their efforts to monitor Interior Department actions and threats to individual park units through NPCA.

Formed as a result of a May meeting of local national park advocacy groups called by NPCA, the project will publicize threats, participate in park planning, and use every legal means to protect park resources.

Included in the NPAP's list of immediate threats to the parks are several Reagan administration proposals and the hundreds of problems cataloged in the 1980 State of the Parks report compiled by the National Park Service.

"This is a very important step for the national parks and NPCA," said Pritchard. "We look forward to a successful and rewarding partnership."

Mammoth Cave, Isle Royale Parks Honored

Two units of the National Park System received international recognition this summer. Delegates at the International Congress of Speleology, meeting in Kentucky, voted to support the nomination of Mammoth Cave National Park to the World Heritage List of the United Nations. On July 26, another United Nations program, the International Biosphere Reserve system, recognized Isle Royale National Park as one of the world's outstanding natural research areas.

The U.N. World Heritage List, which identifies superlative natural and cultural features, currently includes six National Park System units. In their resolution the delegates from around the world cited Mammoth Cave as a model karst system and the longest cave in the world. With the cooperation of Superintendent Robert Deskins and his staff, more than 1,000 participants and guests toured the caves during the conference.

Thirty-six areas in the United States, including sixteen Park Service units, have received designation as international biosphere reserves. Reserves, the best examples of the world's major ecosystems, permit opportunities for long-term monitoring of the natural environ-

ment and experimental research. Other Park System units dedicated under the U.N. program include Glacier, Yellowstone, Big Bend, Rocky Mountain, Great Smoky Mountains, and Everglades national parks. Isle Royale is perhaps best known for the extensive research on predator-prey relationships conducted on its protected wolf and moose populations. The park celebrated its fiftieth anniversary this summer.

NPCA Project to Define Optimum Use in the Parks

How much visitor use destroys the natural resources of a park and diminishes visitor experience and enjoyment? An increasing number of park superintendents must find an answer to this question as soaring numbers of park visitors threaten the very experience that brings people to the parks. A new NPCA project concentrates on determining the carrying capacities in National Park System areas.

"Carrying capacity" is the optimum level of use that is appropriate for both the protection of the resource and the satisfaction of the visitor. It can vary widely from area to area within a park depending on such factors as soil conditions, plant communities, and topography. For example, fragile alpine slopes show major damage from even a few visitors, although a meadow with well-drained soils may support several times the number of people without serious effects. Carrying capacity also depends upon the varying needs of different kinds of park users. An area used by solitude-craving wilderness backpackers can support far fewer visitors than an area developed primarily for car or trailer campers whose experience might not be disturbed by a higher social density.

Although the National Parks and Recreation Act of 1978, the omnibus bill, requires that all units establish carrying capacities, few have complied thus far. The Park Service presently lacks guidelines or models that park managers can use in determining the carrying capacity of an area.

One of the main goals of this new NPCA project is to bring together existing knowledge on carrying capacity and

to develop guidelines that the Park Service can include in its planning process. A public education effort will aim at greater public understanding of the need to base recreational use upon the physical limits of the natural and cultural resources, and the more elusive psychological and social needs of park visitors.

NPCA Initiates Lecture Series on October 8

Members and friends are invited to NPCA's fall and winter lecture series for 1981–82. Monthly presentations will be held at NPCA's main offices at 1701 18th Street, N.W., Washington, D.C.

On October 8, R. Dare Wilson of Somerset, England, gave a slide show on the impact of tourism on the national parks of Europe.

November 19 is the date of the annual members' reception and dinner at the Marriott Key Bridge Hotel in Rosslyn, Virginia. Noel Brown, director of the United Nations Environment Programme, will address the group.

On February 10, Charles and Daphne Sloan and their children will share their outdoor experiences in eastern Europe, including hiking in the parks of Yugoslavia.

Prominent authority on sharks and NPCA board member Dr. Eugenie Clark will visit NPCA on March 9 to make a presentation on sharks and underwater preserves.

Each lecture will begin at 8 p.m. in the library. A minimum donation of $3 for members and $5 for nonmembers will be asked to cover speaker fees and refreshments. Space is limited.

The November presentation will be included in the cost of the reception and dinner.

For more information, please contact the Office of Public Affairs, NPCA.

Salinas NM to Manage Two New Mexico Monuments

State officials of the Museum of New Mexico handed over management of two outstanding state monuments, Abó and Quarai, to Superintendent Thomas Carroll of Salinas (formerly Gran Quivira) National Monument at a ceremony held on October 1. These two units will now be administered jointly with the Park Service's Gran Quivira unit to protect and interpret the impressive masonry ruins of seventeenth-century Spanish mission churches and related Pueblo Indian villages, near Mountainair, New Mexico.

During the seventeenth century, the Franciscan padres established a chain of missions at the eastern edge of the Rio Grande pueblo region. A combination of a severe drought and persistent Plains Indian raids upon these easternmost pueblos caused their abandonment in the 1670s.

San Gregório church at Abó and La Purísaim Concepción at Quarai are constructed with massive red sandstone walls. They are priceless additions to the National Park Service's original Gran Quivira unit, where the whitish limestone ruins of San Buenaventura church and surrounding pueblo ruins rise impressively along a ridge crest. Together, these three units represent an important part of the Southwest's history, combining both the pre-Columbian Pueblo Indian culture and the early period of Spanish conquest and settlement.

In addition to existing small visitor centers at both Gran Quivira and Quarai, the Park Service hopes to establish a modest public contact and headquarters facility in Mountainair.

Diane Jung, NPS

NPCA Executive Director Paul Pritchard talks about park issues with a member of the Chinese delegation touring the National Park System at a breakfast reception in New York. The five landscape specialists and historic architects from the People's Republic visited Park Service historic sites throughout the United States in September to examine American techniques of historic preservation and architectural interpretation.

Summer Jobs in Parks Tighter, Deadline January

Cuts in the Park Service budget and the death of programs such as the Young Adult Conservation Corps will make the competition even stiffer for summer jobs with the Park Service this year. Application packets for summer employment are now available from any national park, Park Service regional office, or from the Washington office of the Park Service, Branch of Employee Evaluation and Staffing, Washington, D.C. 20240. Applications must be received in the Washington office by January 15, 1982.

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The packet contains application forms and a list of available positions. Positions include unskilled laborer (roads, grounds, and trail work), park aids, park technicians, and park rangers. Most positions are filled by returning seasonal employees. Applicants must be U.S. citizens and at least eighteen years of age by May 1982.

The volunteers in the park program run by the Student Conservation Association is another way for individuals to work in national parks, national forests, and other federal areas this summer. SCA's High School Program offers group work experiences of three to five weeks to men and women sixteen to eighteen. Their Park and Forest Assistant Program caters to men and women of college age or older. Application deadlines are February 1 for the High School Program and March 1 for the Assistant Program. For applications and a list of positions, write SCA at P.O. Box 550, Charlestown, NH 03603.

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Feedback

Bear Facts?

I read Budd and Debby Titlow's article, "Where Have All the Bears Gone?" (May 1981) with interest. I was surprised, however, that the story gave only the strict National Park Service line and didn't even mention the controversy over Yellowstone's bear management plan. Anyone reading Dr. Frank Craighead's popular book *Track of the Grizzly* will get quite a different view.

Briefly stated, the disagreement is over those past actions by the Park Service to separate people and bears in Yellowstone. It occurred between wildlife biologists interested in research and bears, and park professionals interested in court-mandated visitor protection and bears. All had the same goal but techniques and timing were in question. Yellowstone today appears to be both safer for the visiting public and a more natural reserve for bears living as they should—as wild animals. Healthy grizzly population levels are only mildly disputed.

Where knowledgeable professionals disagree, much stands to be learned on both sides, and that wisdom may well lead to better decisions on other problems—say sharks in the Channel Islands or wolves in Yukon-Charley.

Richard Anderson
Asuncion, Paraguay

We have published in detail on the Yellowstone bear management controversy many times in the past so we do not feel compelled to repeat the arguments. (See the articles in February 1972 and 1974, and November 1974.) The management of Yellowstone's grizzlies, however, deeply concerns NPCA. See September/October 1981 issue, page 25.—Ed.

Trails on Mount Rainier

I have no objection to Kenneth Drew's article in the July/August issue ["Mount Rainier's Alpine Gardens"], but someone should say a word about the accompanying photograph. It shows a grave problem in the high country.

The photo shows what is probably a bit of the Wonderland Trail. Boots have beaten down through the tundra, making the trail a muddy trench. Because no one enjoys hiking in thick, slippery mud, people walk at the edge of the trench, thus breaking down the edge and widening the trench.

John Perry
Winter Haven, Florida

Photos from Our Readers

If "color photographs of the wildlife and other natural wonders of our fantastic national parklands add an important dimension to these pages" (Editor's Note, July/August 1981), why not have a page devoted to pictures submitted by the readers? Not only would such a feature make the magazine more enjoyable, but it would also bolster the photo file as noted in the June issue.

Ed Harrison
Yorba Linda, California

We're willing to consider your suggestion. Please note the photos on page 9 in the September/October issue by NPCA member Christel Converse, submitted in response to our call for photos from members.—Ed.

Bookshelf

Wildlife of the Rivers, by William A. Amos. (New York: Harry N. Abrams, Inc., 1981. 232 pages, $18.95 hardcover.) From the Rhine to the Yangtze and the Nile to the Mississippi, William Amos, noted zoologist and ecologist, explores the wildlife and plants in and around the world's major waterways. One hundred and eighty-three superb color photographs offer an intimate look at exotic and beautiful animals whose being depends on the rivers. The informative text and detailed appendix and glossary which explain such phenomena as river drainage patterns and lake formations make *Wildlife of the Rivers* an educational tool as well as an entertaining and eye-catching coffee table book. This book is the sixth volume in Abrams' award-winning Wildlife Habitat series. Watch for a special offer in the January/February issue on a limited supply of this impressive book.

****Backwoods Ethics,*** by Laura and Guy Waterman. (Washington: Stone Wall Press, Inc., 1979. 192 pages, $6.95 paperback.) A delightful blend of humor and wisdom from two experienced backpackers on the numerous threats to the U.S. backwoods environment. Laura and Guy Waterman discuss the "use versus preservation" dilemma and propose a code of ethics that will help assure the hiker's safety as well as preserve the beauty of the backwoods.

****Opportunities in Environmental Careers,*** by Odom Fanning. (West Bethesda: Bradley Hills Books, 1981. 150 pages, $7.95 hardcover, $5.95 paperback.) An information-packed reference guide to careers in the environmental field tells how to plan an education leading to a career in four major categories: the science of living things, environmental health, resources and recreation, and land use and human settlements. This book, in its tenth printing since first published on Earth Day, 1971, is a starting point for anyone considering an environmental career.

****National Parks of Japan,*** by Mary Sutherland and Dorothy Britton. (Tokyo: Kodansha International/USA Ltd., 1981. 148 pages, $17.50 hardcover.) Dorothy Britton and Mary Sutherland, two experienced travel writers, have assembled a handsome 103-color-plate guide to Japan's twenty-seven national parks. In the introduction they give a short history of the establishment of Japan's national park system in 1931 and examine the interrelated social, philosophical, and political problems that ensued. Three sixteen-page full-color photo essays on parks in Southern, Central, and Northern Japan are followed by descriptions of each park unit's cultural history and exotic beauty. *National Parks of Japan* is a handsome and diverting book.

American Photographers and The National Parks, by Robert Cahn and Robert Glenn Ketchum. (New York: The Viking Press, 1981. 180 pages, $75.00 slipcased hardcover.) A collection of 307 photographs of U.S. national parks by thirty-five nineteenth and twentieth century photographers published in conjunction with a two-year, nine-city photo exhibit. The exhibition which surveys the relationship between the national parks and the growth of American landscape photography, spans 120 years of national park photography with contributions from such notables as Ansel Adams, Eadweard Muybridge, and Eliot Porter. The exhibit is a tribute to the photographers whose "work . . . brought public attention to these areas of natural wonder and ultimately aided the political legislation that was to preserve them in their undeveloped state for the future generations to enjoy." Robert Glenn Ketchum, noted landscape photographer, selected the photos for this handsome book and for the accompanying exhibit. Pulitzer Prize-winning writer Robert Cahn provides the interesting text.

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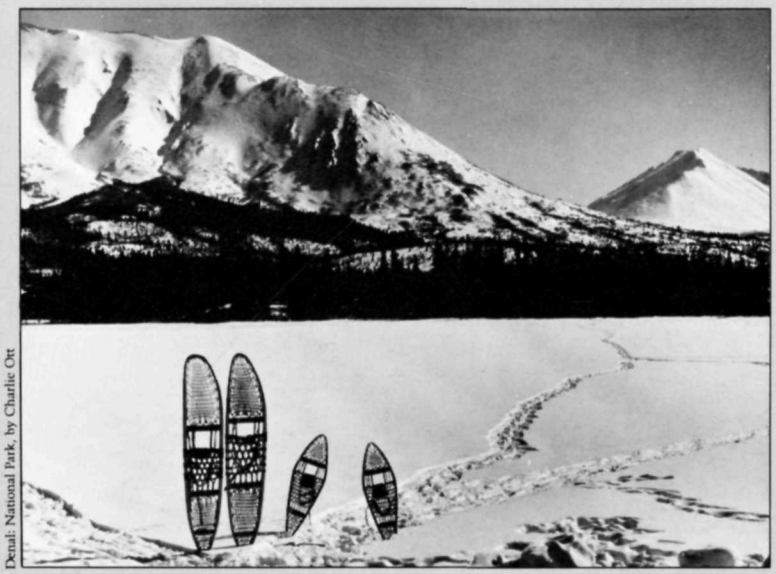

Detail: National Park, by Charlie Ott

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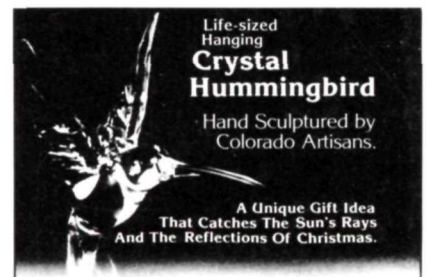

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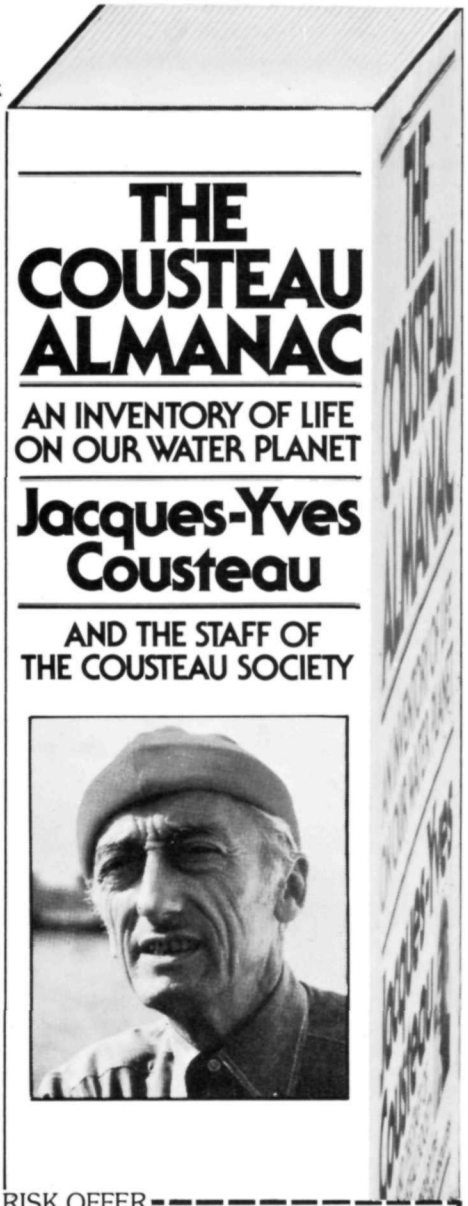

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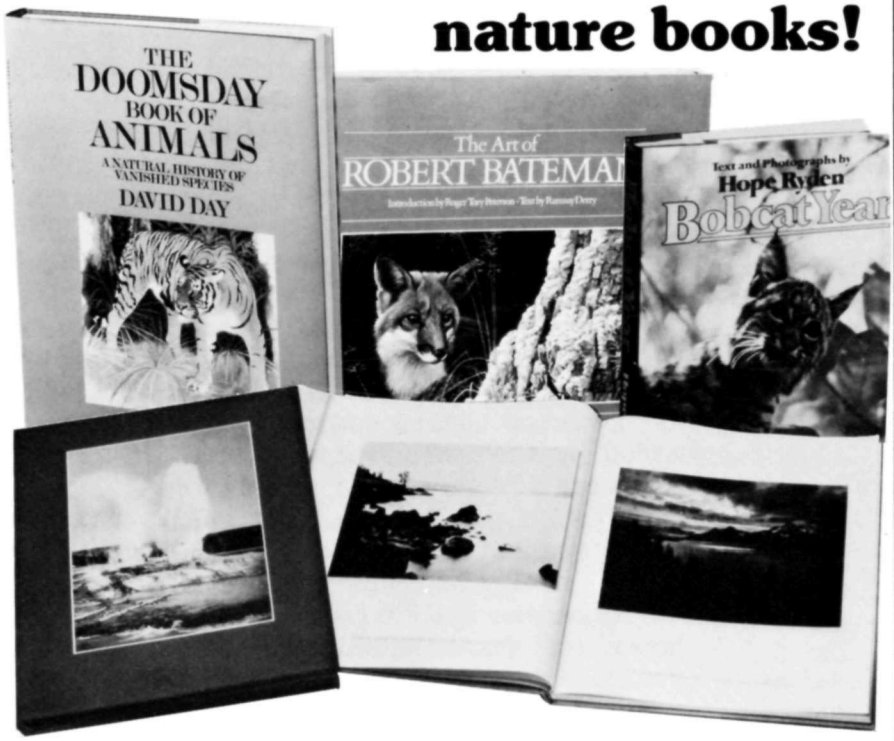

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The Latest Word

NPS HIT IN FURTHER BUDGET CUTS

In the latest round of budget reductions, the Administration has proposed an additional 12% cut to the National Park Service budget. The cut would result in loss of $86.2 million, of which $37.3 million would come from visitor and related services. As a result, more campgrounds and visitor centers would be closed or have noticeably reduced hours. Also hard hit would be interpretive programs, transportation systems, energy conservation projects, and planning for wild, scenic, and recreational rivers and trails.

The Park Service budget, already strained, cannot withstand such cuts. At press time, there were indications that Congress would not go along with the Administration's request.

SNOWMOBILE PROPOSAL CREATES UPROAR

A proposal by Interior Secretary Watt's staff to open several California parks to snowmobiles brought a storm of protest in recent park hearings. The proposal would have reopened Sequoia and Kings Canyon, Lassen Volcanic, and Yosemite national parks for one season of test use by snowmobiles. Such test use would be a significant departure from present park policy and would inevitably lead to demands for continued use.

NPCA Southwest Representative Russ Butcher, presenting NPCA's opposition to the proposal, said, "Just a single snowmobile's roar shatters the tranquility that winter visitors come to enjoy in these great parks." He also noted that opening these parks to such use would harass wildlife and strain limited NPS resources for winter patrols and maintenance.

Since 1974, snowmobiles have been banned in those parks. National forest land surrounding the parks is already available for use by snowmobiles, and testimony at the hearings ran overwhelmingly against their use in the parks. Secretary Watt, however, has expressed strong support for snowmobile use in the national parks.

INTERIOR DROPS PESTICIDE USE AT FIRE ISLAND NS

Interior Department officials reportedly have dropped plans to spray Fire Island National Seashore with strong pesticides to control mosquitoes. After NPCA and the Environmental Defense Fund filed a suit challenging the Interior Department directive to use the pesticides, the National Park Service reiterated its intention to protect the park from pesticides, and the Fish and Wildlife Service revoked spraying permits for nearby wildlife refuges.

The seashore's general management plan clearly does not allow such use of pesticides except "in the event of an officially declared health emergency, as determined by the U.S. Public Health Service." Assistant Secretary of the Interior Arnett had issued the directive to spray the area after requests from local congressmen whose constituents had complained of mosquito bites. EDF Counsel Michael Bean hopes for a settlement ensuring that park regulations in effect regarding use of pesticides will be upheld by Interior Department officials.

GLACIER FOUR-LANE RUNS INTO A WALL OF OPPOSITION

A newly released environmental impact statement for road improvements near Glacier National Park recommends that a four-lane highway be constructed in place of U.S. Highway 2, which leads to the west entrance of the park. NPCA and the Coalition for Canyon Preservation (CCP), an Associated Organization, oppose the four-lane alternative, arguing that it would disrupt the movement of wildlife, including grizzlies, and would result in urban encroachment from the rapidly developing Flathead Valley. NPCA and CCP advocate widening the existing two-lane road for safety and adding a bike path.

The proposed four-lane is unnecessary according to traffic volume predictions. Moreover, the director of the Montana Department of Highways says that the state can barely afford to maintain its roads, much less build new ones.

You can help: Write to Gary Wicks, Director, Montana Dept. of Highways, 2701 Prospect Avenue, Helena, MT 59601, and tell him why you object to the construction of a four-lane highway leading to Glacier NP.

NPCA MAKES RECOMMENDATIONS FOR NEW PARK MANAGEMENT PLANS Management plans are in the works for several national parks, and NPCA has provided commentary to aid in guiding the plans toward better protection of important natural areas.

Canyonlands NP

Commenting on the Draft River Management Plan for rivers in Canyonlands National Park, NPCA recommended action on several points:

- Segregate motorized boat trips so that they do not interfere with oars-only trips;
- Prohibit major additional development of facilities within the park; and
- Reduce visitor use during the May-June high-water period to slow down damage to riverbanks, and to reduce crowding of river travelers.

NPCA maintained that careful scheduling of river trips can save the area from damage caused by overuse. The Association objected to the plan's proposal to increase the annual visitor ceiling from 6,660 to 8,000 passengers. The 6,660 ceiling has not yet been reached in the park, but damage to the delicate riverbank ecosystem is already evident at present use levels.

Shenandoah NP

Stressing that because of its famous scenic views, Shenandoah National Park is a "park outside a park," NPCA provided some innovative recommendations for the park's proposed management plan. A cooperative effort between private and public interests could help ensure that one of the park's major attractions--scenic overlooks of the beautiful Shenandoah Valley to the west and the Virginia piedmont to the east--would remain intact. Park Service acquisition of these lands is neither desirable nor possible. Alternatives include donation of land or easements, land exchanges, local zoning to limit certain kinds of development, and state or local government acquisition. Planning and enactment of these alternatives could be handled by concerned citizens, local officials, and local business representatives, in conjunction with the Park Service. Other NPCA suggestions include:

- Retain the ban on snowmobile use;
- Eliminate horse rental facilities in the particularly vulnerable Big Meadows watershed; and
- Reroute the Appalachian Trail to reduce its crossing of Skyline Drive.

REAGONOMICS RIDES ROUGHSHOD OVER EPA Waving its budget-cutting axe once more in the direction of the Environmental Protection Agency, the Reagan Administration is proposing funding cuts of nearly 50% for research in the next two years, with a concomitant reduction in force of up to 40%. The proposal comes at a time when EPA is already beginning to stagger under the load of enforcing many new protective programs recently enacted by Congress. Crippled by such cuts, the agency would be unable to fulfill its responsibilities for many programs, including those under the Clean Air Act.

NCAC CLARIFIES ADMINISTRATION "PRINCIPLES" FOR CLEAN AIR Careful analysis by the National Clean Air Coalition--of which NPCA is a member--reveals that the Administration's new "principles" for amending the Clean Air Act are the same old harsh proposals dressed up in careful new prose. Originally the "principles" were seen as a retreat from the Administration's stance favoring industry over air quality. NCAC analyzes some of the "principles" below:

Still Clean Air--The current program for the prevention of significant air quality deterioration (PSD) protects the 90% of America still blessed with clean air. The Administration now proposes PSD protection just for parks and wilderness--only 1% of the country--making it virtually impossible to actually protect the parks.

Acid Rain--The Administration's only recommendation is to accelerate research on acid rain. This means no action will be taken to control this serious problem, even though scientists recommend control measures now.

Hearings on the Clean Air Act continue in the House, with final Congressional action not likely until early next year. Rep. Bob Traxler (D-Mich.) has just proproposed an amendment allowing more pollution from new cars than is now permitted. Write your Congressman, House Office Bldg., Washington, D.C. 20515, opposing H.R. 4400.

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Abbreviations:

BLM: Bureau of Land Management
EIS: Environmental Impact Statement
EPA: Environmental Protection Agency
GAO: General Accounting Office
HCRS: Heritage Conservation and Recreation Service
NB: National Battlefield
NCAQ: National Commission on Air Quality
NHP: National Historic Park
NHS: National Historic Site
NL: National Lakeshore
NM: National Monument
NP: National Park
NPS: National Park Service
NR: National River
NRA: National Recreation Area
NS: National Seashore
ORV: Off-Road Vehicle
RARE: Roadless Area Review and Evaluation

Month of issue, in boldface, is followed by the page citation.

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