

# National parks

Nov/Dec 82



# Commentary

## Insularization of the National Parks

"We are selling public lands, but not the parks," is a serious misstatement. The Reagan Administration has proposed sale of national forests and other national public lands in the West while promising that no national parks, wild and scenic rivers, or important historic areas would be affected.

This proposal ignores the fact that many of our national parks are interrelated with the myriad of public lands that surround them. The loss of these public lands, either through sale or increased resource exploitation, will ultimately shrink the resources of our parks.

One need only look at the importance of undeveloped public lands to the living resources of our national parks to fully appreciate the impact that losing these lands would have upon the parks.

National parks were once part of expansive and diverse ecosystems. As roads, dwellings, industry, and agriculture have spread across this country, the vast, wild areas from which the parks were carved have been subdivided, plowed, clearcut, and excavated. Today national parks are becoming ecological islands surrounded by civilization.

This isolation phenomenon is known as "insularization," and it is of growing concern to NPCA and others interested in preserving the abundance and diversity of living resources found within our national parks.

The concern stems from the well-known ecological theory best articulated in the late 1960s by two noted ecologists, R.M. MacArthur and E.M. Wilson, which, simply put, states that the number of species in an area is directly proportional to its size *and* inversely proportional to its distance from similar populations.

What does this concept mean for the national parks? As natural areas such as undeveloped public lands around national parks disappear, the

abundance and diversity of park wildlife and plants will decline.

Little documentation has been developed regarding the impact of insularization on the parks, but the parks for which data are available bode a serious warning. For instance, a survey in Mt. Rainier National Park, Washington, in 1917 found fifty species of mammals. Fifty years later a similar survey counted only thirty-seven. The drop in species has been blamed on insularization.

What is particularly disturbing about the national parks becoming ecological islands is that often populations of large or rare species are the first to disappear. The Yellowstone grizzly is a dramatic example of a population of a large species that is faltering because its habitat—which extends beyond the park's boundary—is disappearing and the nearest viable population of grizzlies is more than 500 miles away in northern Montana.

Insularization and its impact on park wildlife and plants are strong arguments for preserving critical environments surrounding our national parks. We cannot sell and exploit the public lands right up to the borders of our national parks and expect the original integrity of the parks, particularly their living resources, to be preserved.

This Administration must come to realize the dependency of the national parks upon neighboring public lands. For the sake of our national parks and their living resources, these lands should be saved, not sold.

—Paul C. Pritchard  
President

# Editor's Note

We are not accustomed to reading reference tools like dictionaries or telephone books or indexes. We refer to them for specific information, of course, as a last resort after fumbling around for the information elsewhere; but we just don't usually *read* them. As we were completing this year's index, however, it occurred to us that it makes pretty good reading.

We hope indexers will forgive us for using verbal phrases as subentries in some places. We felt that in many cases verbal phrases clarify the main entries better than a noun or adjectival phrase could, so we broke the rules on purpose. Moreover, no entry has so many subentries that researchers will have a hard time locating desired information.

In fact, it struck us that the use of verbal phrases helps make this index a superb summary of the year's events and concerns. Therefore, we suggest that you settle back in your favorite chair, put your feet up, and *read the index* as well as the feature articles and news items.

In this issue you can accompany scientists through the murky blackness of a swamp at night searching for alligators, learn about water supply problems in the Everglades, observe an amazing congregation of bald eagles, enjoy a brisk ski-run through snow-covered parklands, and learn about a worldwide effort to preserve the most significant legacies of all mankind. Finally, you will meet eight National Park Service interpreters—those energetic, dedicated, imaginative people who plan and present talks, guided walks, and other educational activities in the national parklands. We have never failed to enjoy and learn from interpretive programs when we have visited the parks, and we feel that *every* National Park Service interpreter deserves special recognition and appreciation.—EHC



# National Parks

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(Front, by David Madison; back, by Jason Rubinstein)

Many national parks offer winter recreation and interpretive programs for people of all ages and abilities. (See page 18 et seq.)

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 \$1000. 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 incomes, and gifts and bequests are deductible for federal gift and estate tax purposes. Mail member-

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Zebras, by Erwin & Peggy Bauer

Tanzania's Ngorongoro Conservation Area shelters vast numbers of African wildlife and also protects Olduvai Gorge, the site of significant discoveries concerning mankind's roots—important legacies of all people on earth.



The Island of Gorée, off the coast of Senegal near Dakar, commemorates centuries of suffering by millions of black men, women, and children who were confined here while awaiting shipment to the slave trade.

David Douglas

## UNESCO's World Heritage Program

An international project safeguards for future generations outstanding cultural and natural sites of universal significance

The mesa climbs high above the ranchland of southwestern Colorado. Concealed in its canyon alcoves are perhaps the best-preserved ruins of a prehistoric Indian culture in the United States. Cliff dwellings, pictographs, and potshards piece together a portrait of the vanished inhabitants. Now only tourists and the Colorado wind venture through the spectacular ruins, protected since 1906 as Mesa Verde National Park.

Off the coast of Senegal in West Africa lies the Island of Gorée—ninety acres of basalt, sand, and French colonial buildings, their pastel-colored walls peeling in the sea air. One of the faded structures is the *Maison des Esclaves*, the Slave House. Now a museum, its rooms remain scarred with ankle chains and barred windows. Hand-lettered signs, unabashedly poignant, tell of the centuries when Gorée served as West Africa's "depot of ebony" for millions of slaves brought to the island to board ship for the Americas. An open doorway on the *Maison's* lower floor leads directly onto the water. "Through this door they

went," the sign above the threshold reads, "their eyes locked on an infinity of suffering, for a journey without return."

A mesa in America. A Senegalese island. The two are separated by history, culture, and eight thousand miles. But they share a little-known kinship. Both are World Heritage Sites, a designation created by the United Nations Educational, Scientific and Cultural Organization (UNESCO) to protect landmarks of "outstanding universal value."

The World Heritage Program of UNESCO is underlain by a simple premise: Among the globe's various national parks, wildlife refuges, and cultural sites are some whose significance transcends boundaries. One nation may legally "own" the property, but all peoples are, in a sense, its trustees for future generations.

A UNESCO treaty, the *Convention Concerning the Protection of the World Cultural and Natural Heritage*, set up the framework in 1972: Identify these sites, publicize the selections, designate on a separate list the en-

dangered ones, and dispatch aid on their behalf—all to ensure that these legacies, unlike most of the Ancient Wonders of the World, are not allowed to perish.

The first selections were made in 1978 by the World Heritage Committee, a body of delegates from twenty-one nations. With advice from nongovernmental organizations (the International Council on Monuments and Sites, the International Union for Conservation of Nature and Natural Resources), the Committee chose twelve sites, including Mesa Verde National Park and Gorée Island.

The list expands with each annual meeting of the Committee, and a hundred others have since been added, among them the ancient cities of Carthage, Persepolis, Paphos, and Thebes; Egypt's Nubian monuments; Tanzania's Ngorongoro Conservation Area and Zaire's Virunga National Park (the source of the White Nile); the Cathedral of Chartres; and the Mayan ruins of Tikal National Park in Guatemala.

The selection process has been un-



Cliff Palace, by Denver and Rio Grande Western R.R.



Independence Hall, by National Park Service



Redwoods, by U.S. Forest Service

Mesa Verde National Park in Colorado protects the remains of many structures (left) built by the mysterious, vanished Anasazi people of the American Southwest. Independence Hall in Philadelphia, Pennsylvania (center), once rang with the debate over the Declaration of Independence, the document that has inspired generations of peoples all over the world. Redwood National Park (right) protects virgin groves of ancient trees—including the world's tallest—on the fog-drenched coast of northern California.

blinking—a recognition that man's heritage is painfully broad, encompassing both the splendor of a Mesa Verde or Versailles and the shame of a Gorée Island or Auschwitz Concentration Camp.

Not all World Heritage Sites are well known, and one's parochial notion of nature and culture can be quickly disabused by an encounter with such names as the 4th Century Tomb of Kazanlak (Bulgaria), the Moenjodaro Archeological Ruins (Pakistan), and Ichkeul National Park (Tunisia).

The Committee has so far selected nine U.S. national parks and monuments as World Heritage Sites. All, with the exception of Mesa Verde and Independence Hall, were chosen

for their extraordinary natural phenomena—Everglades, Grand Canyon, Mammoth Cave, Olympic, Yellowstone, Redwood, and Alaska's Wrangell-St. Elias National Park and Preserve.

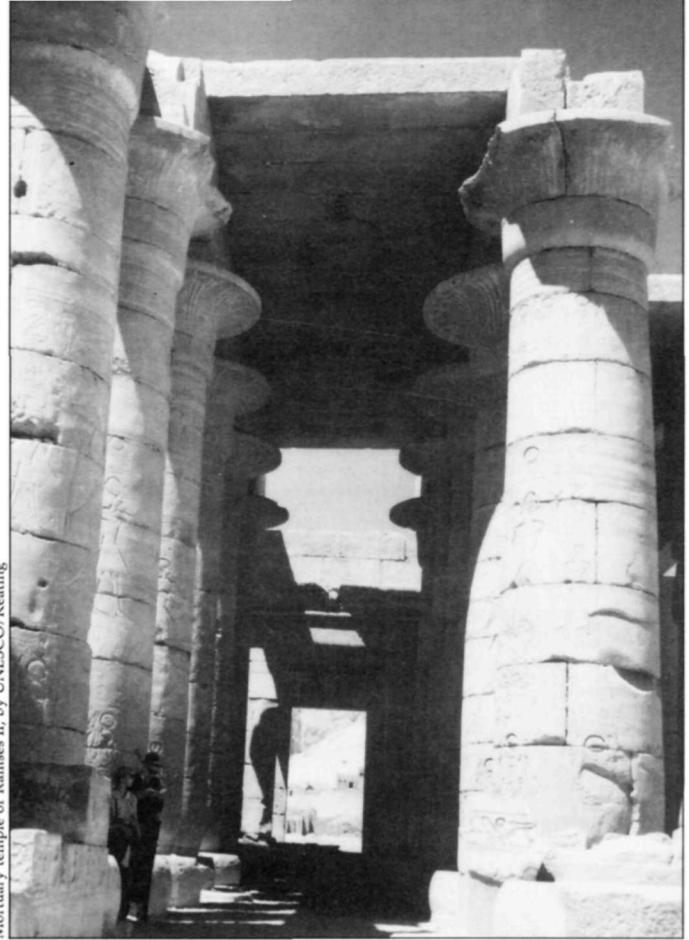
Some park superintendents, such as Mesa Verde's Robert Heyder, believe that the listing has caused foreign visitation, always high, to increase. "We get more visitors from West Germany than from New Mexico, our nearest neighboring state," he notes, adding that the park has emphasized publishing multilingual brochures and hiring bilingual staff.

One superintendent considers his park's prospects for "favorable budgetary and personnel consideration"

to have improved, and an official at Everglades National Park credits the designation with having "strengthened our position on environmental matters. It carries a good deal of weight when dealing with special interest groups—commercial fishermen or off-road vehicle users—who would lobby for specific rule changes to accommodate their particular concerns."

Other national park officials use such phrases as "enhanced prestige" and "a spark for excellence" when describing the effect of World Heritage designation. Observes Don Jackson, Assistant Superintendent of Olympic National Park, "We're under the world's eye now."

Although the designation has cre-



Numerous structures at Tikal National Park in Guatemala—including the ancient temple complex (left) with elaborate stairways and decorated facades in multicolored stucco—hint at the past splendor of the Mayan civilization. The remains of magnificent edifices (right) of Thebes, capital of the ancient Egyptian empire at the height of its prosperity, provide insights to a culture of astounding wealth and universal significance. An international campaign is being waged to save Moenjodaro in Pakistan (below)—the most representative urban site of the four-thousand-year-old Indus civilization—from destruction by the corrosive salts of irrigation canals and the nearby Indus River.



ated often intangible changes at U.S. national parks, the impact on sites in less affluent nations has been more conspicuous. World Heritage designation has enabled these countries to receive financial help and technical aid to prepare management plans and train their own personnel in preservation work. The cost of these programs is underwritten by the World Heritage Fund—its annual budget (\$1.4 million in 1981) shaped by contributions from signatory nations to the World Heritage Convention.

In recent years, Gorée Island's sea-damaged buildings have been restored, as have Cyprus' ancient city of Paphos and Pakistan's Lahore Fort. Management plans have been drawn up to reverse the ecological degradation of the Galápagos Islands and Ngorongoro Crater. Preservation specialists are being trained in more than a dozen developing countries.

Despite such accomplishments, the program is not without problems. "Practically no one has ever heard of World Heritage," laments one U.S. official. "Even worse," says Paul Pritchard, president of National Parks & Conservation Association, "many countries promote tourism to their World Heritage Sites before adequate management procedures are in place to protect the sites."

So far only sixty-five nations have ratified the Convention, a precondition for a country to nominate a property within its boundaries. As a consequence, such prime candidates from nonsignatory nations as Machu Picchu, Stonehenge, and the Great Wall of China have yet to grace the list.

The Middle East conflict threatens to politicize the UNESCO program. In 1981, the World Heritage Committee added the "Old City of Jerusalem and its Walls" to the list. Although its religious, historical, and architectural importance make Jerusalem an obvious addition to the World Heritage list, the selection process ignited a controversy. The Committee had acted in response to a nomination made by Jordan, thus seeming to accept that country's,

rather than Israel's, claim of sovereignty over the Old City.

Another complaint is one of balance. Whereas the Convention is unique among international treaties in recognizing *natural* as well as cultural sites as part of mankind's heritage, critics point out that the selection process has slighted nature. Of the 112 World Heritage Sites chosen so far, more than three-fourths are works of man.

Despite such concerns, the World Heritage Program has garnered considerable acclaim, not only for listing irreplaceable landmarks, but for providing a permanent framework—as opposed to *ad hoc* rescue efforts—for their protection. "The Convention has met every expectation that a rational person could have for it," says David Hales, former Deputy Assistant Secretary of the Interior and a past U.S. representative to the World Heritage Committee.

"World Heritage is the first evolutionary step of the national park idea in 110 years, since Yellowstone was set aside in 1872," says Rob Milne, chief of the International Affairs Branch, National Park Service. The superintendent of a U.S. World Heritage Site adds, "It has helped a lot of people to realize we're not all that different, that national boundaries are, in some ways, relatively short-term things. The legal ownership of this park hasn't changed, but our perceptions have. We're tied now to other parks around the world, linked together by a common thread."

Former Council on Environmental Quality chairman Russell Train (now president of the World Wildlife Fund—U.S.) and other American officials are credited with originating the "world heritage" concept. Consistent with initial U.S. leadership in setting up the UNESCO program, Congress contributed generously to the World Heritage Fund each year. The amount, though modest relative to other federal programs (\$330,000 in 1981, or less than half a cent per American taxpayer), represented a sizable portion of the fund's annual operating budget.

But all that has changed. In the autumn of 1981, in a little-noticed action, all U.S. funding for World

Heritage was eliminated. "It was 'zeroed-out' for 1982 and quite likely the indefinite future," explains one administration official, attributing the abrupt turnabout to a variety of factors: the low priority given international preservation work during budget cuts; the "Jerusalem incident"; the absence of a lobbying constituency.

According to one UNESCO staffer, the loss of all American funding will undercut the international program. Fewer salvage operations will be undertaken, and fewer individuals will be trained in preservation work.

Although the U.S. will continue to take advantage of the World Heritage framework by nominating sites, Interior Department officials express concern over an administrative consequence of the "zeroing out." Under the Convention's terms, a nation that fails to contribute to the Fund for two consecutive years cannot serve on the World Heritage Committee. The United States, the first nation to sign the Convention, would also be the first nation to be removed from the Committee.

But the greatest damage to the World Heritage Program may be on a symbolic level. "Our government worries about losing our country's technological and industrial leadership," says Pritchard, "but we may already have lost our spiritual leadership in protecting what belongs to all peoples and all generations." Whereas a reduction in U.S. funding during other federal cutbacks might have been expected, Congress's complete fiscal abandonment strikes an almost contemptuous note. "The message that has been conveyed to other countries," notes David Hales, "is that the U.S. no longer considers these activities worthwhile."

It is an ironic position for the United States to assume, having not only committed itself to protecting World Heritage Sites for future generations, but having persuaded other nations to share in the cost.

After helping light the torch, the United States has dropped it.

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*David Douglas is a writer and attorney living in Santa Fe, New Mexico.*

# GATOR HUNT

So far, the Everglades alligator has survived major changes in its watery habitat

Connie Toops

A damp evening mist rises from the marshes deep in the Everglades. Yellow beams from our headlamps cast an eerie glow over the swamp. We finish loading equipment and climb into the high seats of the airboat. The rattling engine sputters, catches, and our flat-bottomed craft takes off with a deafening roar. My first alligator hunt is underway!

From his elevated perch our driver peers ahead into the darkened glades. We snake through the trackless tangle of chest-high sawgrass following the amber beam of his light. Suddenly he throttles back and points, voice lost to the drone of the engine. As I stare into the murky water ahead, I see a pair of ruby reflections—gator eyes!

The hip-boot-clad man next to me reaches for a wire snare dangling from a long pole. He inches forward, signaling the driver to proceed cautiously. We're less than a yard away from those glittering eyes.

"Now!" he shouts, quickly looping the snare over the gator's head and bracing as the powerful animal rolls and splashes in a desperate attempt to escape. The driver rushes forward to help. In a few minutes the gator tires. Deftly the driver slips a rope around its mouth and grabs its tail.

"One, two, three. . . ." The men strain and hoist the animal into the bow of our boat.

The airboat engine is silenced as the gator hunters gather their tools. Wind whispers through the sawgrass. The only other sounds are the bass grunts of bullfrogs and the distant wail of a limpkin. Overhead the stars shimmer, pinpoints of light in an otherwise blackened sky. Here in the boat, the bright glare of the headlamps blinds my eyes as the men converge on the gator.



Wildlife technician Pat Toops wrestles a full-grown gator, by Mark Salzburg

If it were 1950, I could have been sharing this airboat ride with any number of gator hunters who made a living poaching animals within Everglades National Park and other protected marshlands. In the fifties and sixties the prices for gator hides were so high that even if caught and charged the maximum fine, a poacher could make it up in several nights' work. But tonight the tools my fellow gator hunters carry are not the traditional rifle, machete, and skinning knife. They approach the gator armed only with notebooks, meter sticks, and numbered tags.

The driver, Dr. Jim Kushlan, is a

wildlife biologist at Everglades National Park who has been studying the alligator population since the mid-1970s to find out how water conditions and man's alterations to them affect alligators. Tonight his project assistant is poised in the copilot's seat, ready to record the data. The snare man is my husband, Pat Toops, one of several seasonal employees on Kushlan's staff.

Alligators were slaughtered for their hides for nearly one hundred years before most people took note of their dwindling numbers. Former Everglades biologist Frank Craighead, Sr., conducted surveys in the



Weighing a young gator, by Pat Toops

mid-1960s that placed the alligator population south of the Tamiami Trail at 10,000 to 20,000 individuals. He believed these animals represented only 1 percent to 2 percent of the presettlement population of alligators for this portion of southern Florida. Despite vigilant patrols, rangers often found piles of skinned gator carcasses on hammocks and along shores where poachers had eluded them. The story was much the same throughout the alligator's range in the southeastern states, so in 1967 the reptile's name was added to the list of endangered species.

Studies have documented the fact that the Everglades alligator's well-being ensures the health and welfare of many species of wildlife in the park. Commonly thought of as king of the slough, the predator actually provides, throughout its life cycle, food and shelter for vast populations of birds, fish, and mammals. In severe dry seasons, the gator's deep wallows create good-sized ponds, which provide the only source of water for parched wildlife and plants. Jammed with fish and other waterlife, these waterholes attract crowds of hungry birds, river otter, and raccoons. After mating season, a certain percentage of the reptile's eggs and young fall victim to hungry raccoons and birds.

Thus, although the adult alligator can be a tough adversary, devouring its share of fellow creatures, it is also a provider and caretaker for Everglades wildlife populations, its habits ensuring the survival of its prey. The alligator, in turn, depends for its very existence on southern Florida's characteristic pattern of fluctuating

water flow, seasonal flooding and drought, and capricious storms in ways that wildlife biologists are just beginning to understand.

When Jim Kushlan began to study alligators, little was known about their food habits, nesting ecology, movements, life span, or reproductive success in the Everglades. The Everglades is a fragile and vulnerable ecosystem, its own existence depending upon the slowly moving river of fresh water coursing through the marshes from Lake Okeechobee southward. In recent years the patterns of water flow have changed. Canals and impoundments divert some of the flow, and agricultural pollutants degrade water quality. No one knew how these changes would affect alligators—or other endangered species such as panthers, eagles, and manatees that seek refuge within the park. The primary purpose of the study was to provide recommendations for more biologically sound water management in the park. Tonight we hoped to help answer some of these questions by capturing and examining as many alligators as possible from a ten-square-kilometer study plot deep in the Everglades.

The business at hand is the six-foot alligator draped across the bow of the airboat. Jim and Pat have already taped its mouth shut with several quick wraps of duct tape. Although an alligator of this size could easily crush a human hand by biting down, it has a relatively weak set of opposing muscles to reopen the mouth. Once the jaws are held or taped shut, they are immobilized. And, contrary to popular belief, an alligator's tail is used more for balance and propulsion while swimming than as a weapon. After Jim drops a cloth over the animal's eyes, it lies quietly.

By now the biologists have selected an array of scales, meter sticks, and tags. Their task is to carefully weigh, measure, and examine the alligator for scars, parasites, or previous tags. If the animal has been captured before, Jim wants to know how far it has traveled and how much it has grown since its previous capture. Because no outward difference between male and female alli-

gators is apparent, sex is determined by examining the cloaca. As the men call out various bits of information and measurements, the research assistant records the data in a notebook.

The alligator receives a small, permanently numbered tag clipped to the webbing between its toes. Alligators more than a foot in length also receive a "spaghetti" tag—a slender strip of plastic beads in a unique color combination. Attached to the loose skin behind the neck, the tag will be easily visible, and the coded color sequences allow rapid identification without recapture. A few large gators sport red or yellow plastic necklaces that allow Kushlan to identify them by air without disturbing their movements.

We've finished with the first gator, so after its careful release, we're off skimming through the sawgrass again. This time the pilot spots the ruby reflections. Kneeling at the bow, he plucks eleven baby alligators from the shallow water and passes them back for us to hold. Photography is forgotten for the moment as I gingerly clutch four squirming baby gators, two in each hand.

Young alligators are born with tough hides and needle-sharp teeth. Because there are plenty of us to hang on to the little critters, we don't take time to tape their mouths. But I keep watching my fingers as the four wiggle to free themselves, because the bite of these tiny predators can draw blood.

In the light of the headlamps I see yellow stripes on their tails—excellent camouflage in the sawgrass. Each of the animals is about ten inches long, and Jim estimates their ages at eight months.

"During their first winter they don't grow much," he explains. "Sometimes they even lose weight, depending upon the availability of food. After that, they grow about eight inches a year for the next five years."

Once the babies are tagged and released, we capture a five-foot female. In addition to the routine measurements, Jim wants a food sample. Pat quips, "You have to be careful



Toe-tagging, by Pat Toops

how you ask a gator what it had for lunch, or your hand may become part of the sample!" He firmly grasps the gator while Jim removes the tape on its mouth, lets it bite down on a hollow plastic pipe, and retapes its mouth closed. Gently he inserts a small flexible tube through the pipe, past the throat flap, and into the stomach. He pours a little water down the tube, massages the gator's belly, and upends the gator. Presto! Lunch tumbles into the sampling jar. This gator has eaten mostly crayfish and large snails. Kushlan has also identified a variety of large and small fish, water insects, and birds that alligators have dined upon.

We continue to cruise through the marsh for several hours, capturing and tagging a dozen more alligators. Kushlan installs special radio transmitter collars on several of the larger ones. Signals from these units are monitored from the park plane or by airboat to determine the alligators' movements as the water flow changes. Results indicate that most gators stay within a specific territory near a den or gator hole.

Work has gone well tonight, and we head back to the airboat landing. While we're unloading the equipment, Jim explains the present status of alligators. "Since their protection as an endangered species in 1967," he says, "alligators have increased in numbers. By 1977 both Florida and Louisiana had large enough gator populations that their status was changed from 'endangered' to 'threatened.'"

My thoughts flash to the billboards and signs I saw along the Tamiami Trail just outside the park. "See Indians Wrestle Live Gators," "Alligator Farm," "Fried Gator—\$7.50 a Plate," and the gaudy statue

of a giant gator near a souvenir shop. In southern Florida alligators are big business, but they still must be handled in accordance with federal and state law.

Tourist attractions must obtain permits before they can display live alligators. It was not until 1979 that the Florida Game and Fresh Water Fish Commission approved the sale of fresh and frozen gator meat, most of which comes from alligator farms and state licensed hunters of nuisance alligators.

Hides are sold, too, but under strict regulation and only after receiving a special regulatory tag to prove they were taken legally.

Jim doesn't necessarily agree with the commercial exploitation of alligators, but so far he doesn't feel it's a big problem. He points out that hunting and selling alligator products are closely regulated by both state and federal enforcement agencies. Such activities are acceptable as long as they don't promote a return to poaching.

"We've learned that alligators can make a comeback as long as they're protected," says Jim, "and that's very encouraging."

The results of Kushlan's gator research tie in with other study projects on the effects of water level fluctuation on animal populations within the park. Findings from each independent study will be pooled to help park managers perpetuate the fragile Everglades ecosystem. Their ultimate goal is to preserve the Everglades in the most natural state possible so that future generations may also thrill to the sights of an orchid-draped hammock, a roseate spoonbill seining for fish, or a huge old gator basking in the sun.

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*Freelancer Connie Toops specializes in natural history stories and photographs. Besides writing and illustrating numerous magazine articles, she has authored a book about alligators in the Everglades and a guide to hiking trails at Crater Lake, and is now writing a book about the birds of Florida called Florida's Feathered Spectacle. Prior to her journalistic career, Connie spent six years as a seasonal ranger for the National Park Service.*

## Water Study Wrap-Up

Capturing alligators in the dead of night was only one of many projects in the park-wide study of the complex relationship between wildlife and water in the glades. But, rather than study every aspect of such a large, complicated ecosystem as the Everglades, biologists chose to focus on "keystone species," or central links in the food chain like alligators, wading birds, and freshwater fish.

Dr. James Kushlan, seven-year veteran of the Everglades Research Center, says, "We now have answers to some of our questions, and we're working on others.

"For example, we now know that the drier the dry season, the more likely it is that wood storks will nest successfully." Lacking proper conditions during most of the past twenty years, wood storks have declined in number more than any other species of wading birds. Another study shows that fish populations have declined in the parts of the park that are kept either unnaturally dry or wet.

Alligators are particularly affected by water management because their reproductive cycles are timed to the seasonal flood cycle in the glades. Gators lay their eggs above the water line during the June floods, and the eggs must remain dry until they hatch. During the past two years nearly all alligator eggs in the study area drowned because of floodings in late summer, attributable to water discharges from the conservation area north of the park.

Later in 1982, the results of these studies will be fed into a computer for analysis. Preliminary results, however, show that a return to more natural water flow is vital to the survival of Everglades' magnificent populations of birds, fish, mammals, and alligators.



# WATER:

## The Pulse of the Glades

The fate of the park's liquid green prairies turns on shifting water policies

Juanita Greene

Probably no other national park has a greater water orientation than Everglades, which lies at the tip of the Florida peninsula. Under normal conditions most of its 1.5 million acres are under water at least part of the year, in the wet summer and fall. In the park interior, water often only inches deep moves through the sawgrass that grows four to five feet tall. This grass "prairie" undulates like a vast green sea dotted with tropical hardwood islands called hammocks. On the west side of the park water is flushed into wide brown rivers that run into the steel-grey Gulf of Mexico. The rivers, the Harney, Shark, Lostman's, and many others, are known only to the adventuresome because they are in the park's deepest wilderness.

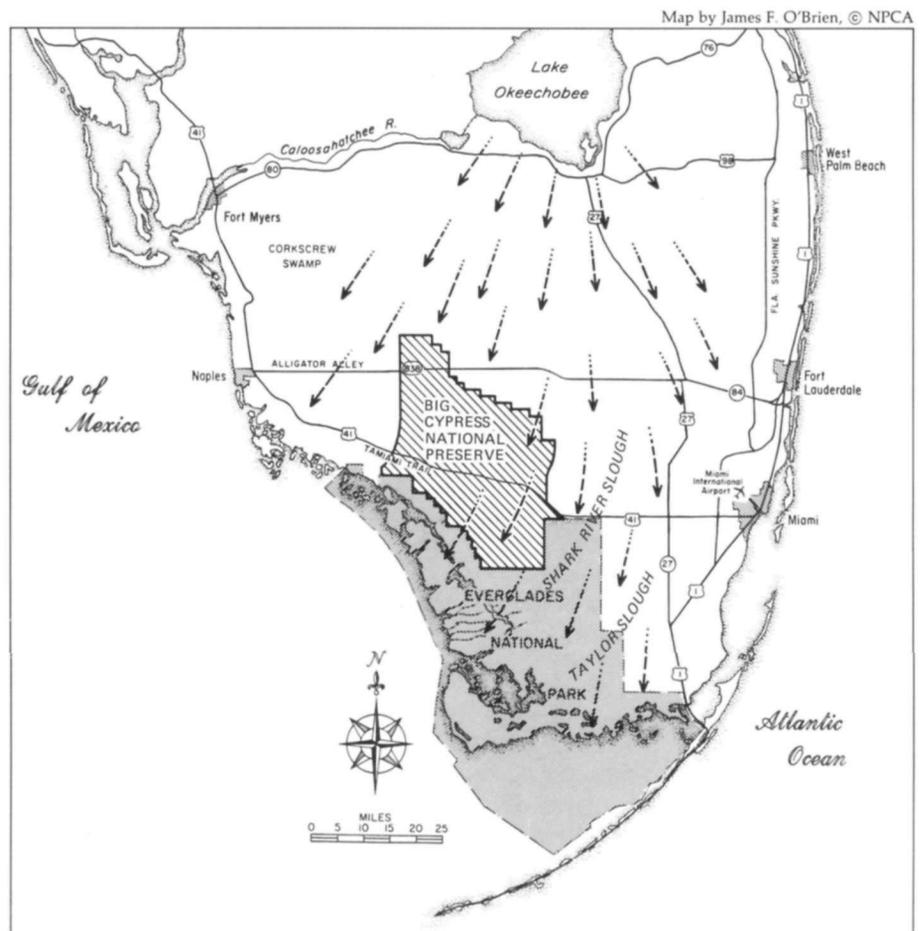
But Everglades National Park has been more or less in peril since the day it was dedicated thirty-five years ago. The park depends for its survival as a wetlands wilderness partly on water that flows in from outside. The supply is ever fluctuating and frequently manipulated. Water is the preoccupation of park officials.

The water comes in from a long distance, supplied by an intricate and singular system. The flow begins more than 100 miles north in central Florida, just south of Disney World. Here the swamps and lakes spill over into streams that flow into big Lake Okeechobee. From the lake the water continues its southward movement, down the slightly tilted

peninsula, first through canals and then overland in vast sheets. The water flows through the Everglades sawgrass to the east and the Big Cypress Swamp to the west.

This water would reach the park on its own momentum, in its own time, if the canals and levees of the South Florida Water Management

District did not interfere. The district was established in 1947 to protect new subdivisions in urban areas from flooding and to drain more land for agriculture, especially the area south of Lake Okeechobee. In later years, district officials began to stress the importance of holding water in the conservation areas to re-





Florida State News Bureau

In a typical Everglades scene, grasses stretch along a slough and cumulus clouds crowd the sky.

charge the underground aquifer that supplies much of the lower East Coast.

Also blocking the flow are two highways that cut across the Everglades and the Big Cypress Swamp—the Tamiami Trail and Alligator Alley.

To get some of its outside water, the park must wait for the Water Management District to open up the damlike water control structures at the park's northern boundary. Impounded water from a conservation area then flows into the park.

But water for the park is not assured even when it is plentiful in the north. Water schedules are managed for the benefit of people rather than nature. In dry years, Florida's water users scramble for the limited supply. The competition comes mainly from the agricultural interests that farm more than half a million acres of drained Everglades south of Lake Okeechobee and on the fringe of the East Coast urban sprawl, where farmers are squeezed closer to the park by the expanding Miami metropolitan area.

So intensely did park supporters fight for protecting park water that in 1970 they were able to get an act through Congress that guarantees the park 315,000 acre-feet a year. (An acre-foot is 326,000 gallons.) To

further assure the park of an adequate supply, the federal government is about to complete the purchase of 576,000 acres of the Big Cypress Swamp for \$196 million, with the state contributing some of the funds. The land, northwest of the park, is in a national preserve administered by the National Park Service. Also of some benefit is a canal dug by the Water Management District to the east of the park that provides another entry point for water.

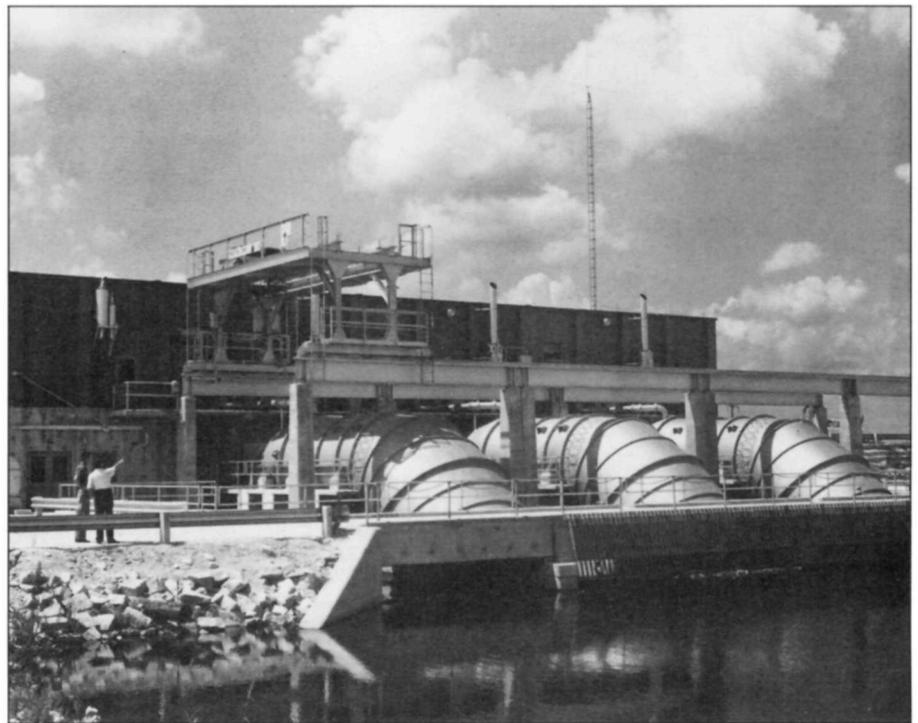
All these efforts have helped, but not enough. "Things have not improved in the sense that we are not getting water at the right place at the right time," says Gary Hendrix, director of the National Park Service's research center at Everglades. "The water is not moving in the way nature would be supplying it."

When water piles up in the conservation area to the north it is dumped in the park in great quantities. When water is low in the conservation area it comes in a trickle or not at all. Hendrix thinks the park needs at least double the water it is

getting now, but not in great dousing gulps. This need for water to be more naturally distributed will be stressed in the Army Corps of Engineers' 1984 report to Congress on the effects of the 1970 Act on Everglades.

Changing Everglades' natural fluctuations in water supply has reduced the number of wading birds in the park by 90 percent, substituted more woody vegetation for the sawgrass, caused more fires, diminished the fish in the estuaries and bays, and increased the threat of invasion by exotic plants. The exotic that presents the greatest problem is the schinus (Brazilian pepper), which thrives on disturbed soil. The park is fighting an inconclusive battle to clear the stubborn plant from the 5,500-acre "Hole in the Donut," former inholdings that were farmed for tomatoes until the early 1970s.

What would help Everglades Park most, says Hendrix, would be a return to the natural system, a resumption of the sheet flow of water that gradually made its way into the park. That is not entirely possible—



Central and Southern Florida Flood Control District

Pumping stations, like this one located northeast of the park, were built to siphon water into storage areas for use in agricultural and population areas. Op-

posite, dredges change the Kissimmee River's flow into Lake Okeechobee. Conservationists are now looking for ways to restore the natural flow.



Florida Flood Control District

but some moves are being made by the park to return limited areas to more natural conditions.

One project would restore the twelve-mile Turner River, a scenic delight that runs from Big Cypress through the northwest corner of the park. Park hydrologists plan to plug a canal that was dug parallel to a stretch of the river and diverts water from it. The disturbed flow caused by the canal brings water into nearby bays at different rates and times than was normal, upsetting natural cycles for fish and wildlife.

In a recently completed park project, a plug was installed across the Buttonwood Canal that runs from Whitewater Bay in the interior of the park to Florida Bay at the tip of the peninsula. Whitewater Bay is expected to become fresher and its estuaries much richer in tarpon, red drum, and other sport fish.

At the same time, a broader restoration plan for the whole Everglades system is being pushed by state and national environmental organizations. They propose to "repair" the Everglades. The National Park Ser-

vice has taken no official position on the plan; but Everglades Superintendent Jack Morehead said, "We would like the most natural water delivery possible to the park."

Wherever possible, canals would be plugged or filled in and levees would be removed to restore natural sheet flow. The centerpiece of the plan is restoration of the channelized Kissimmee River, which flows into Lake Okeechobee from the north. A state-appointed committee and the Army Corps of Engineers are studying the Kissimmee restoration. Parts of the repair plan that would benefit Everglades Park most would fill in a canal near its southeastern border and would reestablish sheet flow in the park's northeast corner by installing culverts under the Tamiami Trail.

Not all of the park's problems are water related, however. Possible shifts in U.S. Interior Department policy are causing great concern among park defenders. The park may lose 8,000 acres on its northwestern border. Airboaters are pressuring for the removal because they

want to use the entire route of a 26.8-mile trail. About 19 miles of the trail were closed to them after a survey discovered them to be inside the park. Airboaters would like the stretches in the park transferred to the adjoining Big Cypress National Preserve, which allows for such activities. However, 6.7 miles of the trail are designated wilderness, which means no off-road vehicles are permitted, and Congress has designated another 12.5 miles as potential wilderness. Plans to phase out commercial fishing in the park by 1985 may be dropped at the behest of the commercial fishermen. Interior and Park Service officials have been giving serious consideration to both proposals at meetings that have been closed to the public.

There are other problems, too. Farmlands, at the eastern border of the park, bring the threat of pesticide-polluted water. The Dade County urban area, with more than a million and a half people, is less than thirty miles away. Florida Power and Light Company wants to burn fuel oil with a higher sulfur

content at a plant just twelve miles from the park borders.

These problems are being addressed to some degree. Dade County has placed severe development restrictions on about 242 square miles of land at the park's eastern boundary: Only one dwelling unit for every forty acres is allowed. About 50,000 acres in this East Everglades area has been purchased by the Trust for Public Land, which hopes to sell it to the state or some other public agency for preservation. State and county air pollution officials have said they will not allow the power company to burn the dirtier fuel oil unless it can show no damage will be done to the park.

Even so, state and national agencies and environmentalists will have to remain especially vigilant in order to protect the delicate balance between land and water at Everglades. The natural balance that is the focus of all this energy is important not only to preserve a static scene, but also to provide a home for a diverse mix of wildlife. And it is a fine place to spend some time.

One of the park's principal attractions is fishing. Redfish as long as an arm, snook glittering silver on the line, pugnacious tarpon fighting hard to stay free are among the rewards for the patient angler.

With a boat it is possible to penetrate the deepest wilderness areas of the park, to float down broad rivers or narrow, hidden creeks. The only sound is the high-pitched complaint of the osprey sitting atop its large stick nest. Mangrove trees grow a hundred feet tall. White egrets punctuate the green.

A ninety-nine-mile wilderness waterway for small boats and canoes, diligently marked by park personnel, runs between Everglades City, on the Gulf at the northern edge of the park, and the Flamingo Visitor Center, on the shores of Florida Bay in the south. By canoe it takes several days to shuttle through the rivers and bays and the creeks that connect them. By motorized skiff it takes one long day.

One must know the local waters not only to find fish, but also to stay afloat. Beneath the waters of Everglades Park are sandbars and oyster



National Park Service

beds lying in wait for propellers, and many fishermen carry push poles as part of their regular gear. (Newcomers should stay in the well-marked channels.) A white, squishy marl covers the bottom of much of Florida Bay so that a boater, going overboard to shove off a grounded boat, can sink to the knees, or hips.

Scattered throughout Florida Bay, which lies within park boundaries, are passageways to the Florida Keys, the chain of islands connected by U.S. Route 1 that ends at Key West. Once the water routes were known only to a few local people. Now they are clearly defined by markers that deprive the trip of its sense of daring.

Where Florida Bay meets the Gulf of Mexico at the southwest tip of the mainland is Cape Sable, a section of the park accessible only by boat. The place would be intolerably overcrowded if it were on the Miami side of the park, but only a few scattered visitors stroll the wide beach, inspecting shells. (Collecting shells is not allowed.) Sometimes a tent or two flaps in the wind. Cries of the

Top, fires in Everglades occur naturally to some extent but become more frequent and more destructive when water flow is disturbed. Below, crop dusting north of the park releases toxic chemicals into the water flow. Opposite, the Tamiami Trail bisects the state north of the park, effectively cutting off water flow. Conservationists suggest installing culverts to help restore the flow.

© Peter B. Kaplan, 1976



tern stab the air and other shore birds scatter at the edge of the roiling water. Overhead, cotton clouds pad a blue sky.

To the south of the Cape is Sandy Key, an island that once attracted John James Audubon. It is easy to see why. The birds fly in at dusk, in great haste to find the proper perch, white herons and egrets mingling with brown cormorants and pelicans. Over the Gulf, just before nightfall, a bright orange ball is erased by the horizon.

The birds in all parts of the park are a sight to see, especially in winter, because the Everglades is on one of the principal north-south flyways.

When the white pelicans arrive, dropping out of a great circle high in the sky, the people at Flamingo declare the winter season has begun. The big birds from the Montana-Utah area spend the next few months parading in long brilliant lines in Florida Bay. Great egrets, permanent residents, stand in the shallows like solitary sentinels; brilliantly plumed roseate spoonbills

scratch the sky with pink; and, from the Flamingo Visitor Center, one can usually see a pair of bald eagles. Here and there, the tired old men of the bird world—wood storks—pump the mud with large black bills. Occasionally visitors spot mysterious wild flamingos feeding on the flats of Florida Bay. But where they come from, the park biologists don't know.

Alligators are everywhere. They sleep in piles along the canal bank at Shark Valley, off the Tamiami Trail. Using their fat tails as propeller and rudder, they swim under the elevated boardwalk on the Anhinga Trail, near the east entrance to the park. At Flamingo a mother alligator and her young live in a culvert under the road to the campground, probably the nation's most photographed alligators. More elusive are the park's crocodiles, which are on the federal endangered species list. They hide in the creeks and mangroves bordering northeastern Florida Bay.

Everglades may be famous for its reptiles and birds, but the national park supports numerous mammals

as well. Deer bound through the sawgrass and the flashing eyes of bobcats can be seen on the Flamingo road at night. The park's panthers are rarely seen, however. Probably only about twenty Florida panthers roam South Florida. They are all that is left. By far the most plentiful wildlife are the mosquitoes.

Everglades was the first national park established for its total ecosystem, rather than to preserve some special historic, geological, or scenic feature. A subtle blend of land and sea is the park's distinction. It is one of only three national parks and five other areas in the United States designated both as a World Heritage Site and an International Biosphere Reserve. Yet, because of water redistribution and encroaching development, most of the park's defenders say Everglades is the most seriously endangered in the entire National Park System.

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*Juanita Greene, environment writer for the Miami Herald, has written on many aspects of Everglades National Park, one of her favorite places.*

Florida State News Bureau



# Ski Touring in the Parks

Sparkling trails and snow-draped forests  
beckon nature lovers to the parks

Anne Riesberg

The sky is clear blue, and the bright sun has transformed the hills into a gently rolling sea of shimmering crystals. The snow-covered hills of Manassas National Battlefield, Virginia, are crisscrossed with a myriad of ski trails. On the open fields of the park visitors ski off in any direction they choose, as the National Park Service has not set any trails there. But in the woods bordering the fields, trails are well marked by signs posted on trees. Visitors arrive at the Visitor Center parking lot, clamp on their skis, and head for the historic buildings scattered throughout the park, such as the old Stone House. Near the buildings, plaques and audio programs inform visitors of the story of the first and second battles of Manassas and relate the tale of the heroic Civil War battle of generals Robert E. Lee and Thomas "Stonewall" Jackson when they defeated the North in 1862.

Meanwhile, across the country, on the three-mile Swale-South Bound-

ary trail in the Grant Grove section of Kings Canyon National Park in California, skiers glide through ancient groves of sequoias, under snow-laden branches of pines, and along small creeks where bubbling water springs out from the snow and skips over pebbles and fallen branches to rush back under the snow that blankets most of the creek. About a mile and a half from the Grant Tree parking area, where the trail starts, skiers veer onto a snow-covered hiking trail to Sequoia Lake. There, following another hiking trail along a low ridge that borders the lake, skiers can admire the quiet winter beauty of Sequoia Lake and the vista across the wide San Joaquin Valley.

From East to West, from historic sites to natural areas the National Park System offers many opportunities to enjoy winter and nature with the help of the interpretation staff of the National Park Service.

Winter may not seem like the best time of year to visit the national



David Madison

park. Many visitors prefer the balmy days of summer or the brightly colored pageant of autumn. In the wintertime snow-covered park roads are closed, and hiking is nearly impossible except for areas close to visitor centers. Yet, despite these seemingly adverse conditions, visitors can enjoy the parks by using an alternative means of travel and discover the parks in a new "winter" light. With skis, travel on snowbound roads and trails makes the remotest areas accessible.

Ski touring in the National Park System is not a new activity. For many years it was practiced by only a few die-hard outdoorspeople. In

recent years, however, due in large part to cheaper and easier-to-care-for equipment and word of mouth from new converts to the sport, cross-country skiing has brought an ever-increasing number of visitors to the parks during winter months.

The makeup of the visiting skiers is as diverse as the units of the National Park System. Athletic types enjoy the challenge of the steep white slopes of the more rugged park terrains; whereas beginners, parents with young children, and older people prefer gentler trails for an afternoon outing. The marvelous aspect of ski touring is that the sport adapts itself to the individual's capa-

bilities. Unlike many sports that are too demanding or rough, skiing gives as much as one wants to take.

Oftentimes I go skiing with a group of friends in Catoctin Mountain Park, a unit of the National Capital Region and site of the Camp David presidential retreat. One of my friends is a seasoned marathon runner. As soon as we hit the trail and our skis finally slide into the three-inch-wide grooves, he takes off like an arrow and will usually speed past us at least twice on the trail, giving his muscles an invigorating workout while the rest of us ski at a leisurely pace, enjoying the park's quiet beauty and keeping an

A lone skier enjoys the sweeping panorama along the Phelps Lake Trail in Grand Teton National Park. A growing body of converts is turning to ski touring as a way to experience the national parks in wintertime, at their most pristine. National parks all over the country offer cross-country ski trails ranging from rugged terrain to gentle slopes, making the sport both accessible to beginners and challenging to experienced skiers.



Jason Rubinstein

The national parks in winter offer special delights to the cross-country skier. Top, in Utah's fairyland, Bryce Canyon National Park, a skier sets his own trail through myriad frosted spires. Right, a skier on a snack break in Yosemite is rewarded with a view of Half Dome that no summer visitor can enjoy. Opposite, the only evidence that a skier has passed this way through Acadia National Park is a fresh, narrow track cutting through the silent shadows of late afternoon.



David Madison

alert eye for signs of active winter wildlife.

Winter is a good time to observe wildlife. Except in dense evergreen forests, the undergrowth of most forested areas is clear enough to offer good visibility. Several times when skiing in Catoctin I have been able to glide past feeding deer, as they poked their noses in the snow in search of food, seemingly unaware of my presence less than one hundred feet away. Such an encounter is impossible to achieve at other times of year, when dead leaves and branches are a giveaway. Trying to identify the many tracks that dot the snow in places—testimony to the winter activities of many animals—is an amusing pastime for skiers.

Just as skiing offers whatever you can handle, the National Park System offers skiing in many units across the country for all levels and needs. Except for units in the southeast United States, skiing is available in most every kind of unit. Gateway National Recreation Area, New York; Great Sand Dunes National Monument, Colorado; Indiana

Dunes National Lakeshore, Indiana; Theodore Roosevelt National Park, South Dakota; Craters of the Moon National Monument, Idaho—these are among the many units that offer cross-country skiing.

The skiing experience offered by these parks is diverse. Some units like Yosemite National Park offer elaborate systems of fifty miles of trails; others, like the Home of Franklin Delano Roosevelt National Historic Site in New York, have short trails of a mile and a half. Many parks have no trails, with skiing permitted throughout the park. The national parks adapt well to this increasingly popular winter activity with old logging and carriage roads, currently used roads, and hiking trails transformed into ski touring trails.

As the trail system expands and ski touring becomes more popular, the variety of National Park Service ski touring programs to encourage winter use and appreciation of the parks increases. Most parks have rangers on staff to give free instruction to beginning and intermediate

skiers, and some have rangers lead tours to familiarize skiers with the sport and the trails. Rental equipment is usually available in the park or in a nearby town.

In some parks skiing is combined with interpretation. At Saratoga National Park in New York, for example, skiers can stop by the Visitor Center on their arrival, attend the park's audiovisual program, then ski the gentle six-mile cross-country loop that follows a historic route—retracing the victorious battle of the American forces against the British in 1777—complete with a skier's guide.

Indiana Dunes National Lakeshore offers a variety of winter programs. Park rangers conduct several clinics throughout the winter designed for beginners. Weekly one- to two-hour nature appreciation ski hikes are led by rangers who point out signs of the park's rich winter life. At each full moon, from mid-December to late February, rangers guide night ski tours, directing visitors' attention to the stars and planets that spangle the winter sky.

Some parks offer overnight accommodations, such as Yosemite's Ostrander Ski Hut, operated by the Yosemite Natural History Association for the National Park Service to encourage ski touring and snowshoeing as winter activities. The hut, which provides overnight shelter for groups of up to twenty-three, can be reached by a choice of trails ranging from six to nine miles long. Although the trip requires stamina and skill, it has proven to be popular. Bunks with mattresses and wood for heating and cooking stoves are provided for a fee of \$2 a day per person. Reservations are required.

Yosemite's Ostrander Hut and Indiana Dunes' winter appreciation ski touring programs are only two of the innovative programs designed by the National Park Service to tempt summer visitors back to the parks during the winter months. The increasing popularity and continued development of ski touring programs testify to the National Park Service's growing success with attracting winter visitors.

*Anne Riesberg, Editorial Assistant for National Parks, was given her first pair of skis when she was twelve and has been an avid skier ever since.*



Russ Butcher

## SKI TIPS

Skiing is one of the best ways to experience the outdoors and the parks in the wintertime. However, you should observe a few rules and precautions to make sure your ski trip to the parks is safe and enjoyable. Here are some tips that will help you plan your trip and keep you humming on the trail.

### *What to Wear and What to Pack.*

- Always wear wool. Wool, especially next to the skin (i.e., fine wool undergarments or turtleneck), retains heat even when wet, whereas wet cotton robs your body of its heat.
- Do not dress heavily; rather, dress with layers of clothes that you can take off as the day warms up.
- Remember to take along a hat. The head is subject to relatively rapid heat loss in the wintertime.
- Bring sunglasses or goggles to help cut down on the blinding whiteness of snow.
- Always carry a map of the area (available at the visitor center or ranger station), waterproof matches, a compass, and an all-purpose pocket knife.
- For that attack of the munchies that invariably gets you out on the trail, take along some nuts and dried fruits (or other quick energy food), and carry some water or fruit juice. Snow is a dehydrating environment, and eating snow to quench thirst rarely proves satisfying.
- If you intend to ski for more than a couple of hours, take several kinds of ski wax. Snow conditions change quickly on the trail. As a precaution bring at least one ski tip replacement for your group. The chances of breaking a ski tip are slim, but better be prepared than sorry. . . .

The preceding list may sound long and time-consuming to assemble. Once you have assembled these items, however, you can leave them in a small hip pack that you use only for ski trips. (A hip pack is prefera-

ble to a backpack, as it will adequately hold a day's supply for skiing and is less cumbersome and hot to carry.) As a little extra, you might consider taking a small square foam pad to sit on when you stop to rest, to keep you dry and happy.

### *Before You Start on the Trail.*

- Call the park before you leave home to make sure trails are open.
- Always check in at the visitor center and find out what trail conditions are like, whether any trails are closed, and which ones are best suited to your capabilities. Rangers can also give you tips on what wax to use on your skis. As a safety measure, let the ranger know what your plans are, especially if you are traveling alone.
- When possible, ski with someone else. There is safety in numbers, especially if you are skiing in the woods.

### *A Few Precautions.*

- Remember that nightfall comes sooner in a forested area than in an open area. You should plan to reach your finish point by four o'clock and give yourself some leeway in case you are delayed on the trail by a problem or by nature's beauty.
- If it starts snowing heavily while you are on the trail, head for home immediately. Trails disappear quickly under new snow, and visibility considerably decreases. Some parks do not have marked or maintained trails, so it's up to you to ski responsibly.
- When skiing in potential avalanche areas, watch out for danger signs posted by rangers and for any natural signs of possible avalanches.
- Last and most important, beware of hypothermia, which occurs when the body loses heat faster than producing it. You are susceptible to hypothermia if you are wet, tired, and cold. So remember, if you start shivering uncontrollably, get off the trail, change clothes quickly, and drink hot liquids.

Happy Trails. . . .

—A.R.

Wendy Wheeler

Every autumn the salmon run attracts hundreds of bald eagles to Glacier National Park

# Season of the Eagle

Excitement and interest illuminate the faces of nearly a hundred people assembled on Apgar Bridge in Glacier National Park. All are looking downstream. Gloved hands clutch binoculars in the early morning chill. Shutters of cameras with telephoto lenses click steadily. In a rare opportunity, the patient observers watch dozens of bald eagles feeding along the creek.

This year marks the two hundredth anniversary of the bald eagle as our national symbol. President Reagan commemorated the event by declaring 1982 to be the "Year of the Eagle." Ironically, although bald eagles once nested in

every state in the Union except Hawaii, they are now endangered or threatened in forty-eight states.

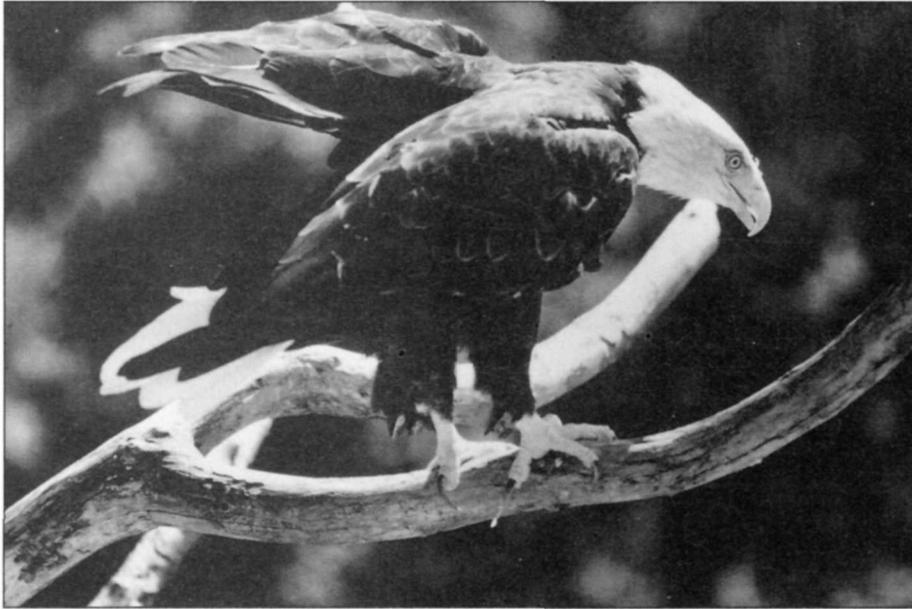
The bald eagles at Glacier National Park come mainly from Canada; only a few resident pairs remain annually in the park. These crowds of migrating birds are on their way to wintering areas south of the park. Inasmuch as eagles do not travel in flocks, they are difficult to spot and track. Some banding has been done, and transmitters have been placed on some birds; but research on eagles' migratory habits is far from complete.

Ironically, the concentration of eagles in Glacier National Park each fall occurs because of an act of man.



Jeff Foott





Peter Kaplan

Although bald eagles are listed as an endangered species in the lower forty-eight states, the population has stabilized since DDT and similar pesticides were banned in 1972. Loss of habitat is the biggest problem facing eagles now, as timber cutting and construction of subdivisions destroy nesting trees and encroach on feeding areas in many places. Thus sanctuaries like Glacier National Park and other wild areas are becoming ever more important to the survival of viable populations of eagles and other wildlife.

In 1916 Kokanee salmon—not native to the region—were introduced into Flathead Lake, sixty miles southwest of Glacier National Park. At the end of a salmon's four-year life cycle in the lake, it makes the upstream journey to the shallow, gravelly spawning grounds of MacDonald Creek inside the park.

Thousands of dark red salmon visible in the clear waters attract bald eagles beginning in late September. Peak numbers are reached in mid-November, just after salmon spawning is finished. The birds are gone by Christmas.

Some birds perch in tall lodgepole pines, their white heads shining like Christmas ornaments among the branches. Others prefer to stop on gravel bars or partially submerged logs. The eagles feed most actively in the early morning and late afternoon. Each bird will consume as many as five or six fish a day. Often they fly with their fish to a treetop perch for a leisurely meal.

Fishing methods range from the dramatic to the practical. The older, more skilled eagles make swooping dives, skim the water's surface for a fraction of a second, and return to the air triumphant, with still-flapping salmon grasped firmly in their talons. Other eagles—usually immatures—walk into the water and dig their sharp claws into unsuspecting salmon. Observers are not sure a

catch has been made until the eagle returns to the gravel bar minutes later. Immature eagles seem to believe that it's easier to steal a fish than to catch it. They are often unsuccessful in their attempted theft, however, and usually scurry away after encountering some outraged wing-flapping and screeching.

Preliminary results of a joint study begun in 1979 by Glacier National Park and the University of Montana indicate that the Canadian eagles summer in northern Alberta and the Northwest Territories. Dr. Riley McClelland and teams of graduate students are studying the long-range movements of the Glacier eagles. They have discovered that after leaving Montana, many of the eagles winter in Idaho, Utah, Nevada, and Oregon.

Park personnel count the eagles once each week by floating in a canoe through their midst. Dr. McClelland developed this method of census in 1965. The peak count in 1981 was 639 eagles.

Although shooting, pesticides, and habitat destruction have taken their toll, the high number of eagles counted each year at Glacier encourages hope and optimism about the status of our endangered national bird. Barring the loss of the salmon population, and with protected lands in Glacier National Park, hundreds of eagles can return each autumn to

Lower MacDonald Creek for two or three months of feasting before winter.

The management of Glacier National Park has made it possible to watch the gathering of eagles and salmon in a noninterfering way. Directions to the observation areas are clearly marked when entering through the West Entrance in the small town of West Glacier.

The banks of the creek are closed to people, but a bridge makes an excellent viewing station. A park ranger is present on the bridge at all times with a telescope. The rangers are well informed and eager to share their knowledge.

Most services in the park are closed during this off-season time. Apgar Village Visitor Center is open and staffed by rangers. Information and movies about the eagles are available here, along with publications and maps relating to Glacier National Park.

The wildlife of our country is a precious resource. Observing the bald eagle in the magnificent setting of Glacier National Park can provide a wealth of insight and inspiration to nature lovers, bird-watchers, photographers, and fascinated visitors.

*Freelance writer Wendy Wheeler lives in Montana and regularly visits Glacier National Park.*

# Freeman Tilden's Legacy

Michele Strutin

On October 21, 1982, the National Park Service, KC Publications, and NPCA presented the first annual Freeman Tilden Award for the Outstanding Interpreter of the Year. The presentation was made at the Cooperating Association Conference in St. Louis, Missouri.

The purpose of the award is "to stimulate and reward creative thinking and activity among National Park Service interpreters by recognizing outstanding individual achievement on the job." The award was named for Freeman Tilden, the "father of interpretation," whose many books and articles and nearly thirty years with the National Park Service inspired park interpretation.

KC Publications—publishers of "The Story Behind the Scenery" series of booklets on the national parks—suggested the award and donated \$2,500 to NPCA for a cash prize. They state: "To us, one of the prime purposes of the National Park Service is to explain to visitors what our park areas represent—what they are really seeing. These are fast-moving times, thus new ideas, new methods, and new approaches are necessary to present the true significance of our National Park System."

In addition to NPCA's cash prize, the National Park Service inscribed the winner's name on a life-size bust of Freeman Tilden kept at the Mathew Training Center, and presented him with a miniature replica of the bust. Regional winners received a lithograph of Freeman Tilden.

To determine the winner, a staff member at any unit of the National Park System may elect a nominee, whose qualifications the park superintendent sends to the regional office to be judged against those of other regional nominees. (The Alaska and Pacific Northwest regions did

not choose finalists this year.) The regional finalists are then judged by a panel consisting of the president of NPCA, Paul Pritchard; the director of the National Park Service, Russell Dickenson; and a citizen selected because of his or her prominence as an educator and conservationist. This year that citizen was Dr. Robin Winks, chairman of the National Park System Advisory Board.

With eight excellent candidates to choose among, the panel selected Victor L. Jackson, Chief Naturalist at Zion National Park, as this year's Freeman Tilden Award winner.

## Victor Jackson, Rocky Mountain

Until he was six years old, Victor Jackson spoke only Vietnamese. The son of missionaries in Vietnam, Jackson had to learn English on the ship that was taking him to America for the first time in the late 1930s. His experience as a stranger in his own country has motivated him to make our national parks—in particular, Zion National Park, Utah, where he is chief interpreter—accessible to *all* visitors.

"National Parks are prime touring objects of international visitors, and Zion is one of only three parks right off an interstate," says Jackson. To bear out this statement, Zion records show that about 20 percent of park visitors are from other countries. Through Jackson's efforts, the park brochure now comes out in French and German; and *Discover Zion*, which is sold at the park, contains sections in French, German, Spanish, Japanese, and English.

Although now he sits behind a desk most of the time, Jackson says he likes to take his breaks by going out front where the visitors are. "You can usually tell the international visitors—hanging back about six feet from the information desk. I

zero in on them, and they seem to appreciate it."

Victor Jackson also zeroes in on children, whose needs parks sometimes ignore. "If we can get them now," he says, "we can teach them a love for the outdoors that will last a lifetime." At the Zion Nature Center children learn how birds fly, draw leaf patterns, see animal homes—in general, they learn about nature on their own level.

Projects like the recent trilogy of children's books are funded by the Zion Natural History Association, which Jackson has built into the largest cooperating association in the Rocky Mountain Region. He also uses the services of volunteers to the mutual benefit of Zion, which like most national parks is now short on staff, and the volunteers, many of whom gain useful career experience.

In addition, every year the Southern Utah Folklife Festival comes to the park. Jackson, who coordinates the three-day event, says it is a time when "old-timers get to be in the limelight," showing off their talents in rock-splitting, soap-making, water-dousing, and other antique skills.

As a college student, Victor Jackson visited Rocky Mountain National Park and observed the naturalist/interpreter besieged by questions from visitors. "I looked at the naturalist and thought, 'That's got to be the worst job in the world.'" He doesn't think that anymore.

## Karl Merchant, Midwest

"The teaching of history is changing," says park interpreter Karl Merchant. "I'm not saying the dates—the coat hooks—aren't important; but once you have the coat hooks, you can add all those stories that make the person human." Merchant is now at Shenandoah National Park for further training; while at William



Lynn Chamberlain

### Zion—Vic Jackson's grand backdrop.

Howard Taft National Historic Site, however, he became involved not only in the history of Taft, but also in the history of Taft's city, Cincinnati.

"The key to success at Taft," Merchant says, "was that the superintendent [M. Maxine Boyd] gave us the latitude for the programs, as long as they were professionally done." Merchant took the latitude and branched out from programs on William Howard Taft as a child, as administrator in the Philippines, and as president, to programs on nineteenth-century Cincinnati, Ohio presidents, and the First Ladies.

To enhance visitors' understanding of cultural interpretation and preservation, Merchant conducted tours through Taft's house to point out restoration projects specifically: how the National Park Service goes about preserving structures, the kind of brick used, and similar information. He also initiated a weekly walking tour through the historic district of Cincinnati, which surrounds the Taft house.

Merchant produced slide shows with which he conducted off-site programs for schools and civic groups and at homes for the elderly. He also put together special programs for groups interested in the elections of 1908 and 1912 and flora of the 1870s. By imparting his knowledge in innovative ways, Karl Merchant hopes he can touch people's lives. Of interpretive programs

he says, "We can make them entertaining, we can make them educational, and we can make it so that people take something back with them, and maybe it will affect their life in some small way."

### Jamie Petitti, Southwest

It is hard to imagine any scene in Oklahoma quite so sylvan as Chickasaw National Recreation Area; but Jamie Petitti assures one that the glades and creeks are no mirage. "It surprises a lot of people," she says. "When they think of Oklahoma, they think of dusty land."

Petitti is a native of Oklahoma, and her work at the park's Traver-tine Nature Center goes a long way toward dispelling such dusty myths. She explains, "This is the dividing line between East and West—we're in an overlapping area. You have cactus and eastern hardwood side by side, which you wouldn't get 100 miles in either direction."

To display and explain the area, Petitti uses every type of medium: from armadillo shells at the hands-on exhibit to a caged live rattlesnake to photographic histories of the Dust Bowl era. Because of her desire to clarify the relation between people and nature—"not just what, but why"—Petitti created the slide program "Everything Is Beautiful," which has become so popular it draws school classes from a 200-mile radius. She also carries her message outside the park to civic, student, and environmental groups.

Petitti conveys her interest in and respect for nature so well that in 1970 she began writing a newspaper column on environmental subjects that piqued her curiosity. "My goal is to reach more people than just come to the park," says Petitti. Now syndicated, "Nature's the Thing" covers the environmental spectrum: from indoor air pollutants to the habits of chicken-poaching owls. Nothing misses her eye: skinks, termites, marsupials all have been featured creatures.

One of the highlights of Petitti's career, though, was meeting with Freeman Tilden. That she is a finalist for the interpreter's award is not merely a happy coincidence.

### Anne Dudley, North Atlantic

A history major and drama student in college, Anne C. Dudley, park interpreter at Sagamore Hill National Historic Site, says, "I use both of them every day" bringing the history of Theodore Roosevelt's home to life.

Although she has been at Sagamore Hill, New York, little more than a year and the history of the place is lively to begin with, Dudley felt that some mini-programs—to add to the traditional tours—were in order. She added a puppet talk on the history of the Teddy Bear, plus programs on the Roughriders; on Theodore Roosevelt the politician, the conservationist, and the gentleman farmer; on art in the house; and on the national parks that Teddy Roosevelt established.

"Our main thrust has been children's interpretive activities," she says, because school programs form a large part of Sagamore Hill's work.

Now interpreters visit schools before the children come to the park, present an audiovisual program on Teddy Roosevelt's life, and furnish the teacher with a guide. When classes arrive at the park, the tours are individualized with question/answer sessions, role playing, and a complete inspection of the house.

Undoubtedly, the part of the tour children enjoy the most is Dudley's hands-on activities. "Victorian Baskets," a circle activity, allows children to examine objects from Teddy Roosevelt's time: button hooks, mobcaps, wax cylinder records, old-fashioned light bulbs. Our twenty-sixth president mounted some of his own animals, and the children get a chance to try out taxidermy, too. Dudley learned how it is done, bought a deerskin, glass eyes, some wire, and other supplies, and encourages the school-aged visitors to try them out.

In addition to new programs and brochures, Dudley has completed two detailed reports for the park, one on interpretation and the other outlining management for Sagamore Hill's cultural resources. She says about her job, "It's wonderful to work for an organization that lets you do what you love to do."



National Park Service

Anne Dudley displays Roosevelt home.

### Walter McDowney, Capital

One could say that Kenilworth Aquatic Gardens in Washington, D.C., have been Walter McDowney's home-away-from-home for most of his thirty-four years. His family lived in a housing project across the street from the Gardens and Mac—as everyone calls him—started coming to this unit of the National Capital Region when he was ten years old.

Mac is a full-time park interpreter now; but beginning when he was 18 years old, in his off hours he volunteered to show visitors the park's lush collection of water-lily and lotus ponds, fields, and woodlands. In fact, the park began using Mac's services when he was a teenager because the park naturalist at the time

told him, "You know more about this park than I do," and recommended him as a guide.

Visitors are not the only ones to tap Mac's far-ranging knowledge of the living things at Kenilworth. He has made a special effort to involve neighborhood children in park activities, and he started a Junior Ranger program because he wants the youngsters to "start early to become little naturalists."

They can tell a visitor that the knobby buds of the button bush were actually used as buttons by the region's early settlers. Junior Rangers know how to spot a crayfish's back door as well as the mound that marks the front entrance. They are learning from Mac the fascinating stories that make him a first-rate interpreter: the lotuses nurtured from 1,500-year-old seeds found in a dry lake bed in Manchuria; the four-foot-wide Victoria lily pads, shaped like giant quiche pans and able to hold several hundred pounds.

The lavishness of the flora brings many artists to the Gardens. Mac has established programs for them to teach drawing at the park and even on television in connection with his *Pond Life* show. In addition, Mac organizes programs in conjunction with garden clubs, local universities, and other community groups. Oftentimes he will specifically invite garden club members and birders to tour the park so he can trade information with them. And what he learns he passes on to others.

### Bruce Craig, Western

"We have a unique problem at Channel Islands National Park," says interpreter Bruce Craig. The vast majority of park acreage is scattered among a number of islands off the coast of southern California; yet 80 percent of park visitors never venture past the visitor center, which is on the mainland near Ventura. "So we have to give them an alternative to an island experience," continues Craig.

The alternative, conceived and coordinated by Craig and displayed at the visitor center, is a hands-on exhibit of various island features. Visitors can examine a tidepool, constructed of tinted cement that has been pockmarked to simulate the real thing. From there the exhibit builds to a beach environment, then on to Chumash Indian artifacts; a calichi forest replica of the San Miguel Island trees that have been calcified by blowing sand; and the savanna/grasslands that cap the Channel Islands.

"We're trying to have people use all their senses," says Craig; and the exhibit is accompanied by a tape of the sounds of the islands. He is working on another taped program for children and the visually impaired, as well as interpretive publications and films.

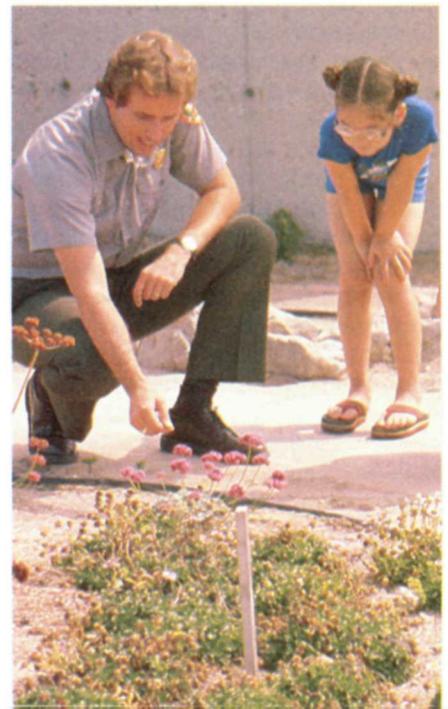
Another of Craig's innovations, the Native Plant Interpretive Loop Trail, was created of necessity. He explains, "This is the first National Park Service facility to use all Cali-

Eugenia Horstman Connally



Mac McDowney (above) has involved neighborhood kids in a Junior Ranger program. Bruce Craig (right) shows off native California plant trail.

National Park Service



fornia native plants, and 80 percent are Channel Islands species like Catalina cherry and Torrey pine. We're expecting a water shortage next year when we lose the Colorado River water and we're trying to set an example, using not just water-intensive plants."

His work with the Friends of the Channel Islands support group is his "number one priority," however. The money the group raises will provide for students of marine biology to attend floating classrooms. And the organization's members provide volunteers for such work as constructing exhibits, running the park's library, and serving as island interpreters.

### Dwight Storke, Mid-Atlantic

The man for whom George Washington Birthplace National Monument is named and the park's interpreter, Dwight Storke, definitely have something in common. Dwight Storke is a direct descendant of George Washington's grandfather, and Storke is committed to making the life and times of Washington vital to all park visitors.

To Storke this means recreating the Popes Creek, Virginia, plantation of Washington's time. He takes his cue from something the statesman/soldier said: "Of all the things I've done, I'd rather be remembered as a farmer." So Dwight Storke searched through documents, diaries, and inventories of the period. With his guidance the park staff bred, raised, and trained oxen; and Storke acquired some Hoge Island sheep whose breed can be traced directly to George Washington's time. When the sheep are sheared, park weavers turn the wool into colonial garb by the old methods.

With Storke as coordinator, the park's cooperating association is embarked on a publication program, as well as organizing craft demonstrations, film festivals, and other community events at the park.

Of particular satisfaction to Storke is his work with handicapped children. He and his wife carved and clothed marionettes of George Washington and his family. With these the couple go to schools and



Photos by National Park Service



classes for the handicapped, in particular, and present scenes from Washington's life. April is special education month at the park, and handicapped children are given a full program. They feed the animals, try their hands at spinning and weaving, and picnic on the grounds. Storke says, "In this world, with everyone trying to grab something, we're trying to give."

Besides training his staff to interpret this "living historical farm," Storke employs volunteers, including a local archeologist, to tackle the problem of sorting and labeling the hundreds of thousands of artifacts recovered at the birthplace. One of the finds particularly intrigued Storke. In what served as an eighteenth-century trash pit, a ring was found—possibly a wedding ring—with the inscription "Love is a Jest."

### Chester Thomas, Southeast

Chester Thomas grew up on a Virginia farm, and that background provided him with the best possible qualifications for his present job. In the hills of Cumberland Gap National Historical Park, where Kentucky, Virginia, and Tennessee meet, Chester Thomas runs the Hensley Settlement.

Dwight Storke uses puppets to tell the George Washington story, while Chester Thomas prepares the ground at Cumberland Gap for planting.

In 1903, Sherman Hensley left crime-ridden "Bloody" Harlan, Kentucky, and started a back-to-basics farming settlement that abjured mechanical conveniences. The Hensley Settlement folded in the early 1950s; but when Thomas was helping to rebuild the isolated settlement as part of the park, he found Hensleyites in nearby communities who could pass on their old-time ways.

Thomas has learned how to restore the log cabins that form the heart of the settlement; and, even more, he can convey to visitors the feel of the place—through folk tales and his childhood memories of visiting the place.

The 135-acre site requires a great deal of daily care—all done in the Hensley tradition. Thomas tends and shears sheep, raises hogs, plows the fields with draft horses, plants potatoes and corn, and grinds sorghum at the mule-powered mill, in addition to maintaining the historic scene and explaining how it all works to park visitors.

Thomas understands the old way of planting by the signs and one Memorial Day weekend he even had park volunteers making moonshine liquor behind the old Hensley schoolhouse.

As the National Park Service Southeast Regional Office has said about him, "Chester Thomas to many visitors and staff alike is Hensley Settlement. He has touched it to at least the same degree as it has touched him."

*Michele Strutin is assistant editor of National Parks.*

# NPCA Report

## Sea Claiming Lighthouse at Hatteras

For the better part of 1400 years the Pharos lighthouse stood sentry over the Egyptian port city of Alexandria. The 440-foot lighthouse, built for Ptolemy II in 280 B.C., was counted one of the seven wonders of the ancient world. Still, it was overtaken by time and circumstance, like most of the seven wonders.

The lighthouse at Cape Hatteras National Seashore is a mere 112 years old and 208 feet high. Yet the slender spire with its dramatic black and white spiral design has become a landmark on the North Carolina coast. Unfortunately, it, too, is being overtaken—by the sea. And the National Park Service (NPS) is trying to decide whether to spend millions of dollars saving the lighthouse or to let it go.

The lighthouse was built on a barrier island and because barrier islands are constantly changing, constantly being shifted and buffeted by the sea, the NPS would have to spend \$5.3 million to build a concrete-and-steel sea wall revetment that would surround the lighthouse. The NPS estimates that within fifty to one hundred years the lighthouse—with revetments to protect it—could become an island in the Atlantic Ocean.

Other proposed measures do not provide total protection, and spending money on anything less would be tantamount to throwing taxpayers' dollars into the sea. The NPS prefers the total revetment plan. NPCA supports the opposite option: no action. The Association believes total protection would be as wasteful as partial protection, especially when the NPS is so short on funds. NPCA points out that those millions could be better spent on many other preservation programs.

Laura Beaty, NPCA's program coordinator for cultural resources, says, "Nature's continual reshaping of coastal areas will continue regardless of what obstacles man tries to

throw in the way. This dynamic process demands respect."

History shows how futile the fight would be.

- Situated more than a quarter of a mile from the ocean in 1870 (the year it was completed), the lighthouse is now approximately 70 feet from the surf. As the NPS states, "The beach fronting the lighthouse has eroded an average of 11 feet a year. . . ."

- During the 1930s the Civilian Conservation Corps built a barrier sand dune the length of Hatteras Island to protect it from erosion. By the 1960s the lighthouse was in danger again.

- In 1966 312,000 cubic yards of sand were pumped in to form a bulwark. This sand bank has eroded.

- In 1967 large, nylon bags filled with sand were placed in front of the lighthouse. Few remain.

- In 1969 the U.S. Navy built three

From the inholder who brought us Big Vic: another giant fiberglass statue to grace the shores of Voyageurs National Park in Minnesota. This creation—called Big Louie—is inholder Vic Davis's idea of how to enhance a visitor's wilderness experience.



groins to protect the area. The groins were destroyed by storms.

Despite the instability of barrier islands, North Carolina citizens want to save the lighthouse and are contributing money to that end. But the amount needed for complete revetment plus yearly maintenance is unlikely to be met by private funds alone; and the NPS would still be stuck supporting a structure on eroding ground.

If citizens want to save the lighthouse, NPCA suggests their money be used to relocate and maintain the lighthouse on solid, private ground, thus eliminating the financial drain on the NPS.

## Wind Cave Plagued by Spread of Prairie Dogs

Black-tailed prairie dogs have proven to be very successful residents of Wind Cave National Park, South Dakota. Too successful, says the National Park Service (NPS), which is planning to halve the current dog-town acreage in the park via a poisoning program this fall.

In its recently released prairie dog management plan, the NPS argues that the dog-town sizes have "exceeded the level which would be anticipated under natural or pristine conditions." Another more subtle reason may be pressure from local ranchers who are anxious to stem the migration of prairie dogs from parklands to their rangelands.

Referring to historical descriptions of the area, the NPS believes that the prairie dog was not as prevalent in the past as it is today in the park. Furthermore, photos from the 1930s indicate that the dog towns occupied only half the park area they do now.

For many years, the NPS controlled prairie dog populations in Wind Cave National Park. Then, in the 1950s, an enlightened attitude toward "pest" species in the parks halted all control efforts.

By that time, though, the environment of the park had been greatly altered; and the changes favored the growth of prairie dog populations. Many of the species' natural predators, such as the black-footed ferret and the wolf, had disappeared.

Perhaps the most significant alteration, however, has been the change in the park's rangeland. Prairie dogs prefer areas with stubby, ground-hugging vegetation so they can keep an eye out for predators. Consequently, they shun high grass. Because the herds of bison and elk in the park have grown so large, they have conveniently grazed much of what was once waist-high prairie grasslands into perfect prairie dog habitat. The NPS proposes to reduce the elk and bison herds by live trapping, thus encouraging the restoration of these grasses in the national park.

Besides proposing the use of the poison zinc phosphide, the NPS is testing the birth control drug, DES, as a means of limiting populations of prairie dogs. One of the major concerns in using zinc phosphide is that where prairie dogs live there well may be black-footed ferrets, the most endangered mammal in North America. Although ferrets have not been seen in Wind Cave since 1971, an intensive search will have to be conducted before any poisoning is attempted.

Although NPCA does not endorse poisoning the prairie dogs, it does recognize a need to reduce the number of prairie dogs to its historic level. It is possible this can be accomplished by instituting strong programs to restore ungulate populations, the vegetation, and other aspects of the environment to their original condition.

### Attack on Clean Air at Teddy Roosevelt NP

If the Department of the Interior has its way, Theodore Roosevelt National Park in western North Dakota will lose its Class I air-quality protections. The Prevention of Significant Deterioration (PSD) provisions of the 1977 Clean Air Act give Interior's Federal Land Manager the legal authority to waive these protections if the resulting higher pollution levels would cause *no adverse impact* on the park.

Energy development is at the bottom of this situation. Attracted by the coal-lignite veins and oil and gas



T. W. Orfutt

Cattle found trespassing in Kings Canyon National Park, California, were enjoying a rare treat: baby sequoia trees. Trespassing by livestock is a fairly constant nuisance at lower altitudes (where sequoias do not grow); but cattle browsing in the Redwood Canyon Trail area of the park causes particular concern.

Giant sequoia trees—the largest living things—can reproduce only if the seedlings germinate in bare mineral soil. The area above was burned to provide just such a base.

fields that surround the park, six companies have applied to the state of North Dakota for construction permits. Ten energy-related facilities already exist in the immediate area and already are exceeding Class I pollution levels.

In NPCA's view, the initial Technical Analysis—on which the National Park Service (NPS) based its judgment to waive protections—was inadequate in several critical areas.

- The NPS failed to perform a major portion of the visibility analysis: They ignored the effects of sulfates, the pollutant most responsible for changes in visual perception.

- The studies on vegetation were far too limited in scope, and the work offered no methodology or de-

scription of how the analysis was conducted.

- The NPS seems to be altering the standards of the 1916 Organic Act, which established the National Park System. As former NPS Director Newton Drury has said, "If we are going to succeed in preserving the greatness of the national parks, they must be held inviolate. They represent the last stands of primitive America. If we are going to whittle away at them, we should recognize, at the very beginning, that such whittlings are cumulative and the end result will be mediocrity."

This first analysis, which came out in July, was called "shoddy" by those whose overriding concern is the air quality and viability of Theodore Roosevelt National Park.

NPCA's comments stated, "As the legislative history makes clear, the Federal Land Manager must not grant waivers of the Class I increments when there is doubt about the consequences of increased pollution."

"How much clearer can Congress be?" asked Susan Buffone, NPCA's Clean Air Program Coordinator.

As an example of the quality of work done in the study, the NPS took into account *average* annual changes in visibility. In comments on the Technical Analysis, NPCA and other environmental groups pointed out that park visitors do not see "annual average air."

The Department of the Interior, which continues to support the waivers, issued a revised analysis for a comment period of only *five days* in early September. The revision has provided little comfort to those concerned about the future of Theodore Roosevelt National Park.

NPCA, the Environmental Defense Fund, and others believe the revised visibility analysis is statistically inaccurate. Also, the new analysis on vegetation (lichen, in particular) is not substantiated by documented field reports.

As of this writing, NPCA is continuing to press for a full, fair, and public review of the potential impacts of pollution on the park before a final determination by the state of North Dakota.

## Cactus Rustling in the Southwest Brings in Big Money

In February of this year, 27-year-old David Grundman headed out into the Arizona desert with a collection of weaponry, intent upon a little target practice. He then began a sustained offensive against a giant saguaro cactus. It was not a wise move. Weakened by the assault, the twenty-three-foot-tall, two-ton cactus fell on him, crushing him to death.

Bizarre though this incident may seem, it does bring attention to a problem facing some of the national parks. Cactus rustling might sound like the creation of a particularly fertile imagination, but it is a lucrative business in the Southwest. A saguaro cactus will fetch \$14 per foot, and each arm adds \$100 to the price. A moderately sized, thirty-foot saguaro with twenty arms would bring close to \$2,500.

It takes an organized group of people as little as an hour to uproot and make off with a fair-sized specimen. Cacti are increasingly in demand for garden landscaping, and rustled plants are often sold to otherwise legitimate retailers—both national and international—who cultivate a designed ignorance as to their source.

This trade goes on even though the international Convention on Trade in Endangered Species protects all cacti, which are primarily New World plants. Our Endangered Species Act protects nineteen species; but scientists believe the number of endangered or threatened species of cacti is two or three times greater.

Park Service officials in the Southwest say that the problem is difficult to quantify but that the loss of cacti through theft is a problem. Recent publicity has led to a decrease in theft from Big Bend National Park in Texas; however, rustling has been a major worry there and may well be again.

Cacti have been poached from Organ Pipe Cactus National Monument in Arizona. And at Saguaro National Monument—also in Arizo-



Saguaros, by Hal Strong

na—numerous plants have been “lost” from along the eight-mile-long Cactus Forest Scenic Drive. As elsewhere in the National Park Service, staff shortages in the Southwest make it hard to know the scale of their losses.

The cactus is a national resource and a symbol of the American desert. If more people shared this view, Richard Countryman’s job would be far less dangerous. He works for the Arizona Commission of Agriculture and Horticulture and has been called Arizona’s chief cactus cop. He and the seven men on his staff patrol some 90,000 square miles of federal and private lands.

Protecting Arizona’s cacti takes up much of the patrol’s energy. Nor is the job without its risks. Cactus rustling is a systematic and highly organized operation, and 90 percent of those caught by Countryman have previous records for serious crimes. Also, the rustlers Countryman and his staff have to face are frequently armed.

Dealing in rare plants is a serious matter, and the law regards it in this light. The Arizona commission is greatly helped by the stiff penalties that the courts hand out. A first of-

fense may lead to a fine of up to \$500 and thirty days in prison. A second offense, up to \$1,000 and six months in prison. But if the value of the plants stolen is more than \$100, the law regards that as a felony and a convicted thief may be given a prison sentence of up to ten years.

The cactus may have built up all manner of defenses against the hardships of nature, but it remains vulnerable to predation by humans. Many species of cactus are especially vulnerable because they are so specialized and are able to thrive only in comparatively small areas. It would be easy for the unscrupulous or the ignorant to decimate an entire species very quickly.

It is important that we protect cacti in their natural habitat—especially in the national parks, the most safeguarded lands—because they are vital to delicate desert ecosystems. The cactus wren and Arizona’s state bird, the roadrunner, build nests among the protective spines of chollas; and diverse animals consume the stems and fruit of the prickly pear.

Towering over all other desert plant life, the saguaro cactus can reach a height of fifty feet and sprout as many as fifty arms. The nectar produced by its large, white flowers draws insects, long-nosed bats, and white-winged doves. Birds such as the Gila woodpecker dig into the saguaro’s soft body to build nests. When these hollows are abandoned, elf owls, rats, and snakes will often shelter there. This desert giant may live two hundred years, but growth is painfully slow. A saguaro will have grown only twelve inches by the age of fifteen.

The long-term answer to cactus rustling in the National Park lies in education. Meanwhile, law enforcement is required. But in the present economic climate, the protection of rare plants does not often top lists of priorities. Such attitudes may be shortsighted, because the cactus is an asset that is hard to renew.

—Jonathan Jones, *NPCA intern*

## Friendship Hill Opens Its Gates

Friendship Hill, the eighteenth-century national historic site in Farmington, Pennsylvania, is finally open to the public. The house and grounds are the legacy of Albert Gallatin, Secretary of the Treasury under presidents Thomas Jefferson and James Madison and one of the great diplomat-scholars of the Jeffersonian period.

Although the house needed structural and cosmetic work, on-site manager William Fink says the National Park Service (NPS) had planned to open the grounds just after the 1978 authorization so visitors could "see a gem in the rough" as restoration progressed. Three arson fires in the summer of 1979 prevented that. As Fink notes, however, the fires did allow the NPS to find original structures that had been elaborated on over the centuries.

The house still needs much work and, though federal funds are available for the restoration, National

Park Action Project representative Quinter Baker says, "It will take a lot of public money to do the work needed there."

## Plants Taking Over Capital Monuments

Traditionally, the National Park Service (NPS) has gone out on a limb to save the natural environment. But around the nation's capital, greenery has gotten out of hand. Cottonwood seedlings sprout new growth on the dome of the Jefferson Memorial. Weeds obscure Manassas Battlefield. And along the 185-mile length of the C & O Canal, plants invade canal locks, culverts, and aqueducts.

Should the NPS remove the plants, or should nature be allowed to take its course? Some answers to this rather knotty question could be forthcoming within a year. The NPS has set aside approximately \$15,000 for a pilot study to determine the impact of plant damage on historic structures and to develop an approach for handling this issue.

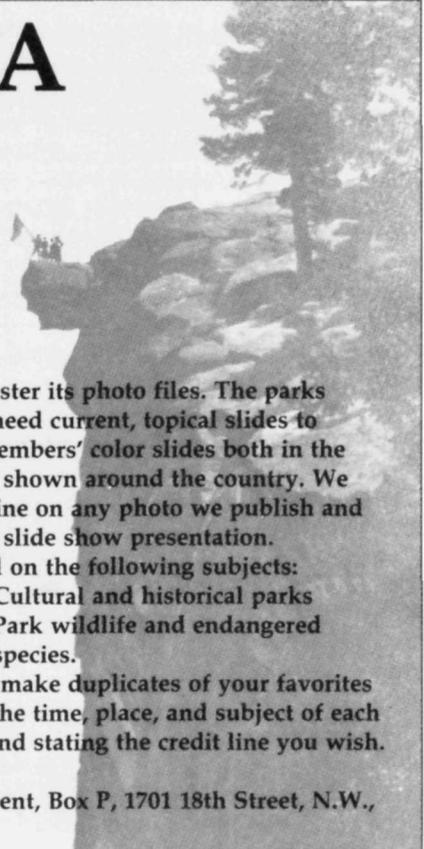
The greenery presents both a serious and a sensitive problem. On one hand, visitors assume the plants to be part of the historic scene. To alter the landscape would mean altering their perception of the park. On the other hand, the unwanted flora undermines the fabric of irreplaceable historic structures. Masonry, cement, marble, and wood can all be affected, changed, weakened, even destroyed by the long-term presence of roots and tendrils. A good example is the Clara Barton House. Here, seedlings grew into trees before someone noticed they had damaged one side of the foundation.

Potential remedies that the NPS will be studying include more extensive maintenance, the use of short-life herbicides, mechanical removal of plants, and landscape techniques such as shading sun-loving plants so they will weaken and opening up shady areas in order to dry up plants like ivy. The chief concern is whether these methods will damage the historic buildings. For example, burning grass from the cracks in stone walkways may be an alternative, but only if it does not damage the stonework.

The National Park Service is looking for long-term solutions to this problem. Until then, grass will continue to grow between the stones outside the Lincoln Memorial. And visitors to Washington, D.C., will still see cottonwoods on the Jefferson Memorial dome.

—Mary Maruca

# Help NPCA Protect the Parks



Once again, NPCA needs your help to bolster its photo files. The parks continue to face new challenges, and we need current, topical slides to illustrate threats. We would like to use members' color slides both in the magazine and in slide presentations to be shown around the country. We cannot pay, but we will provide a credit line on any photo we publish and will notify you if your work is chosen for slide show presentation.

Specifically, we are looking for material on the following subjects:

- Encroachment on parklands
- Cultural and historical parks
- Threats to clean water and air in the parks
- Park wildlife and endangered species.

We cannot return slides, so you should make duplicates of your favorites to keep. Enclose a short note identifying the time, place, and subject of each slide; donating the slides for NPCA use; and stating the credit line you wish.

Please help out. We need your support.

Send slides to NPCA Editorial Department, Box P, 1701 18th Street, N.W., Washington, D.C. 20009.

## Nickel Mine Planned Next to Redwood NP

Redwood National Park and Jedediah Smith Redwoods State Park—the great coastal parks of northern California—are looking at trouble. Air pollution, acid rain, and waters polluted by heavy metals are all possibilities.

California Nickel Corporation (Cal-Nickel), a wholly owned subsidiary of Canada's Ni-Cal Developments Ltd., is planning a 3,000-acre strip mine and a processing plant in the upper watershed of the redwood parks. Cal-Nickel's venture—to produce more than three million tons of

"strategic" alloying metals (cobalt, chromium, and nickel) annually for twelve to eighteen years—would occur on Gasquet Mountain, which lies between two tributaries of the Smith River: the river's North Fork and Hardscrabble Creek. Most of the near-pristine Smith River—famous for steelhead and salmon—is within both the federal and the California wild and scenic river systems, and the Gasquet Mountain mining area lies a mere five to six miles northeast of the redwood parks. The mountain supports such flora as lodgepole pine, azalea, and the small, red-flowered Bolander's lily.

This past summer NPCA Representative Russell Butcher met with John Diehl, one of northwest California's leading conservationists and a member of Cal-Nickel's Neighbors, to tour the area in question. Diehl pointed out Cal-Nickel's experimental mini-strip mine, where the company has tested soil erosion and the containment of leached soil. Apparently the results have been encouraging. In addition, several experimental projects are underway to determine the best means of revegetating stripped areas.

Butcher also saw the pine-covered Gasquet Mountain summit slated to be sheared off to provide a site for the ore-processing plant. Just below the summit, at the headwaters of Hardscrabble Creek, Cal-Nickel plans to build a dam.

Preventing leaching and soil erosion from mine tailings and strip-mined soil poses an especially tough challenge. Because the tailings are even finer-grained and less permeable than the original red laterite soil, they are harder to revegetate. Erosion control and revegetation are even more difficult because of climatic extremes—from one hundred to two hundred inches of rain during winter months to little or no rain during the summer.

The mini-mine and other test areas can give only a hint of the enormous impact of strip mining and the problems of rehabilitating thousands of acres. Add to this Cal-Nickel's other plans: removing the mountain-top for a processing plant, erecting a dam, creating waste water and



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Anne Reitsberg

NPCA's August conservation art exhibit, in conjunction with Trout Unlimited, ended with a winner. Edward Bierly's "Den Mother," a painting of a fox and her kits, received the most votes of any piece at the show. In addition to paintings of wolves, waterfowl, and other wildlife, some finely carved decoys were exhibited. Above: NPCA staff member Elana Khanna beside Bierly's "Happy Hour."

storm-water holding ponds, plus upgrading and constructing many miles of access and ore haul roads. It is no wonder some conservationists are alarmed over risks this mining program may pose to the Smith River.

Lee Hescock is convinced his company's activities will not harm the river. In fact, he says Cal-Nickel simply cannot afford to botch things up and have the state of California force the company to close down its multi-million-dollar investment. Revegetation, Hescock claims, would begin as soon as tailings are trucked back to fill in mined-out areas.

Dames & Moore, Cal-Nickel's environmental consultants, are trying to determine which species of plants will best revegetate the stripped areas. Many of their plots show poor results at best.

Questions arise over air quality controls, too. Redwood National Park is a Class I area and only a slight amount of deterioration is allowed by law. Yet, to fire the ore-processing plant, 250,000 tons of coal

will be burned annually. The proposed 250- to 375-foot-tall smokestack atop Gasquet Mountain could well emit dangerous levels of sulfur dioxide and nitrogen oxides—the pollutants that form acid rain. Air pollution and acid rain could impair the fisheries of the Smith River and the flora and fauna of the redwood parks, the Siskiyou Alps, a few miles east of Gasquet, even the Kalmiopsis Wilderness in southern Oregon.

Cal-Nickel's vice-president, Harris Lowenhaupt, has publicly assured the people of northwestern California the company's mining techniques will be "entirely self-contained and will not discharge anything into surrounding air or water."

The state's Air Resources Board, however, referring to the 1981 Draft Environmental Impact Report (DEIR), responded that "it appears that no significant mitigation measures have been proposed."

Regarding water pollution, the company has said: "California Nickel will comply fully with the letter

and intent of [California environmental] standards."

On the other hand, the state's Regional Water Quality Control Board has indicated that seepage from tailings—potentially contaminated with heavy metals—"is not described, quantified, nor are its impacts disclosed" [in the DEIR].

A revised environmental impact report is expected later this year.

## Saratoga Boundary Bills Mired in House

What started out as a straightforward attempt to protect the Saratoga Battlefield in upstate New York has become mired in a legislative bog.

The Senate passed bill S. 1540, which establishes a precise boundary for the first time and authorizes purchase of an 800-acre area for addition to Saratoga National Historical Park. (This new boundary actually represents a net *decrease* of approximately 2,000 acres from what was authorized previously.)

If S. 1540 or the companion House bill H.R. 4687—introduced by Representative Jonathan Bingham (D-N.Y.) and cosponsored by Representative Hamilton Fish (R-N.Y.)—passes, the National Park Service will be in a better position to protect the additions to Saratoga National Historical Park from private development.

The battlefield is the site of an American victory against the British that became a turning point in the War for Independence. Nancy Childs, chairperson for the Committee for Saratoga Battlefield and an NPCA National Park Action Project representative, states that "upon no other military engagement in our history did the very existence of the nation so depend." Ironically, the Bemis Heights headquarters of the American battle commander, General Horatio Gates, is not yet officially part of the park. The headquarters is included in the proposed addition, and that is why citizens such as Nancy Childs believe passage of S. 1540/H.R. 4687 to be crucial.

But Representative Gerald Solomon (R-N.Y.) has thrown in what many say is a "spoiler" bill (H.R.

6539). Childs points out that the bill "does not even include all of the core area on Bemis Heights, authorized in 1938 but never acquired."

According to Solomon's proposal, after authorizing payment for the additions to Saratoga, Congress would have to come up with cold cash within one year—not a likely scenario with all the other needs Congress must juggle these days.

Historic preservationists are even more concerned about Solomon's plan to pick and choose park boundaries according to the wishes of individual landowners, putting together a boundary piece by piece as each private holding becomes available. As such, his bill excludes historically significant and centrally located parcels that, in the meantime, could be developed for residential housing, or oil and gas exploration; and the integrity of this Revolutionary battlefield would be jeopardized.

Commenting on this bill's provision for a piece-by-piece boundary patchwork, NPCA's Laura Beaty, program coordinator for cultural resources, said, "That's not how a historical park is designated. A property is either significant or not. It is not up to a willing seller to determine significance."

Solomon also complains that S. 1540/H.R. 4687 threatens farmlands by including them in the park, yet his own bill does not protect farming activities. The inclusion of agricultural land in Saratoga National Historical Park presents no problem to farmers, however, because farming is a historical use and is therefore encouraged by S. 1540 as amended by the Senate.

Another problem is the avid interest of oil companies in lands—including the farmlands—that border the park. Saratoga overlies the eastern Overthrust Belt; and already, private landowners have leased to oil companies acreage that would be included in the expanded borders of Saratoga. These lands could be reclaimed, certainly; but defenders of the park and the majority of local residents would prefer that Congress pass legislation now to protect future parklands from further development.

## Nuke Dump Site Draws Crowds

"The stakes are too high to gamble on the unproven belief that salt is a safe medium in which to store high-level radioactive waste," said Professor Richard B. Mattox at the August

inspection of the proposed nuclear waste dump site next to Canyonlands National Park in Utah.

Professor Mattox, a Texas Technical University geologist and leading authority on the geology of the Canyonlands area, was one of the featured speakers at the seminar and

From Needles Overlook, just outside Canyonlands National Park, conservationists view the site of the proposed nuclear waste dump and haul railroad.



Russell D. Butcher

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river trip organized by NPCA's Utah representative Terri Martin and Friends of the Earth. Environmentalists and media representatives also heard former Secretary of the Interior Stewart Udall, Friends of the Earth's David Brower, and NPCA's Russell Butcher, among others.

The speakers had vast documentation to support their opposition to the Department of Energy's (DOE) proposed nuclear waste repository. One of the main local arguments for the dump is that it would bring thousands of jobs to Moab, Utah. As a speaker pointed out, DOE announced at one of their first conferences on the dump that most of the work force would be imported.

An even bigger selling point used by dump proponents is that burying nuclear waste in salt formations is the safest way to go. But, as Russ Butcher explained in our September/October 1982 feature on national parks in Utah, the plan to base such a large and hazardous operation

on the stability of salt is specious at best.

Professor Mattox concurs and says, "The single positive factor in the proposal is that it would take less time and money to develop a storage vault in salt than in any other type of rock."

### Bills Earmark Visitor Facility Money

The Senate has finally taken up legislation (S. 1349 and S. 2715) that addresses the problem of managing and maintaining government-owned visitor facilities in the national parks. NPCA has long held that a separate Visitor Facility Fund should be established, distinct from general monies, to restore and improve the parks.

In NPCA's opinion, all franchise fees collected by the National Park Service should be conveyed into this fund, with the National Park Foundation providing \$1 million in

matching funds annually. The legislation proposes establishing the fund for only five years; but T. Destry Jarvis, director of NPCA's federal programs, said, "What is needed even more than a 'catch-up' repair program is one that will adequately provide for the routine, cyclic maintenance of these facilities."

### Restoring the Battlefield at Manassas

NPCA supports the basic concepts of the National Park Service's (NPS) general management plan for Manassas National Battlefield Park. Some elements crucial to preserving the battlefield, however, should be addressed.

Preservation and restoration of the historic scene and the historic structures are of paramount importance. In the quiet and verdant Virginia countryside of 1861, the first land battle of the Civil War was joined as Union and Confederate troops



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fought to gain control of the railroad junction at Manassas. A year later battle-hardened soldiers clashed again, and the Union army strove to hold the high ground at Chinn Ridge and Henry Hill against a reinforced Confederate line.

In part, the course of our nation was determined at Manassas; and now, when development and suburban tracts edge the battlefield, NPCA believes it is important to keep Manassas from becoming merely a green spot for weekend recreation. Accordingly, the NPS should detail programs to preserve the historic structures, some of which have already been lost to decay. Moreover, to allow visitors a view of the battlefield as it was, the NPS should remove second-growth timber in strategic areas in order to restore some of the open fields that existed at the time of the first and second battles.

Equally important is land protection. Congress debated for years be-

fore finally including vital acreage in the park's boundaries. Yet the NPS wants to leave protection of a significant portion of this land to cooperative agreements and local zoning commissions—shaky protection, indeed.

Unlike outright purchase of property or scenic easements, these agreements and local rulings can be easily manipulated to fit changing development pressures. The authorized parkland that took so long to

get could be lost because of inadequate protection.

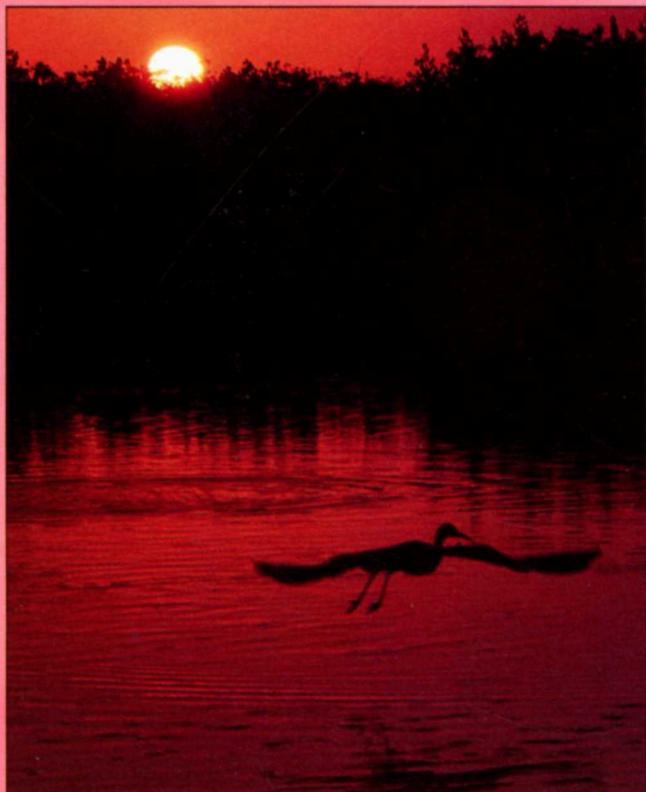
NPCA agrees that the park should provide alternatives to the present roads and the Matthews Hill picnic area (the first, because park visitors have to compete with trucks barreling through from the local quarry; the second, because Matthews Hill is a historic area). But funds are tight and we urge that the money be used for preservation rather than new roads and picnic grounds.

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Sunrise at Mrazek Pond, by Connie Toops

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# Bookshelf

**The Cross-Country Ski Book**, by John Caldwell (Brattleboro, Vermont: The Stephen Greene Press, 1981), 192 pages, \$12.95 hardcover, \$7.95 paperback. John Caldwell, former U.S. Olympic nordic team coach, has published a sixth edition to his 1964 book on cross-country skiing. *The Cross-Country Ski Book* covers all aspects of nordic skiing, with excellent advice on technique, clothing, equipment, and trail courtesy. This sixth edition has several valuable additions, such as a much-needed chapter on precautions in view of the sport's increasing popularity; a chapter on group activities; and one on racing. Throughout the book Caldwell stresses the importance of having fun on the trail. As Caldwell says, "Make skiing your own thing. Do it the way that provides you with enjoyment." **Legends of the Yosemite Miwok**, compiled by Frank La Pena and

Craig D. Bates (Yosemite: Yosemite Natural History Association, 1981), 56 pages, \$24.95 hardcover. *Legends of the Yosemite Miwok* covers seventeen legends that relate the history of creation according to the Miwok Indians and tell of several spirit-beings who frequent the Indians of the Yosemite Valley. Fourteen of the legends are handsomely illustrated by Harry Fonseca, a native California artist.

**How to Get to the Wilderness Without a Car**, by Lee Cooper (Los Angeles: Lee Cooper, Publisher, 1982), 192 pages, \$7.95 paperback. For all those hikers and campers who don't have a car, Lee Cooper has assembled a handy guide on how to reach most national parks, national forests, and wilderness areas in the western United States, Canada, and Alaska by using public transportation. Cooper lists which bus route, AMTRAK station, or airline service to take to reach the national park or other backcountry area of your choice with the least amount of hassle.

# Feedback

## L.A.'s Big Thirst

Late in the 1890s a man by the name of Mulholland was approached by some important Los Angeleians who offered him a job; namely, to visit Owens Valley, survey the water situation, gain the confidence of the ranchers with a cooked-up tale of government improvement of the valley. Mulholland reported back that it would be simple, once they gained the ear of the President.

President Teddy Roosevelt listened and, when the Californians introduced their bill into Congress, the weight of his support helped give L.A. control of the waters on the eastern side of the Sierras.

These people then shut off all water to the Owens Valley ranchers and built a huge overland water system. Some of the men had previously bought land—for as little as 30¢ an acre—close to where the lake eventually formed north of L.A.

Today Owens Valley is a desert;

but once it was a valley of beautiful farms and fruit orchards. Many of the people ousted from their land ended up poor beyond belief.

Love L.A.? Admire it and its builders? Never! They were a ruthless bunch of land exploiters such as this country never has seen.

V. Stauble  
Albany, Oregon

Look for our feature on Mono Lake in the January/February 1983 issue of National Parks. —Editor

## Mining—the Lowest Point

My family and many associates are very much disturbed to hear that heavy pressure is being exerted upon the government by major mining activities in Death Valley National Monument. We are all unalterably and wholeheartedly opposed to the petition submitted June 1, 1982, by mining companies to revise regulations pertaining to mining in Death Valley.

We visit Death Valley NM often.

Continued on page 40

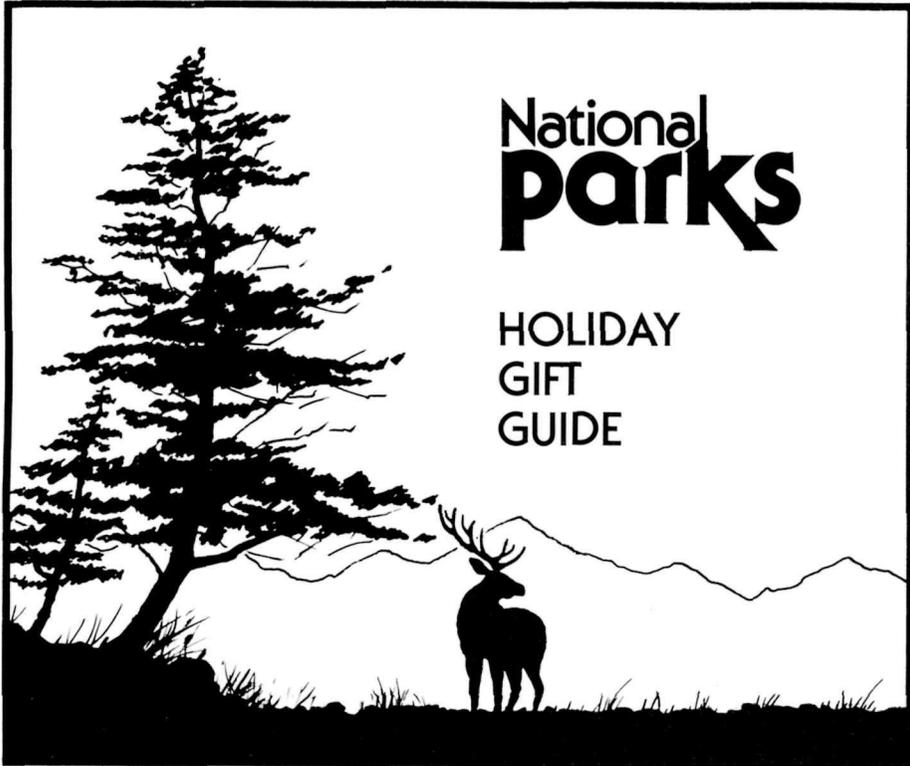
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Nov/Dec 1982 issue

## 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
<b>COMMENTARY</b>			
(inside front)	1	2	3
<b>EDITOR'S NOTE</b>			
(inside front)	1	2	3
<b>WORLD HERITAGE</b>			
(p. 4)	1	2	3
<b>ALLIGATORS</b>			
(p. 9)	1	2	3
<b>EVERGLADES</b>			
(p. 12)	1	2	3
<b>SKI TOURING</b>			
(p. 18)	1	2	3
<b>EAGLES (p. 22)</b>			
	1	2	3
<b>INTERPRETERS</b>			
(p. 25)	1	2	3
<b>NPCA REPORT</b>			
(pp. 29-40)	1	2	3
Cape Hatteras	1	2	3
Prairie Dogs	1	2	3
Air Pollution	1	2	3
Cactus Rustling	1	2	3
Friendship Hill	1	2	3
Plant Takeover	1	2	3
Redwoods NP	1	2	3
Saratoga			
Boundaries	1	2	3
Nuke Dump	1	2	3
Visitor Fund	1	2	3
Manassas NB	1	2	3
<b>BOOKSHELF (p. 38)</b>			
	1	2	3
<b>FEEDBACK (p. 38)</b>			
	1	2	3
<b>THE LATEST WORD</b>			
(p. 41)	1	2	3
	Excellent	Good	Fair
How would you rate the cover?			
	1	2	3
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It is one of our favorite parks. No further desecration should be permitted.

*Gilmer G. Boggs  
Encinitas, California*

Death Valley: in spite of its name, each season when possible my wife and I and many others return to paint, photograph, study, and find spiritual renewal in this place. Space, clarity, color, and sculpture are the hallmarks of Death Valley National Monument. Any mark on this land fifty miles away can be plainly seen; it intrudes starkly.

To further mining here denies and downgrades our respect for this de-

sert land. I most strongly feel the intent of the Mining in the Parks Act of September 1976 should be upheld, and renewed. A petition to relax mining regulations, reduce reclamation standards, and—worst of all—to open undisturbed areas of the Monument to mining is unacceptable. This is directly contrary to park protection and incompatible with the National Park Service preservation mandate. Most abhorrent is the petition to designate “mineral resource areas” within the Monument where mining would dominate all other concerns.

The citizens of this country rely upon the National Park Service to preserve and protect our national

parklands. We owe future citizens and Death Valley National Monument our deepest concern and proper protection.

*Walter Rivers  
Larkspur, California*

### Making Contact

I have never been an active Contact because I never understood what letter writing and lobbying was really all about. This year I attended an environmental school in Vermont, which enabled me to understand the behind-the-scenes work on acid rain and other problems. Now I will try to get involved.

*Gordon Kirsch  
Clarksburg, Maryland*

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# The Latest Word

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## ALASKA SENATORS WANT PARK LAND FOR SPORT HUNTING      Apparently Alaska senators Frank

Murkowski (R) and Ted Stevens (R) are not satisfied with the 1980 Alaska Lands Act. Although the Act took years of laborious adjusting and readjusting to put together, the senators are marshaling their forces for a foray against the Act.

The issue is sport hunting--the senators want more acreage for it. Of Alaska's 375 million acres, sport hunting is barred from only 24.5 million acres of national park and monument land. (The national preserves--by far the majority of national parklands in Alaska--already allow sport hunting.) Yet, Stevens and Murkowski would like to halve the amount of land where sport hunting is barred by changing the status of approximately 12 million acres from "park" to "preserve."

Interior Secretary James Watt supports their bill, but Stevens and Murkowski will not know the extent of opposition until the first hearings, which could take place in early 1983.

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## MESA VERDE SMALL PART OF SURROUNDING RUINS      Archeologists have known about the Anasazi In-

dian ruins in the valley below Mesa Verde National Park, Colorado, for decades. Only recently, however, have they put together the pieces of the puzzle to form a remarkably sweeping picture of Anasazi community life in Montezuma Valley.

Last year, at the Mesa Verde Symposium, professors Arthur Rohn and Joe Ben Wheat, both archeologists prominent for their work in the area, presented this new view. They estimated that the population of the Montezuma Valley "outliers" reached a peak of more than 30,000 compared to approximately 4,000 people who lived in the cliff dwellings at Mesa Verde during the same period (about 1250 A.D.).

"That would make Mesa Verde the 'outlier,'" said Mark Michel, president of

the Archeological Conservancy and a National Park Action Project representative.

The numbers point to the valley as the real center of Mesa Verdean culture. One of the large population centers includes 122 regular kivas, 5 intermediate kivas, 1 great kiva, 20 towers, and 1 great tower. In fact, it is estimated that the total population in Montezuma Valley 750 years ago was two to three times what it is today.

At present, NPCA and other conservation organizations are just beginning to detail what protection these sites have and what protection is needed for the future.

---

## YELLOWSTONE GRIZZLY ON THE DECLINE      A memo from the Department of the Interior warns

that the demise of the grizzly bear population at Yellowstone National Park may be in sight. Although confirming the fears of environmentalists, the memo does outline some measures for better protection of the approximately 200 grizzlies remaining in the park: tougher legal penalties for killing the threatened animals, increased backcountry investigations, plus a more detailed grizzly monitoring system, among others.

---

## NEW RIVER PLAN CALLED DISASTER      Commenting on the long-awaited draft management plan for the New

River Gorge National River in West Virginia, NPCA's T. Destry Jarvis said, "If these recommendations truly reflect the best judgment of Park Service professionals, then it's a serious disappointment. If the plan reflects the influence of penny-pinching, antipark Administration officials, then it's a disaster, because the plan does not begin to fulfill the requirements of the law."

The major focus of the National Park Service's recommended alternatives is providing put-ins and take-outs for river runners. But other than these access points, land acquisition plans are virtually nil and leave most of the park's 62,000 acres in private hands. The New River offers some of the finest whitewater on the East Coast; but beyond

the water lie a remarkable gorge, unusual plant communities, and many fast-deteriorating ghost towns from the coal mining and railroad boom during the Industrial Revolution.

"The National Park Service is counting on landowner cooperation to protect almost the entire park," added Jarvis.

"It's unrealistic to assume that local landowners can achieve the degree of protection and public use called for in the enabling legislation."

Interpretation of the park's remarkable historic structures--crumbling Victorian mansions, beehive coke ovens, abandoned graveyards, coal tipples, and rail systems from the turn of the century--has been almost completely ignored by the park plan.

Although river running access is certainly an important benefit to the public, no park plan that ignores the need for camping facilities, trails, and historic interpretation can fulfill the intent of the law.

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#### CLEAN AIR ACT DEBATE CONTINUES INTO NEW YEAR

The debate on reauthorization of the

Clean Air Act will continue into the new year, when it will be taken up by the 98th Congress. So far, environmentalists are pleased with the Senate's recognition of acid rain as a serious problem, but the real battle will continue to be in the House.

---

#### REG CHANGES FAVOR MINING IN THE PARKS

In the opinion of NPCA, the Interior Department's Office

of Surface Mining (OSM) is trying to gouge great holes in the 1977 law that regulates surface mining on federal lands. Proposed regulations, if approved by OSM and Interior Secretary James Watt, would open the way for strip-mining in 26 units of the National Park System--from Wrangell-St. Elias (Alaska) and Chaco Culture (New Mexico) to the New River Gorge (West Virginia) and Fort Necessity (Pennsylvania).

"The proposed revisions suspiciously take the form of attempts to change the Act itself," said NPCA Director of Federal Activities T. Destry Jarvis. "There

must be some mistake--and OSM seems to have made it."

The change that would loosen restrictions on mining in the parks interprets the "valid existing claims" of mining interests (held by them before the law was passed) in an extremely generous way; far more generous than the law intended, say environmentalists and the National Park Service. The proposed change would also affect wildlife refuges and more than one million acres of national forest lands.

Another change would effectively eliminate citizen participation in the decision-making process by limiting public discussion on any proposed mining operation to persons who own mineral rights or property in the immediate vicinity. Those citizens allowed to petition against a particular mining threat would have to run a gauntlet of administrative procedures.

Yet, no substantial evidence exists to support the stated reason for these changes; that is, the looser regulations would not substantially cut costs for mine operators. According to Jarvis, "The OSM proposals can make no claim to either validity or legitimacy."

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#### CONSERVATION CORPS BILLS TAKEN UP IN SENATE

Toward the end of September, the Senate

took up bills (S. 2061 and H.R. 4861) that would create a new American Conservation Corps, reminiscent of the Civilian Conservation Corps. The corps also would be similar to conservation corps that the Reagan Administration has eliminated. The House had no trouble approving this legislation; and NPCA believes that, in the best interests of the National Park System and thousands of young people, the Senate should do likewise.

In his testimony before the Senate Subcommittee on Public Lands and Reserved Water, NPCA President Paul Pritchard said, "In the period between 1978 and 1981, the Park Service lost several hundred full-time personnel. One of the major ways that the Park Service has been able to deal partly with the lack of funding for maintenance and personnel

has been through youth conservation programs, such as the Youth Conservation Corps. What we found was that this program has been extremely effective, recently providing approximately \$1.20 in work performed for every dollar of federal expenditure.

"This legislation, if enacted, would provide much-needed employment opportunities for many youth and would help preserve many of this nation's outstanding natural, cultural, and recreational resources."

---

CEREMONY MARKS SUCCESSFUL  
END OF BANDELIER PROJECT      NPCA's pilot project to help restore critically threatened park facilities has reached a successful conclusion. On September 29, 1982, at Bandelier National Monument in New Mexico, NPCA President Paul Pritchard formally presented \$60,000 to National Park Service Director Russell Dickenson. Bandelier Superintendent John Hunter and Southwest Regional Director Robert Kerr were also present.

The money will be used to repair the historic visitor facilities, which were built in authentic pueblo style and were deteriorating because of water seepage, insect infestation, and the like. The National Park Service (NPS) will provide matching funds to meet the \$82,000 necessary for restoration.

NPCA's gift to the NPS was made possible by the donations of more than 2,000 individuals and of businesses such as Gulf Oil Corporation, Mountain Bell Telephone, and the Bank of Santa Fe. We are looking forward to similar projects that will contribute to the well-being of the National Park System.

---

FIFTY-FOUR SENATORS BACK  
WILDERNESS PROTECTION      The Senate bill to ban oil and gas leasing in wilderness areas has been held up by the Energy and Natural Resources Committee. The House overwhelmingly approved a similar bill, and a majority of senators--fifty-four--have cosponsored this version. The kink in the works is Committee Chairman James McClure (R-Idaho), who opposes the bill.

Fortunately, the House Appropriations Committee has provided interim protection for wilderness areas. In mid-September this committee added an amendment to the continuing appropriation resolution to withhold money used to process lease applications for wilderness areas. Subsequently, the Senate Appropriations Committee approved the same measure.

Although the bill under consideration is a compromise in that hard-rock mining (copper, molybdenum, zinc) would be allowed in wilderness areas, if the Senate does approve the bill, environmentalists believe that the main body of developers and Interior Secretary James Watt will be thwarted. Watt wants to open up wilderness areas to potential oil and gas leasing.

The bill before the Senate would remove all designated wilderness--and potential wilderness--from oil and gas development unless the president declared an "urgent national need."

---

JOHN TOWNSLEY,  
YELLOWSTONE SUPERINTENDENT      John Townsley, superintendent at Yellowstone National Park, died of cancer September 19 at the age of 55. A highly respected administrator, John Townsley won many awards during his 27 years with the National Park Service. His strong presence will be sorely missed.

---

319 TO 84 FOR  
PARK PROTECTION BILL      In a showdown vote on the bill that puts some bite into consistent park protection, the House was decisive. The 319-to-84 vote was lauded by NPCA and other organizations involved in the bill's progress.

A combination of bills introduced by representatives John Seiberling (D-Ohio) and Douglas Bereuter (R-Neb.), H.R. 5162 requires that every two years the National Park Service submit to Congress a report listing threats to each park. Although the federal consistency clause has been watered down, the bill still requires a review of any action on federal land that would affect national parklands.

Make sure your senator supports the upcoming Senate version of this bill.

*Abbreviations:*

BLM:	Bureau of Land Management	NPS:	National Park Service
LWCF:	Land and Water Conservation Fund	NR:	National River
NB:	National Battlefield	NRA:	National Recreation Area
NHP:	National Historical Park	NS:	National Seashore
NM:	National Monument	NSA:	National Scenic Area
NP:	National Park	ORV:	Off-road vehicle
NPCA:	National Parks & Conservation Association		

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