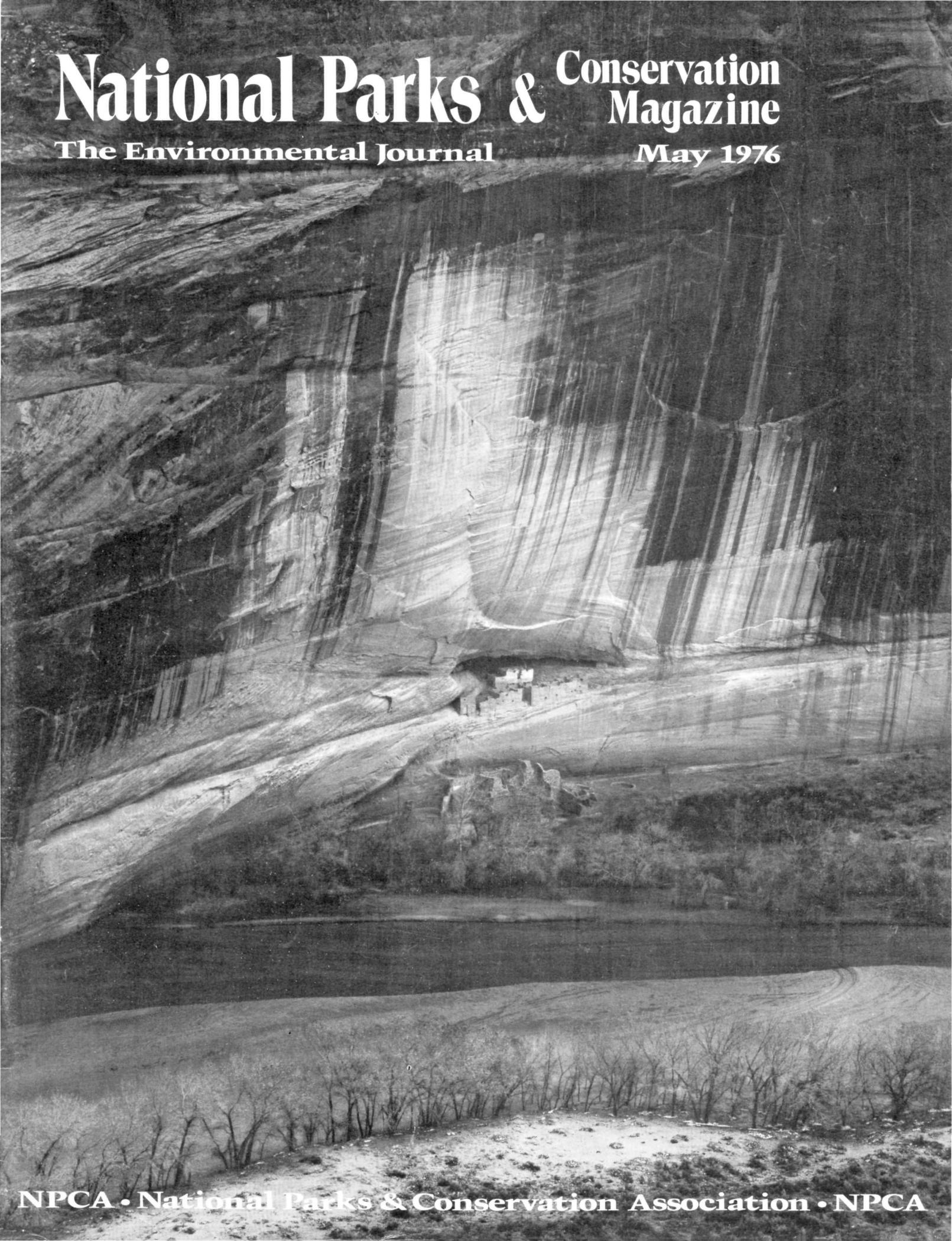


National Parks & Conservation Magazine

The Environmental Journal

May 1976



PRESSES ON OUR OUTDOOR SPACE

THE ASSUMPTION comes naturally to many people that human beings should be managing the earth and that they should do it largely, if not exclusively, for their own benefit. Likely enough, this premise describes the attitude of a large majority of our global citizens, although we hear increasingly from a coterie of idealists who regard it as arrogant and self-centered. These few suggest that it could be spiritually uplifting for men to broaden their view and concede that other living things have a right to space and survival. On second thought, one could forgive them if they made a few exceptions.

This doctrine is sometimes known as "reverence for life," and no doubt it was conceived in purity as a matter of high principle. I suspect that it has true believers among resource professionals, although their kind of altruism may involve an unsuspected conflict of interest.

The logic behind this reasoning is that sharing the earth is good business. There are solid reasons for preventing further extinctions and for keeping the everlasting hills protected by a self-renewing kind of greenery. Preserving species helps retain those management options we talk about, and a preliminary knowledge of man-earth relationships suggests that the more natural things are, the fewer mistakes will be made. In all realism there ought to be some measure of safety in mechanisms that have worked satisfactorily through long periods of geological time.

Man does not live by asphalt alone. Not many people will survive on an earth that looks like the surface of the moon. The worldwide life support systems that keep us going are likewise the key to existence for all other organisms. The oceans and atmosphere, the soils and hydrology of land masses, the plants and animals of every region have a total dynamic link-up that has taken great abuse. How far the earth's integrity can be violated is an open question.

Certainly, in degree great or small, the welfare of our kind is tied to the prosperity of the big bluestem, the western meadow-lark, the coyote, the Douglas fir, the gray whale, the clouded leopard, the metasequoia, the ibex, the mountain gorilla, the cedars of Lebanon, and the Atlantic salmon. The most pervasive influence for all life is climate. Climates of the past have changed drastically—something it would be profitable to understand. Locally, at least, climate is affected by what happens to vegetation, land, and air—such influences as deforesta-

tion, industrial pollution, and the laying bare of soils to wind, water, and the oxidation of organic matter.

Driven by a population boom and ruinous overgrazing, Africans are expanding the Sahara Desert southward at a frightening rate. It is predictable that our technology will find a way for them to control the tse-tse fly and at the same time the cattle trypanosomiasis it carries. This will open up vast new areas to more grazing and bring devastation to the natural scene in a wide belt across central Africa.

On our own western plains, since the dust-storm era of the dry thirties, crop ecologists have been urging a return to a conservative grass-and-livestock regime that the land could support. But in many marginal lands a few years of enough moisture mean the onset of the gang plows and speculative wheat farming. During the "wet" phase of the climatic oscillation we wring the last full measure of devotion from the thin topsoil. When drouth years strike, we wring our hands and talk about acts of God.

Our science cannot yet predict the timing of climatic change. The CO₂ of the atmosphere is increasing, and there is potential jeopardy to the ozone radiation shield a few miles above us. But no one really knows whether we are headed for a melting of polar ice and the flooding of continental fringes or whether, at the opposite extreme, the Pleistocene is still with us and another glacial advance is in prospect.

A MAJOR OBSTACLE to understanding is the shortness of the human lifetime. We do not have a realistic time perspective in appraising environmental change. Man himself has been around much longer than he has been willing to admit. In one sense he has come up in the world, and it is a big question whether he will keep on climbing or whether he is creating an unstable, ultimately unworkable condition.

Depending on definitions, it might be said that the genus *Homo* emerged at least two million years ago. Probably the first substantial environmental influence of the primitive tool-maker was the burning of vegetation, which must have begun at some time in the past half-million years. This is an enduring form of technology, since arson still hath charms to soothe the savage breast.

A second important environmental impact of human culture was heavy grazing by domesticated animals, featuring sheep and goats. This continuing enterprise got its start some time after ten milleniums ago.

Agriculture probably had independent beginnings in three or more centers of development, and speculation has it that there were about five million people on earth at that time.

The preceding paleolithic cultures were the most successful industrial development mankind ever had, since they preserved the species for some millions of years without bringing ruin to the environment. However, the classic hunting culture that spread over the earth and overlapped the advent of agriculture was not without its far-reaching influences. It may have been instrumental in the disappearance of the wonderfully diverse and abundant megafauna of large grazing and browsing animals and their predators that elaborated on nearly all continents during the Pliocene and Pleistocene. The surviving remnants of that fauna are now making their last stand in Africa.

The key to man's long success story was that birth rates gained only slowly on death rates, although the increases were sufficient to permit invasion and adaptation in nearly all habitable parts of the globe. In the context of geo-time man has overrun the earth in a hurry because his cultural evolution was more rapid than the old kind of physical evolution.

In 1798, when a young British cleric was about to publish a significant essay on the principle of population, he could not know that the world was on the verge of a transition of unprecedented proportions and rapidity. Malthus obviously understood that the human population was increasing on an exponential scale, but he did not have the statistics to know that the world was only 30-odd years from harboring a billion people. He could hardly have foreseen that, with the industrial revolution supporting it, the second billion would be produced in only a century, that the third billion would require 30 years, and that in 1975 the experts on economic growth would be celebrating the production of the last billion in only 15 years. Today's projection—which we must presume to be characteristically off the mark—is that at the end of the century we will be well into our seventh billion, and with everyone cooperating it could be turned out handily in about five years.

Only in the minds of totally anthropocentric people do such increases go on for very long. Every student of natural animal communities has seen the devastating consequences of overpopulation.

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FRONT COVER White House Ruin, by Ed Cooper

BACK COVER Navajo Home, by Gene Ahrens

Beginning about 350 A.D. Indians began occupying some of the most spectacular real estate in the world—Canyon de Chelly in northern Arizona. They built their homes at the base of sheer red cliffs and in caves and on high ledges of the canyon walls, and they farmed the river bottomland. Then, about 1300 A.D. for reasons not clearly known, the Anasazi mysteriously abandoned their homes and vanished from the face of the earth. The valleys of Canyon de Chelly National Monument have been farmed since about 1700 by modern Navajo Indians. Far off the beaten track, Canyon de Chelly is well worth the effort to visit it; and because of its isolation it is one of the less crowded units of the National Park System. (See page 8.)

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DECISION at Cape Hatteras

A proposed water pipeline to a village within the Cape Hatteras National Seashore would permit the development of hundreds of vacation homes and threaten the coastal resources of the barrier island

by CHARLES E. ROE & ROGER S. PRATT

AN APPARENTLY innocent public service project threatens to urbanize Cape Hatteras National Seashore, North Carolina. The village of Avon, North Carolina, needs safe drinking water to protect its residents' health and to grow. Avon's many lot owners cannot build vacation homes on their land because of well water contaminated by septic tanks. A water system could permit development of five hundred to eight hundred new homes. The water is available; it need only be pumped six miles to meet all of Avon's future needs. All that is required is an eight-inch water line traversing a highway right-of-way, with a few pumps and a storage tank—seemingly a meritorious project. In most circumstances the provision of the water would raise no public objection, and the loan assistance of the Farmers Home Administration and Economic Development Administration would be considered a valid use of public money.

But in this case the village is located within Cape Hatteras National Seashore. The property owners awaiting the water supply wish to build summer vacation homes along the boundaries of the national seashore. The hamlet has no sewage treatment system, and



PHOTOGRAPHS BY NATIONAL PARK SERVICE

devastated, and an inlet opened where the proposed pipeline is to be routed. Storm damage to the pipeline can be considered inevitable, and local residents commonly expect federal agencies to underwrite disaster relief.

The dynamic movement of the barrier island has thwarted all efforts to artificially stabilize the beach, and the National Park Service has concluded that the costly shoreline maintenance attempts of the past have been fruitless. (See "Adjusting to Nature in Our National Seashores," by Robert Dolan and Bruce Hayden, *National Parks & Conservation Magazine*, June 1974.)

The Cape Hatteras lighthouse may be one landmark doomed to the ocean's forces. The NPS has

Since the 1930s roughly \$20 million have been spent at Cape Hatteras National Seashore in an attempt to stabilize and control the landscape. At first sand fences were erected to trap wind-blown sands to form artificial barrier dunes; then more intensive measures were utilized, including the use of sandbags, pumping sand onto the beach from dredged areas, and planting grasses on the barrier dunes. The margin of protection afforded by these expensive measures accelerated development of homes, roads, and tourist facilities along the ocean shore; whereas before such measures were implemented, development had been restricted to the more

chosen to study its options after recognizing that an effort to stabilize the entire seventy-four-mile stretch of ocean beaches in the national seashore would cost at least \$50 million initially and \$2.5 million each year thereafter in beach fill and dune maintenance. The Park Service is now preparing an environmental impact statement on the alternatives of managing the seashore in a natural condition or attempting to protect development in the village enclaves. The presence of the water line to Avon and subsequent development there will likely create additional pressures for island stabilization and protection by state and federal agencies.

Early in 1975 the Farmers Home Administration reversed its policy of not assisting water supply proj-

ected for resort areas and agreed to help finance the Cape Hatteras Water Association's extension of water to Avon. But the National Park Service, concerned about the significant effects threatened by the proposed project, temporarily denied the permit for the pipeline to cross national seashore land.

Faced by intensive political pressures to approve the water line, the Park Service agreed to prepare its own environmental assessment on the project, which is less detailed and thorough than an environmental impact statement. Time limitations placed on the NPS prevented its attention to alternatives to the pipeline or measures to mitigate impacts. Yet the NPS assessment of the pipeline's consequences concluded that the project



would cause a grave and significantly adverse impact on the Cape Hatteras environment. The NPS assessment urged that the project "be seen as a part of the complex web of decisions, policies, and resources that are involved in managing the dynamic coastal environment. Issuance of the water line permit would stand outside the comprehensive management system now widely recognized as necessary to properly protect the resources of the coastal zone." Further, the report declared that the Park Service was no longer bound to support unlimited development growth on the Outer Banks at the expense of environmental needs.

THE PIPELINE project represents a culmination of many decisions made with little regard to the presence of important public resources or understanding of natural processes. Without accompanying safeguards, the Avon project will create a major recreational development at the expense of a unit of the National Park System. The village enclaves on Cape Hatteras exist out of recognition of their historic roles as fishing communities on these barrier islands. Although authorized in 1937, the Cape Hatteras National Seashore suffered a period of indifference and near abandonment until it was finally rescued by private donations and established in 1952. Between 1937 and 1952 the opportunity was lost to include within the national seashore's jurisdiction the finest coastal stretches in the Currituck and Kitty Hawk areas, which now have been developed for residential and commercial use.

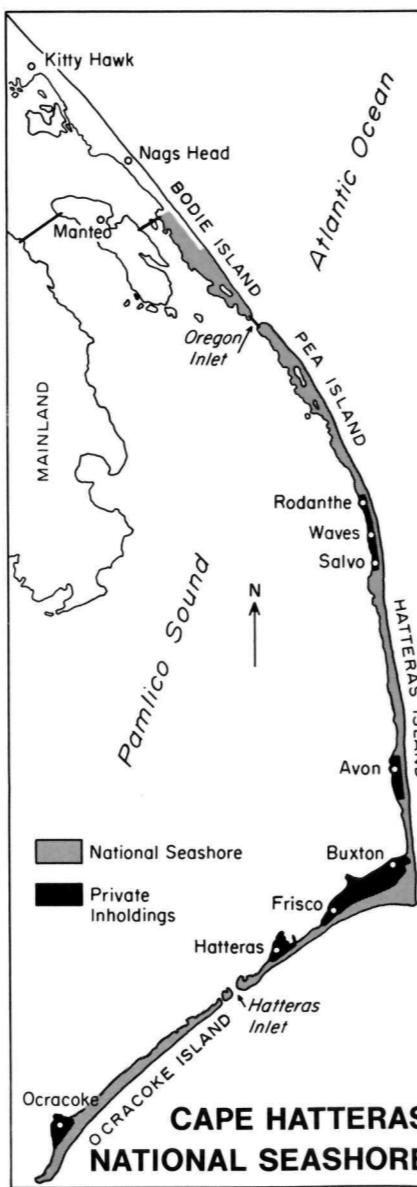
Now the other enclaves of private property in the national seashore are the focus of development pressures at the expense of the remaining coastal resources under public protection. Local development interests are rushing to elude growth controls in areas of environmental concern designated under the new North Carolina Coastal Area Management Act,

which is not yet implemented or tested. If the Department of the Interior is unable or unwilling to stem rampant recreational development of the Cape Hatteras enclaves, we can expect the natural character of a large portion of the national seashore to be altered and the federal government to be locked into massive expenditures for island stabilization efforts.

When the Park Service released its environmental assessment for public comment, it received a litany of complaints from local advocates of development. Conservation proponents, however, rallied in support of the Park Service's concerns and asked that the project either be rejected as entirely incompatible with the natural resources protected by the national seashore or be permitted only with extensive safeguards set after comprehensive planning and environmental analysis. Among the organizations opposing approval of the pipeline were the Conservation Council of North Carolina, the National Parks and Conservation Association, the Sierra Club, the Wilderness Society, and the National Wildlife Federation.

As a compromise measure, in October 1975 the NPS offered to grant permission for the pipeline if the local community would accept restrictive conditions. The NPS would permit only current residents of Avon to receive water, and no additional users would be serviced until the village provided an adequate sewage treatment system and enacted an effective land use plan. Further, the Park Service would take no responsibility for providing water or for reconstructing the pipeline in event of storm damage.

Attorneys for the local property owners and water association, however, condemned the NPS offer and charged collusion between the Park Service and conservation groups to deny local residents their rights to develop their own property. Alleging that the NPS is bent on destroying the economic base of



PHOTOGRAPHS BY ROGER PRATT

The route of the proposed water line from the town of Buxton to the small enclave of Avon would traverse a very narrow portion of the national seashore particularly vulnerable to erosion (above left). The water line would enable the development of many more vacation homes like those already at Hatteras Colony in Avon (above right)—which

the village and has misrepresented the benefits of the water project, the local property owners' organization appealed for fairer treatment and relief from a real health hazard. Surely, they argued, the NPS and other intervenors into local affairs should be satisfied with local assurances that county land use and sewage treatment plans will be accepted in the future. Otherwise, the local representatives pledged to counter with legal action.

Legal recourse is possible for concerned conservation advocates as well. These groups may attempt to enjoin any federal assistance or issuance of permits for the pipeline without complete compliance with the National Environmental Policy Act. Thus far both the Farmers Home Administration and the National Park Service have refused to undertake preparation of an environmental impact statement.

A solution may still be reached that would serve the small community's real needs for potable water as well as safeguard environmental resources and the public interest in the Cape Hatteras National Seashore.

is densely developed at seven lots per acre—and would increase the problems of sewage disposal. Moreover, additional dense development would increase demands on the National Park Service to protect the private property by continuing its fruitless island stabilization efforts at a tremendous annual expenditure of taxpayers' money.

opment demands. But at stake is the future of Cape Hatteras and perhaps the fate of other national seashores as well. Will unrestrained urban development of the village enclaves be permitted without check or without care for compatibility with the resource values that the national parklands were established to protect?

The Avon water line decision will chart the direction of the environmental management policy for Cape Hatteras National Seashore—protection of natural resources or promotion of development interests? ■

Charles Roe is completing graduate studies in regional planning at the University of North Carolina. He has worked with several federal agencies and is a special aide with the Conservation Council of North Carolina. His article, "The Second Battle of Gettysburg," was published in the June 1972 issue of this magazine.

Roger Pratt is also a planning student at the University of North Carolina and has particular interests in land use policy, environmental planning, and coastal management.

DOORWAYS TO ADVENTURE: Lesser Known Parks

Your most rewarding vacation could be just around the corner when you visit an "undiscovered" park

A THOUSAND YEARS before the birth of the United States in 1776, Indians called the Anasazi or "Ancient Ones" were constructing cliff dwellings in the red sandstone canyon country in Arizona. Today the intriguing archaeological ruins of homes once occupied by the Ancient Ones and the spectacular natural beauty of the area are preserved in Canyon de Chelly National Monument. However, in this Bicentennial year only a relatively few National Park System visitors—lucky enough to have been informed about this lesser known treasure or adventurous enough to seek a park vacation off the beaten path—will experience the wonders of Canyon de Chelly.

By contrast, in 1975 almost 11 million tourists choked the roadways and campgrounds of Great Smoky Mountains National Park in western North Carolina, and record numbers may visit this most heavily used of all parks this year. Most of them probably will never discover a treasure just 80 miles to the north where the states of Kentucky, Tennessee, and Virginia meet; Cumberland Gap National Historical Park, with a history rich in American folklore (see page 13) as well as natural and recreational attractions similar to those of Great Smoky, recorded only 429,200 visitors in 1975.

Canyon de Chelly and Cumberland Gap are two of the more than 130 areas that the National Park Service has identified as "lesser used" parks. This year, while anticipated millions will be flooding official Bicentennial park sites and well-known national parks such as Grand Canyon and Shenandoah, these little-known places in our National Park System will fall far short of their visitor capacity. These areas may be new or off the beaten path, but they contain as much of the nation's beauty and portray as vividly our heritage as do the better known parks. Almost half the 286 areas of the National Park System are "underwhelmed," so you can choose from a variety of vacation possibilities—exotic journeys or inexpensive vacations close to home.

FOR INSTANCE, a tour of the lesser known parks could begin outside the continental United States in the vacation mecca of the Caribbean, where a fantastic park experience can be found a scant few miles from a busy tourist center. A short boat trip from St. Croix in the U.S. Virgin Islands brings you to one of the finest underwater gardens in the Caribbean, located in the translucent blue-green waters a few

hundred yards off tiny Buck Island. Here at Buck Island Reef National Monument, warm tropical waters provide the setting for a solid multihued wall of elkhorn coral extending like a horseshoe around the land. The coral community is studded with gorgonias, sea whips, sea fans, and other luxuriant sea fauna.

The snorkeler observes life on the reef as he weaves his way past arrow markers and numbered signs on the ocean floor on the National Park System's first underwater nature trail. The area offers both shallow water snorkeling and exciting deep water exploring for experts.

Buck Island itself, only one mile long and 600 yards wide, is a rookery for frigate birds and the pelican and also provides a home for the green turtle, for which the island's southwest shoreline, Turtle Beach, is named. A marked nature trail winds through lush tropical vegetation—strange, poisonous manchineel trees; air plants; and red-knobbed Turk's-head cacti.

If you don't choose to take this tropical trip, you might consider a number of lesser used areas closer to home. Among a number of lesser known historical areas in the East, for example, is Vanderbilt Mansion at Hyde Park, New York. This national historic site on the east bank of the Hudson River is a symbol of a bygone era. Once the country home of Frederick W. Vanderbilt, grandson of Cornelius Vanderbilt, it is a magnificent example of the great estates built by wealthy financial and industrial leaders between 1800 and 1900.

The stately mansion was built at a cost of \$660,000 and is one of the finest examples of Italian Renaissance architecture in the United States. The mansion is lavishly furnished in continental motifs, mostly Italian and French. The visitor is transported back to the gilded age, when gala balls were held in the 30-foot by 50-foot drawing room and refreshments were served in the spacious oval reception hall with its fireplace imported from a European palace. All rooms of the mansion, a coach house with antique autos, and the gardens and forested areas of the 212-acre estate are open to the public.

Edison National Historic Site in West Orange, New Jersey, preserves the laboratories and equipment used by famous inventor Thomas A. Edison for many of his experiments. A tour through these laboratories—with facilities for making everything from a lady's watch to a locomotive engine—is an important reminder of the nation's technological progress. Here you can

by PATRICIA FOULK

watch "The Great Train Robbery," the first motion picture ever made, examine many of Edison's early telegraphy efforts, and speak with Adolph Freda, an NPS staff member who witnessed many inventions first-hand and has put many of the machines back into working order.

Nearby Glenmont, a twenty-three-room mansion where Edison and his wife, Mina, lived for more than forty years, still features most of their original furnishings, including books and gifts to Edison by state and world leaders.

One of the finest examples of a rural nineteenth-century ironmaking village, Hopewell Village National Historic Site is just 45 miles northwest of Philadelphia near Birdsboro, Pennsylvania. The village has been faithfully restored to its appearance of 1820 to 1840. A walking tour of the village traces the steps taken in the ironmaking process and leads the visitor through furnished homes representing the different levels of life in a nineteenth-century village. In July and August demonstrations of the trades and crafts of the village are presented.

FARTHER SOUTH, you can visit the birthplace and childhood home of famous black educator Booker T. Washington. The national monument near Hardy, Virginia, not far off the Blue Ridge Parkway is a working farm where you can watch park guides in period dress prepare pinto beans, fatback, and other treats in iron cookware; visit a tobacco farm; watch the farm animals; and imagine the everyday life of the slave child who grew up to become a great American leader. Exhibits and an audiovisual program at the visitor center portray the major events of Washington's career and the life of the nineteenth-century plantation of western Virginia.

Beginning in Tennessee, you can follow the route of an historic wilderness trail to the Gulf Coast on the Natchez Trace Parkway. The trace was used by Natchez Indians, French missionaries, and "Kaintuck" boatmen returning by land from trading expeditions down the Mississippi to Spanish Natchez and New Orleans. From 1800 to 1830, they were followed by pioneers, soldiers, robbers, and post riders from Washington, D.C., in the days after Natchez became the capital of the Mississippi Territory created by our new nation.

Unfortunately, today only a few sections of the historic trace remain, but Natchez Trace Parkway,

JACK E. BOUCHER, NATIONAL PARK SERVICE



Cumberland Gap National Historical Park has natural, historical, and recreational attractions similar to those at Great Smoky Mountains.

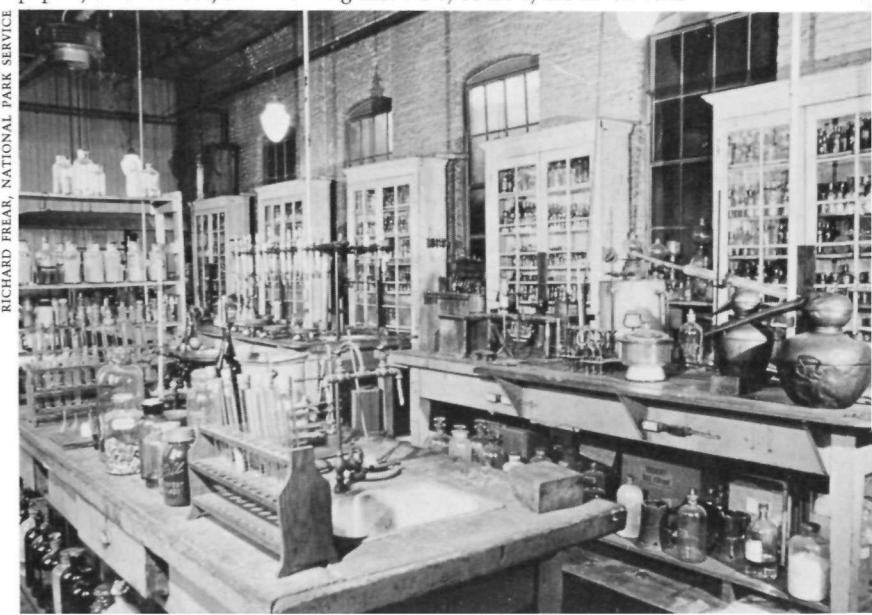
M. WOODBRIDGE WILLIAMS, NATIONAL PARK SERVICE



At Buck Island Reef National Monument you can swim among colorful tropical fish and fantastic coral formations in warm, blue-green waters.

Edison National Historic Site preserves Thomas A. Edison's home, library, papers, laboratories, and working models of some of his inventions.

RICHARD FREAR, NATIONAL PARK SERVICE





RICHARD FREAK, NATIONAL PARK SERVICE

A stroll through Hopewell Village National Historic Site will enable you to imagine life in a rural ironmaking village during the 1800s.



NATIONAL PARK SERVICE

The Booker T. Washington National Monument brings to life the farm where the famous black leader and educator lived as a slave child.

At Natchez Trace Parkway retrace the steps of Indians, missionaries, settlers, and soldiers on parts of the original wilderness trail.



NATIONAL PARK SERVICE

administered by the Park Service, combines a recreational roadway with a number of historic, archaeological, and natural areas that preserve some of this history. When completed, the 450-mile parkway will roughly follow the route of the old Natchez Trace and will originate at Nashville, Tennessee. Currently beginning in Gordonsburg, Tennessee, the uncommercialized parkway runs from ridges and rolling countryside through wooded hills and rich fertile bottomlands to southern lowlands, with their intermittent swamps and moss-draped trees, near the southern parkway terminus at Natchez, Mississippi.

Approximately 200 miles to the southeast, the clear blue waters and gently sloping beaches of Gulf Islands National Seashore, encompassing sections of both the Mississippi and Florida Gulf coasts, have a rich history dating back to the sixteenth-century Spanish explorations to the New World.

You can swim, fish, hike, camp, or just lie on the beach in the sun. Tours of Civil War forts as well as the Naval Live Oaks plantation, with its majestic Spanish-moss-draped live oaks, are available.

IN THE SOUTHWEST you can choose from many lesser used park areas, including Canyon de Chelly National Monument, an important archaeological treasure located in northeastern Arizona in the heart of the Navajo Indian Reservation.

In the monument's awesome canyons are ruins of several hundred Anasazi villages, with dwellings constructed on high ledges or nestled below steep cliffs. The most famous of the ruins, White House Ruin, is named after a long wall in the upper part of the ruin that is covered by white plaster. Antelope House in the Canyon del Muerto area of the monument contains a number of colorful pictures of antelope painted there by a Navajo artist more than 150 years ago. The Navajo have lived in this area since about 1700 and still farm its canyon floors.

Another important Indian archaeological site, located in the Midwest, is Pipestone National Monument in Minnesota, where Upper Midwestern Plains Indians obtained the soft red stone from which to fashion their ceremonial pipes. According to Indian legend, the pipestone was believed to be the flesh and blood of their ancestors, so the quarries and surrounding lands were considered sacred. The calumets themselves were deeply revered and were used to seal treaties and solemnize other occasions.

The Upper Midwest Indian Cultural Center at the monument provides a market for the individual crafts native to the Upper Plains Indian as well as exhibits and demonstrations of beadwork, quillwork, pipemaking, leatherwork, and basketry.

A $\frac{3}{4}$ -mile nature trail provides a glimpse of a wide variety of animal life, and the monument preserves one of the few surviving stands of virgin prairie.

IN ADDITION to preserving some of the culture and history of the original Americans, the Park System preserves some of the history of the frontier

settlers and military men who fought the Indians, especially out West.

Remains of twenty-one historic buildings border a deserted parade field, once the site of daily military parades, at Fort Laramie National Historic Site, Wyoming. Several of the structures have been faithfully restored and furnished to depict life a century ago. The post trader's store is typical of the trading post of 1876, with shelves lined with tins of biscuits, yard goods, salt, flour, and other staples as well as the requisite large glass jar of penny candy. During the summer months you can watch reenacted scenes of the fort's golden age and may even have a chance to sample a "military meal" prepared by "camp soldiers."

If your recreational interests lean more toward swimming, boating, or fishing, you might visit Colorado's Shadow Mountain National Recreation Area, a lesser known NPS unit adjacent to the southwestern boundary of Rocky Mountain National Park. You will enjoy the high mountain lakes that are trapped in the upper reaches of the Colorado River Basin.

Much of the hilly terrain is composed of glacial debris and outwash, and many of the islands in the lakes are the tops of glacial deposits of sand, gravel, and rock known as moraines. The forest is mostly lodgepole pine with spectacular wildflower displays in June and July. Deer roam the forest along with smaller mammals like the badger and bobcat. Hiking and nature trails are well marked, and horses may be rented. In the summer, naturalists conduct nature walks and give talks at campfire programs at the recreation area's five campgrounds.

For those interested in an unusual natural history learning experience, Craters of the Moon National Monument in south central Idaho is like a library of the volcanic forces that shaped Idaho's Snake River Plain. Although seemingly desolate, the cinder cones and large depressions that stud the lava field—giving it the appearance of the moon's surface—actually are the native habitat of more than 200 varieties of plants. The monument also is home to the yellowbelly marmot, mule deer, and bobcat.

A loop drive with interpretive markers allows you to sample most of the volcanic landforms of the 53,545-acre monument. Hiking trails range from a twenty-minute walk in Devil's Orchard to a two-hour hike in the Tree Molds area. For more adventurous souls, the Craters of the Moon Wilderness Area in the southern end of the monument provides a challenge. In the summer months naturalists present campfire talks at a nearby campground.

Would you rather visit the primeval "American Alps"? North Cascades National Park and two adjacent national recreation areas preserve 1,053 square miles, some of the most magnificent alpine scenery on earth, located in the North Cascades mountain range near the Canadian border in the state of Washington.

This park area is a land of contrasts, including some 300 glaciers and jagged peaks, snowfields, mountain lakes and streams, open areas, and lush vegetation. The

NATIONAL PARK SERVICE



Gulf Islands National Seashore offers beautiful beaches, clear water, Civil War forts, and a wide diversity of vegetation and wildlife.

NATIONAL PARK SERVICE



Indians at Pipestone National Monument demonstrate how the Upper Midwestern Plains Indians once fashioned their sacred ceremonial pipes.

Imagine the life of a soldier at the frontier military outpost of Fort Laramie, which from 1834 to 1890 guarded wagon trains moving west.

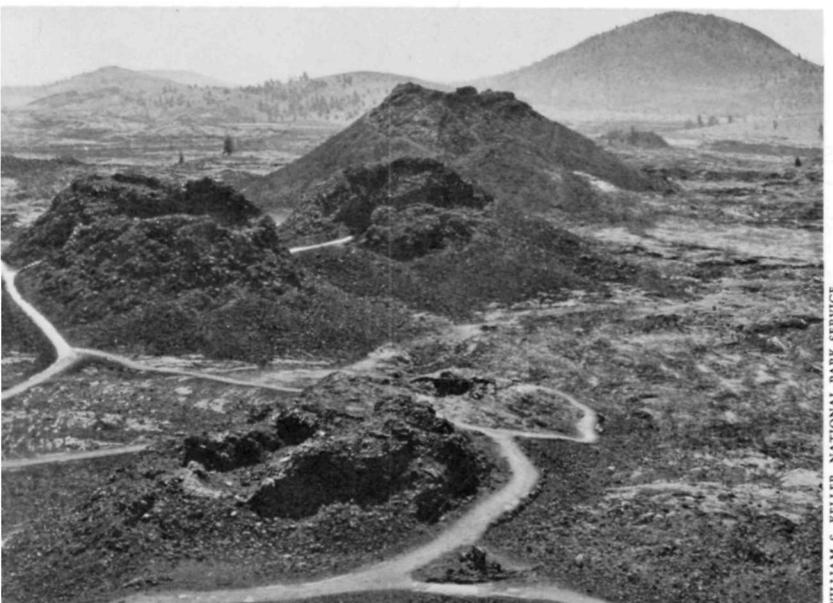
NATIONAL PARK SERVICE





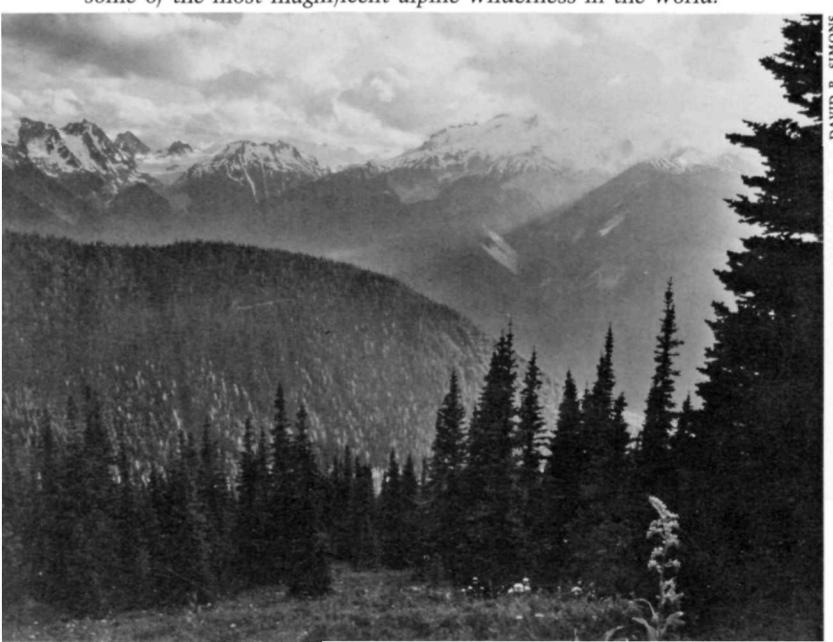
Shadow Mountain National Recreation Area offers swimming, boating, fishing, and hiking in the spectacular surroundings of the Rockies.

NATIONAL PARK SERVICE



An awesome display of volcanic forces, Craters of the Moon National Monument seems desolate, but it harbors many plants and animals.

WILLIAM S. KELLER, NATIONAL PARK SERVICE



North Cascades National Park and two adjacent recreation areas preserve some of the most magnificent alpine wilderness in the world.

DAVID R. SIMONS

variations in vegetation from the dry east slopes of the Cascades to the moist west side are striking. Plant communities range from dry shrublands and pine forests up to alpine tundra and subalpine conifers and verdant meadows to rain forests.

North Cascades park provides some of the greatest adventures for experienced mountaineers in the nation, and the park complex includes almost 350 miles of hiking and horse trails. You have a good chance of seeing deer, mountain goats, black bears, or some of a host of smaller animals on your hikes.

Outdoor recreation is year-round at North Cascades. The rivers and lakes of the area abound with trout, and boating is permitted in the Ross Lake and Lake Chelan recreation areas within the park complex. Cross-country skiing is gaining popularity within the park. There are a number of campgrounds in both the park and recreation areas.

If you are interested in backcountry camping at North Cascades or other national parks, it's a good idea to inquire in advance as to whether a permit will be required. The superintendent of North Cascades and the recreation areas can be reached at Sedro Woolley, Washington 98284.

THese are but a baker's dozen of the wonders awaiting you when you visit a lesser known park. An additional 119 areas, including lakeshores, homes of national leaders, living history farms, and restored villages, as well as spectacular mountain and desert parklands, are waiting to be discovered. Most of these areas (including NPS units in thirty-seven states, the District of Columbia, and the Virgin Islands) are identified in a new National Park Service publication, "Doorway to Adventure: Visit a Lesser-Used Park." The forty-two-page booklet lists the lesser known parks by state and catalogs some of their major attractions, as well as provides useful information on where to spend the night or buy a meal.

Of course, you will want to plan your own individualized trip. Most people find that limiting themselves to just one or two areas results in a more relaxing and interesting vacation.

In any case, by planning your vacation to lesser known parks, rather than the more popular areas, you can avoid crowds, overflowing campgrounds, and traffic jams while helping to preserve the natural treasures of parklands that are now overwhelmed by many problems caused by overuse. ■

As an intern in the National Park Service office of Public Affairs, Pat Foulk developed a mimeographed list of under-visited parks into the travel booklet, "Doorway to Adventure: Visit a Lesser-Used Park." She is a student of journalism at the American University in Washington, D.C.

"Doorway to Adventure: Visit a Lesser-Used Park" may be obtained by sending a check or money order for \$.70 to the Government Printing Office, Washington, D.C. 20402, and asking for the booklet under stock number 024-005-00589-7.



DANIEL BOONE VIEWING THE KENTUCKY VALLEY, ARTIST UNIDENTIFIED. NATIONAL PARK SERVICE PHOTO.

It was on the first of May, in the year 1769, that I resigned my domestic happiness for a time, and left my family and peaceable habitation on the Yadkin river, in North Carolina, to wander through the wilderness of America, in quest of the country of Kentucky. . . . After a long and fatiguing journey, through a mountainous wilderness, in a westward direction, on the seventh day of June following we found ourselves on Red river, . . . and, from the top of an eminence, saw with pleasure the beautiful level of Kentucky.

From *The Adventures of Colonel Daniel Boone*, 1784

ACROSS the APPALACHIANS

Daniel Boone's Wilderness Road and George Rogers Clark's campaign against the British helped establish American claims to the western frontier

WHEN DANIEL BOONE first saw "the beautiful level of Kentucky," European settlers had been cultivating the narrow strip of land along the eastern edge of the vast North American continent for more than one hundred and fifty years. Although many had moved away from the coastal settlements into the backcountry seeking better land and a freer life, a formidable obstacle barred their progress farther westward: the mighty Appalachian mountain chain. So extensive were these mountains, which Indians aptly called the Endless Mountains, that the colo-

nists had given them many names: Catskills, Alleghenies, Blue Ridge, Shenandoah, Cumberland. But all formed part of a single massive chain—the Appalachian. Described by Gilbert Imlay in his 1797 *Topographical Description of the Western Territory of North America*, as "a repeated succession of blue and purple parallel waving lines," they stretched for 1,200 miles in long ridges from New England to western Georgia, effectively blocking access to the land beyond.

Indians knew of passes through the mountains, however, the so-called "wind gaps" that had been eroded by long-vanished streams. One of the most famous, Cumberland Gap, led from western Virginia into southeastern Kentucky and the Tennessee country. Habitually used by the Indians, the gap's European discoverer was Dr.

This series of Bicentennial articles will trace some of the events and diverse cultural influences that forged the distinctive character of our nation—and, as elements of our rich American historic heritage, are represented in the National Park System.

Thomas Walker, who came upon it in 1750 while on an expedition to locate a land grant for the Loyal Land Company. Cumberland Gap henceforth played a crucial role in the settlement of the Kentucky wilderness.

In spite of Walker's important discovery, not until the close of the French and Indian War in 1763 and the subsequent settlement of Pontiac's Rebellion two years later, were conditions ripe for crossing the mountains. With the French, who had dominated the Ohio and Mississippi valleys, gone from the continent, yet another impediment to westward expansion had been removed. Though the mountains, the Indians, and the hardships remained, and though the British government, honoring its commitment to its Indian allies, had issued in 1763 a proclamation (which,

proving unenforceable, was later rescinded) forbidding settlement beyond the mountains, nothing could stem the wave of settlers that was soon to pour into the trans-Appalachian wilderness.

THOSE who had earlier crossed the mountains—veterans of the French and Indian War and other wilderness campaigns, explorers and land speculators, frontiersmen and backwoodsmen, trappers and Long Hunters—returned, says Imlay, “fascinated with the beauty and luxuriance of the country on the western side, which their enraptured imaginations could not find words sufficient to depict.”

These travelers told of virgin forests alive with game, where a man could hunt and trap for months on end. Some had even seen the fabled bluegrass country—rich, well-watered land where the grass, a characteristic blue from the color of its blossoms and seed-heads, rippled in the sun as far as the eye could see. Unmarked by fences or roads, houses or fields, it was home only to deer, elk, and vast herds of buffalo. This was the land the Indians called Ken-ta-ke, or “meadowland.”

Although neither tribe lived there, Kentucky, with its teeming herds of game, was a favorite hunting ground for both the Shawnee Indians to the north and the Cherokee to the south. So bitter were their conflicts over hunting rights in Kentucky that the Indians had come to call it “The Dark and Bloody Ground.” Indeed, a well-marked trail often used by war parties—“The Warriors’ Path”—led northwest across Kentucky from Cumberland Gap toward the Shawnee country. But even the Shawnee and the Cherokee, fighting to retain their time-honored hunting grounds, failed to daunt the first determined pioneers to enter Kentucky through the Cumberland Gap. These were hardy frontiersmen from the Virginia and North Carolina backcountry—people, as Gilbert Imlay put it, “who have been so long in the custom of removing farther and farther back as the country becomes set-

tled . . . that they seem unqualified for any other kind of life.” Then he commented prophetically, “No doubt this disposition will last as long as there is left a wilderness in America.”

POSSESSED by this restless spirit, Daniel Boone, the archetypal frontiersman, shared the origins and characteristics of the thousands of pioneers who followed him across the mountains into Kentucky. A trapper and hunter from the Yadkin River backcountry of North Carolina completely at home in the wilderness, Boone was one of the first to explore and publicize the wonders of the bluegrass country. Entering Kentucky through the Cumberland Gap in 1769 with a few companions, he spent two years virtually alone in the wilderness.

In 1775, Judge Richard Henderson, a land speculator from North Carolina, in defiance of legal restrictions prohibiting private citizens from purchasing land from Indian tribes, had negotiated with the Cherokee for twenty million acres of Kentucky land lying south of the Kentucky River. There he planned to establish an independent colony called “Transylvania,” under his leadership; and, in order to assist settlement, he engaged Daniel Boone to clear a road from Cumberland Gap to his holdings near the river. Starting in early March of 1775, Boone and thirty axmen hacked out the famous “Wilderness Road” into Kentucky, covering two hundred miles in just three weeks. There, on the banks of the Kentucky River, they built Fort Boonesborough, a fortified log “station.” In spite of the difficulties and dangers involved, other “Kentucky stations,” as they were called, and settlers followed, including Boone’s wife and daughters—the first white women to settle in the wilderness.

Gilbert Imlay described the early years of settlement:

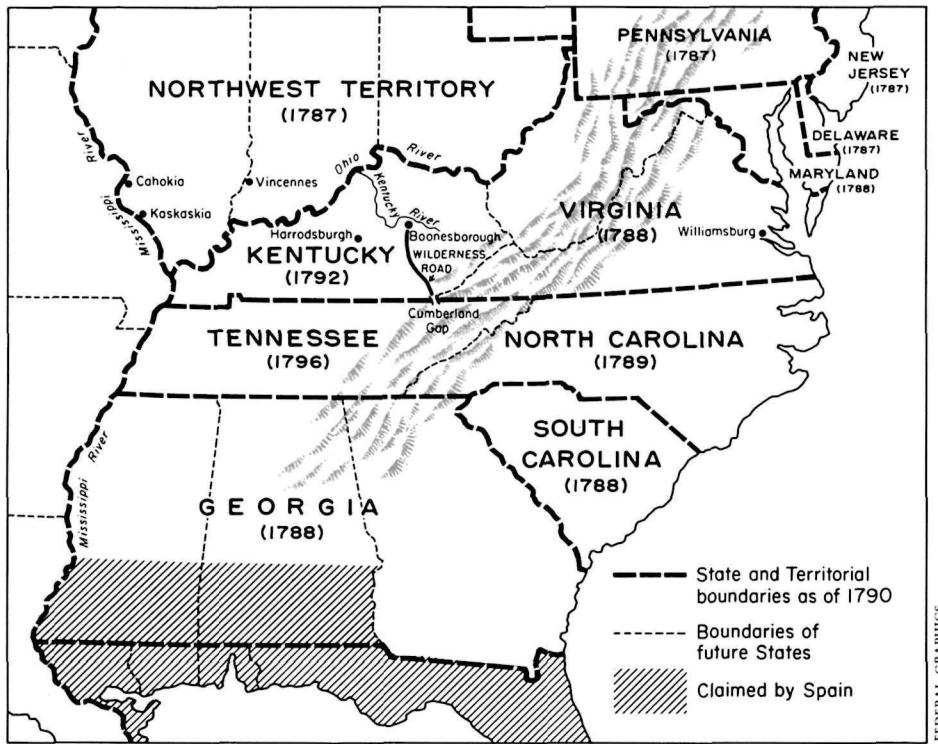
The perturbed state of that period and the savage condition of the country, which was one entire wilderness, made the object of the first emigrants that of security and sustenance, and produced the scheme of several families living together in what were called

stations. These stations were a kind of quadrangular or sometimes oblong forts, formed by building log-houses connectedly, only leaving openings for gateways. . . . They were generally fixed in a favourable situation for water, and in a body of good land. . . . It was not only prudent to keep close in their forts at times, but it was also necessary to keep their horses and cows up, otherwise the Indians would carry off the horses, and shoot and destroy the cattle. . . . The embarrassment they were in for most of the conveniences of life, did not admit of their building any other houses but of logs, and of opening fields in the most expeditious way for planting the Indian corn, the only grain which was cultivated at that time.

The stations were frequently attacked by bands of marauding Indians bent on driving the interlopers from their hunting grounds. Boone escaped from Indian captors more than once and, in a daring rescue, saved one of his daughters from captivity; but his brother and two sons were killed by Indians.

Even more difficult times lay ahead for the small, scattered, and ill-defended settlements in Kentucky, however. The first years of settlement coincided with the outbreak of the war for independence from Great Britain. Although the backcountry pioneers were relatively indifferent to the political issues underlying the war, their position on the western frontier was strategic; and, cut off by the mountains from the established coastal colonies, they were at the mercy of concerted Indian attacks instigated by the British command in the Ohio Valley. Indeed, so devastating were these raids that, by 1777, virtually all the Kentucky settlers had moved into three heavily fortified stations—Boonesborough, Harrodsburgh, and St. Asaph’s—the better to withstand attack.

FORTUNATELY for the beleaguered pioneers, a leader emerged to save them from disaster and ensure that the wilderness territories would remain in American hands. Born just before the French and Indian War, George Rogers Clark had grown up on the Virginia frontier. Brother of the William Clark who, with Meriwether Lewis, was later to map the Louisiana Purchase territory, Clark had served as a scout in campaigns



THE AMERICAN FRONTIER - 1790

against the Indians and worked as surveyor in the newly opened Ohio Territory, before moving west to Harrodsburgh, Kentucky, near Boonesborough.

Like many of the free-spirited Kentucky settlers, he chafed under Judge Henderson's autocratic rule and opposed the idea of an independent Transylvania governed by Henderson, advocating instead a link with Virginia. Matters reached a climax in June 1776 when, in defiance of Henderson, the settlers elected Clark to persuade the Virginia government to annex the Kentucky territory and assume responsibility for its defense. Clark's mission was successful, and in 1777 the House of Burgesses at Williamsburg annexed Kentucky as Virginia's westernmost county, later compensating Judge Henderson with a grant of 200,000 acres of Kentucky land.

Clark was convinced that as long as British troops had secure outposts along the Mississippi and Ohio valleys, the isolated western settlements would be vulnerable to attack and that only decisive offensive action could effectively combat the constant Indian har-

assment and end British operations on the northwest frontier. In the summer of 1778, therefore, Clark led a combined Kentucky and Virginia force across the Ohio River to capture the British posts at Kaskaskia and Cahokia. The following winter, he surprised and seized the British Fort Sackville at Vincennes, after an incredible 180-mile march across flooded terrain.

The success of Clark's campaign secured both the frontier settlements and the western territories for the future United States; and although Indian attacks persisted, pioneers continued to move through Cumberland Gap into Kentucky during the remaining years of the war, until at its close in 1783 approximately 12,000 settlers were established there. So populous had the territory become, in fact, that in 1784 Daniel Boone wrote:

Thus we behold Kentucky, lately an howling wilderness, the habitation of savages and wild beasts, become a fruitful field; this region, so favorably distinguished by nature, now become the habitation of civilization, at a period unparalleled in history, in the midst of a raging war, and under all the disadvantages of emigration to a country so remote from the inhabited parts of the continent.

In spite of his role in the taming of the wilderness, Daniel Boone did not thrive as a settler. When in 1792 Kentucky became the fifteenth state, with a population of one hundred thousand, he had again pushed westward, first working as a surveyor in the Northwest Territory and, in 1799, moving across the Mississippi to Missouri—then still under Spanish control. There he remained until his death in 1820. But, it is said, his restlessness took him as far as the Yellowstone before he died.

The crossing of the Appalachians and the settlement of Kentucky were first steps in the westward expansion of the new United States. After the Revolution, settlers poured across the mountains in ever-growing numbers, until by 1819 seven new states had been created from the wilderness territories east of the Mississippi: Kentucky, 1792; Tennessee, 1796; Ohio, 1803; Indiana, 1816; Mississippi, 1817; Illinois, 1818; Alabama, 1819. Fulfilling Gilbert Imlay's prophecy, exploration and settlement had already crossed the Mississippi and were pushing westward toward the Pacific, a movement that would continue as long as there was a wilderness left.

THE LOG CABINS, the Indian trails, and the buffalo that roamed the Kentucky wilderness have long since been replaced by cities, highways, and automobiles; but the bluegrass, the mountains, and Cumberland Gap remain as reminders of those early frontier days. From Pinnacle Overlook Terrace at Cumberland Gap National Monument, the visitor may view "the beautiful level of Kentucky"; and several miles of the famous Wilderness Road have been restored to suggest Daniel Boone's amazing achievement in breaking that path through the mountains.

Farther west, at Vincennes, Indiana, the memorial at George Rogers Clark National Historical Park on the site of Fort Sackville commemorates the heroic expedition of 1778-79, which securely established our emerging nation's claim to the wilderness territory beyond the Endless Mountains. ■

THE RETURN OF HAWAII'S WILD GOOSE



Once again the wild haunting cry of Hawaii's unique lava goose echoes across the hills—but the task of saving it from extinction is not yet complete

by GINNY TRUMBULL

COLD FOG DRIFTED through grey, gnarled branches of crimson-blossoming *ohia* trees, forming droplets of moisture. Mauna Loa, Hawaii's second highest peak at 13,680 feet, was obscured by the thick, swirling mists. Two men stood at the edge of a *kipuka*, a small island of vegetation surrounded by acres of treacherously sharp black lava, studying the wild nene gander perched atop a lava outcrop. His buff-colored, brown-barred neck stretched toward them, bright eyes in a black head watching them warily. It was November 9, 1957, and biologists David H. Woodside of the Hawaii Division of Fish and Game and William H. Elder had found a nest of perhaps the rarest species of waterfowl in the world, the Hawaiian goose. They had searched more than 18,000 miles by jeep and had worn out countless pairs of boots on clinkerlike *aa* lava seeking the breeding ground of the last few wild Hawaiian geese. They had found the only nest reported in the wild in the past twenty years. One egg hatched on Thanksgiving day, but the next day the gosling had vanished.

THE REASON for the nene's arrival on the Hawaiian is-

lands remains a mystery. Possibly its ancestors, believed to be from Canada goose stock, were swept from their migratory course by a violent storm. Finding haven in Hawaii's benign tropical environment, they remained, adapting to a climate and habitat far removed from the arctic tundra and marshy wetlands of their ancestors and slowly evolving into a distinct species, *Branta sandvicensis*. Although nenes can still swim, waterless expanses of lava became their chosen realm. They developed tough feet with receded webbing, an appropriate design for the crumbling glass-sharp lava over which they graze. This upland goose, whom the Polynesians called nene, is a ground-nesting bird, laying its few eggs in shallow depressions among shrubs in the *kipukas* and gathering moisture from fog and rain collecting in small pools or on the dandelion-yellow blossoms of gosmore (*Hypochaeris radicata*) or shiny black berries of the *kukainene* (*Coprosma ernodeoides*), its favored foods. Its migratory urge long stilled, short seasonal flights from mountain slope to grassy lowland sufficed. Little evidence exists of even interisland flight. Although the nene shared the

islands with the Hawaiian hawk (*Buteo solitarius*), and the short-eared owl (*Asio flammeus*), no significant predators existed on the islands. Admirably adapted to life on their secluded islands, these geese were totally unable to cope with the hazards that the white man would bring.

For centuries Polynesians and nene had lived together in relative harmony, and great flocks of these geese thrived on the islands when Captain Cook arrived in 1778, opening Hawaii to the world. Rapidly the islands changed. Lowlands were planted in pineapple and sugarcane; forests were cut down for their timber. Goats, introduced by the white man, ran wild, destroying upland vegetation. Nene were hunted in the fall—curiously, their breeding season. As early as 1902 naturalist H. W. Henshaw warned against this disastrous practice. Hunting was stopped nine years later, but other destructive forces were taking their toll.

The omnivorous mongoose—purposely loosed upon the islands to kill accidentally introduced rats that damaged sugarcane—quickly spread throughout the land. Its shadowy serpentine figure soon was a menace to native

ground-nesting birds. Feral pigs, dogs, and cats also destroyed nene nests and young goslings.

For approximately five hundred thousand years the nene had lived undisturbed on Hawaii's lava fields, perfectly adapted and at peace with its harsh surroundings. Less than two hundred years after Captain Cook had discovered the nene's island sanctuary, the goose's numbers had dropped from an estimated twenty-five thousand to fewer than fifty. By 1950 Hawaii, the Big Island, where nene once ranged widely, was its last stronghold. Driven to the farthest habitable reaches of the island, the geese were near extinction.

IN 1945 A SCIENTIST, Paul H. Baldwin, published an article that brought the Hawaiian goose to the attention of wildlife managers, who in turn encouraged a survey by Charles and Elizabeth Schwartz. They warned in 1949 in their book, *Game Birds in Hawaii*, "This wildfowl is the next Hawaiian, if not world, species facing imminent extinction."

The nene's precarious survival depended on two small flocks of geese. Only an estimated thirty remained in the wild. The others

were captive geese. Born and reared on the island of Hawaii, rancher Herbert Shipman recalled the melodically haunting calls of the nene from his childhood. He had been raising nene ever since he was offered a pair in 1918. When the program to save the nene was to start, he had the only stock available.

Hawaiians were loath to lose their rare goose, which has now been declared their state bird. The Territory of Hawaii voted funds, and in 1949 a program to raise Hawaiian geese in captivity for release into the wild was begun. Herbert Shipman loaned two pairs of his nene to the project. These geese were supplemented the following year by a lone old gander, later found to be sterile, from the Honolulu Zoo and a wild goose liberated from a hunter. In February a pair of Mr. Shipman's geese produced two healthy goslings for the newly formed project at Pohakuloa on the island of Hawaii.

News of the program spread, and conservation organizations successfully backed a bill before the eighty-fifth Congress. Federal funding, administered by the U.S. Fish and Wildlife Service, has enabled Hawaii Fish and Game to continue the program.

The nene had other champions, among them Sir Peter Scott, founder of the Wildfowl Trust at Slimbridge, England, a research center of world renown with the largest and most varied collection of wildfowl in the world. Since the 1930s Scott had been concerned for the future of the nene. Herbert Shipman promised him a pair, but he was not able to send them until after World War II. The Trust, already experienced in raising geese, sent their curator, John Yealand, to Pohakuloa to assist at the start of the breeding program. He returned to England with two of Herbert Shipman's nene, which turned out to be two females. (Both sexes look alike.) But the following year a gander, again from Herbert Shipman's flock, arrived, and the Wildfowl Trust began breeding nene.

Frustrations were alternately punctuated with triumphs. Ah Fat Lee, propagator in charge of the breeding project at Pohakuloa, received the American Motors Conservation Award in 1969 in recognition of his services. With patience and perseverance he helped solve the complex and varied problems of captive breeding.

ONLY SEVEN GOSLINGS increased the small flock at Pohakuloa in the first four years. Finally, by the eleventh season, seventy-one Hawaiian geese had been raised—enough to safely begin the second phase of the program. Ecological surveys were made of the remnant wild flock. Woodside and Elder had discovered, and other nests were located and studied. Captive-reared geese were to be released near this flock. Perhaps some of their wild wisdom would aid in the survival of all. In March 1960 twenty nene were freed within a carefully planned one-acre release pen at Keaukou Sanctuary, 6,300 feet up Mauna Loa's volcanic slopes.

By 1962 the Wildfowl Trust had raised enough nene to return thirty to Maui, the only other island where nene once had been



ROBERT T. SHALLENBERGER

found in numbers. They were joined by five from Pohakuloa. From the crater's rim Boy Scouts packed the geese down a steep, rugged 8½-mile trail across a multihued cinder-cone moonscape into Haleakala crater. Thus the first nene to set foot on Maui since the early 1900s found a new home within a windswept grassy release pen near Paliku ranger cabin at Haleakala National Park. Within minutes of their release in this vast wilderness of decaying lava from the long-dormant volcano these English-bred nene were nibbling contentedly on the wild grasses.

Five nene sanctuaries have now been established—four on Hawaii, one on Maui. On Hawaii, the largest, Kipuka Ainahou Nene Sanctuary, covers 38,400 acres on state-owned lands and is used year-round as a nene nesting and summering site. The other three sanctuaries are on privately owned lands with agreement for their use as sanctuaries. The fifth, on Maui, is within Haleakala National Park. Release pens are surrounded by predator-proof fences, and predators in adjacent areas are controlled. Before being released, the geese are banded for identification and their primary flight feathers are plucked to keep them within the pens to

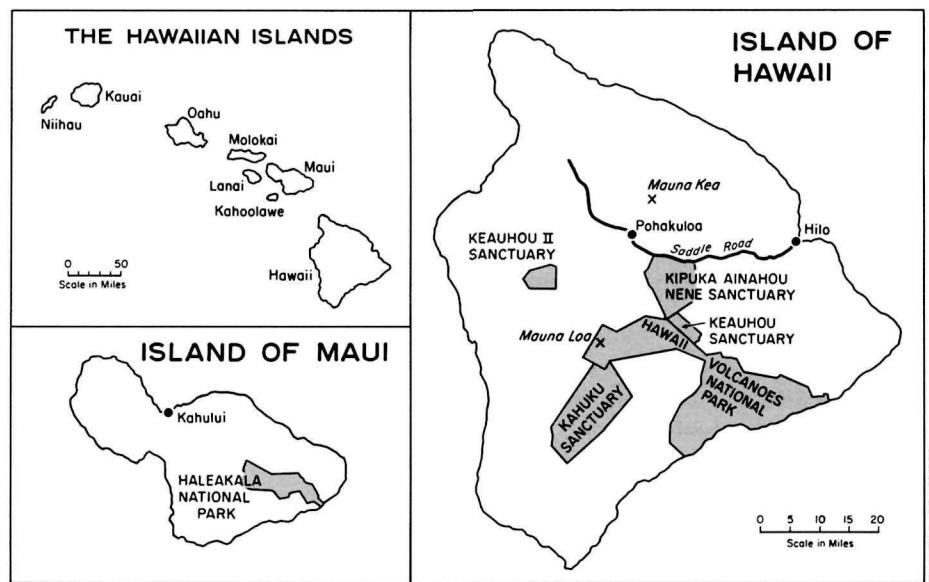
familiarize them with their new home. Supplementary food and water are furnished during their flightless period, but they rapidly adapt to the new environment.

In about six weeks, their flight feathers grown, the nene seem eager to leave, making short exploratory flights, returning only briefly to the release pens. Soon all have dispersed to join other free birds, seeking suitable territories in the often foggy, rain-soaked *kipukas* where succulent grasses and berry-producing plants thrive on the crumbling lava.

By 1974 a total of 1,317 nene had been returned to the wild—more than 1,100 from Pohakuloa, 197 from the Wildfowl Trust, and 7 from Dillon Ripley's farm in Connecticut, offspring of a pair sent to him by Sir Peter Scott. The Wildfowl Trust has also distributed more than thirty pairs of nene to zoos and breeders in Europe and several pairs to Canada and the United States, thus assuring the species an even broader margin of safety.

FOR TWENTY-FIVE YEARS the propagation and release program has persisted. Emphasis in the past has been on increasing the population of nene to safer numbers. Now it will be shifting

SITES OF NENE RESTORATION PROJECT



to more extensive study of nene in the wild.

Field research is arduous. Potential nene habitat covers vast expanses of rugged terrain—wild, uninhabited, frequently foggy, cold, rainy. *Kipukas* are scattered throughout, varying in size from less than an acre to several thousand acres, often densely vegetated and difficult to survey.

Information obtained thus far remains inconclusive. Known survival rates can be determined only by those few nene observed and identified in the field or during summer dawn and dusk flights over the Saddle Road near Pohakuloa. Known mortality rates are low—but known survival rates are also low. This information is misleading, however, as there are instances when a bird not seen for several years reappears.

What of hatching success? During the 1965 to 1971 period fifty-six nests on Hawaii, mostly in the Keauhou sanctuary, were observed. Some of the parents were banded, some unbanded. Thirty-six of these nests produced goslings whose age at last observation ranged from one day to four to six months old. Clutches contained from one to four eggs. Eggs from nine additional nests hatched, although goslings were not observed. Eleven nests failed to hatch or were destroyed. Only one nest, unsuccessful, had five eggs. On Maui, released nene are successfully nesting and hatching.

Released nene are pairing with other released birds or with wild nene and rearing young—exciting news to the conservation world and rewarding to those who have been working so diligently with the nene program.

AN EXCITING new program was started in 1974 by Hawaii Volcanoes National Park on the island of Hawaii. According to park ranger Paul C. Banko's report, evidence suggests that in the early days nene bred primarily in the lowlands, spending the summer with their young in

the uplands. Distribution of nene on the island of Hawaii was widespread, and they were seen within current park boundary range. Earlier releases of captive-bred birds have been at upper elevations (5,000 to 6,500 feet), the wild flock's final stronghold. Now the national park seeks to reestablish nene in lower elevations (2,000 to 4,000 feet) within the park, thus returning a bit of the heritage of ancient Hawaii to the park's natural treasures.

This program follows a plan similar to that suggested by Sir Peter Scott in 1962 of establishing "nene parks"—retaining pinioned breeding pairs in large enclosures as the nucleus for restocking suitable adjacent areas with free-flying progeny.

During breeding season pairs of nene are transferred to smaller pens where goslings can be protected from predators until they are large enough to care for themselves. Parents remain in the enclosures to raise more geese, but their young are free to leave to find a mate and suitable territory outside the enclosure in the vicinity where they were hatched and raised. Nene have a marked homing instinct. Here, where park authorities are maintaining predator control, they may eventually establish self-perpetuating nene populations.

Color-coded banding will be coordinated with Hawaii Fish and Game. Radio transmitters, attached to a few geese, may furnish valuable information on flight patterns and daily movements. Comparing relative merits of this "nene park" concept to the "gentle release" methods heretofore used will give wildlife managers yet another insight into how best to cope with the delicate assignment of saving an endangered species.

Herbert Shipman, his noteworthy objective accomplished after more than half a century as trustee of his valuable flock, has entrusted his nene to friends who will continue to carefully tend them. At the Wildfowl Trust and at Pohakuloa, captive-rearing



HAWAII FISH AND GAME

Ah Fat Lee, propagator in charge of the breeding project at Pohakuloa and recipient of the American Motors Conservation Award in 1969 in recognition of his services on this project, feeds a family of nene.

programs are continuing, and now field research is expanding.

UNTIL it is determined that the nene can survive on its own as a wild free bird, assistance must continue. Strong and widespread commendation, encouragement, and public support to the government and private agencies working on these programs will assure their continuity until final fruition.

Long before man arrived, the islands of Hawaii were the nene's domain. This lovely goose whose resonant calls for eons furnished an added dimension of beauty to the haunting wild beauty of the lava must never again come so close to extinction as it did in the 1950s. Its calls, echoing and re-echoing over the Hawaiian wilderness, will be a tribute to twentieth century man's emerging concern for the other living creatures that share this earth. ■

Ginny Trumbull, with her husband Fred, spent ten years researching, studying, filming, and recording the conservation story of the nene to produce their outstanding documentary film, "Guided by the Nene." Released in 1974, the film is currently being

distributed by the University of California Extension Media Center at Berkeley, California. Television rights have been sold for transmission in England.

SUPPORT THE NENE RESTORATION PROJECT

If you are interested in restoring the Hawaiian goose, you should write the involved agencies to tell them you support the goals of the nene recovery program and want the project to continue.

Mr. Michio Takata, Director
Hawaii Division of Fish & Game
1179 Punchbowl Street
Honolulu, Hawaii 96813

Mr. Lynn A. Greenwalt, Director
U.S. Fish & Wildlife Service
Department of the Interior
Washington, D.C. 20240

Mr. Gary E. Everhardt, Director
National Park Service
Department of the Interior
Washington, D.C. 20240

Sir Peter Scott
The Wildfowl Trust
Slimbridge, England

NPCA at work

BACK BAY

Refuge or Roadway?

Should hordes of four-wheel-drive dune buggies and trucks be allowed to cross a fragile beach at a national wildlife refuge—disrupting wildlife—in the name of public access? In cases where public values such as a national wildlife refuge or national park are or will be damaged by the actions of people, NPCA continues to fight to preserve the right and the duty of the Interior Department to protect these areas by restricting access.

In the continuing controversy over vehicular access along the beach at Back Bay National Wildlife Refuge on the coast of southeastern Virginia, the Interior Department is currently under pressure to weaken regulations that ban driving on the beach to all except permanent residents whose homes lie south of the refuge and emergency and service vehicle drivers.

For several years a local developer has sought relaxation of the restrictions to permit more vehicles on the beach, facilitating access to recreational properties south of the refuge.

Almost a year ago the Interior Department, NPCA, and others intervening as defendants against some developers and local citizens won a court ruling that the Department has a right to restrict access to this refuge beach—a ruling expected to set a precedent in similar cases. However, the special regulations governing public access at Back Bay expired on December 31, 1975.

In a recently released environmental assessment of the situation, the U.S. Fish and Wildlife Service, which manages the refuge, has determined that significantly increased use of the beach by vehicles would have negative impacts on refuge wildlife and could also adversely affect the coastal dune system of the refuge.

NPCA and five other conservation groups recently contacted Interior Secretary Thomas Kleppe to express opposition to any weakening of existing vehicular access regulations. In a subsequent meeting with Under Secretary

of the Interior Kent Frizzell, the groups reiterated their position that any substantial increase in vehicular access through the refuge would have severe adverse impacts and would be opposed. Should the Interior Department override Fish and Wildlife Service findings and recommendations against relaxation of regulations due to political pressures, it seems likely that some or all of the concerned environmental organizations will bring suit to halt the increased vehicular access. At press time, the Department had not announced a final decision on the issuance of new regulations for Back Bay.

In other recent action related to the question of access, this Association commented on proposed clarifications in National Park Service regulations on public use and recreation in the areas of the National Park System.

As stated in the amended regulations under review, NPCA strongly supported clarifying the administrative authority of the Park Service to restrict access (by both people and machines) and to set forth levels of use in specified areas in any NPS unit for purposes of protection.

However, NPCA noted that the Park Service has sometimes leaned excessively toward public use of an area despite the fact that it has a legal mandate to allow only those uses of an area that are compatible with preservation of park resources for future generations. NPCA also pointed out that eliminating inappropriate uses of NPS areas by commercial and industrial interests—uses that both infringe on visitor use and destroy park resources—would allow greater public use of some areas than is currently feasible.

SNOWMOBILES

Intrusions in the Parks

The time has come, NPCA believes, for the National Park Service to establish a firm policy prohibiting the use of snowmobiles in all natural areas of the National Park System.

NPCA President A. W. Smith recently told National Park Service Director Gary Everhardt that leaving to

the superintendents the decision as to whether to permit snowmobiles in national parks does not adequately protect the parks because it puts the superintendents under heavy local pressure to permit snowmobiles.

In the winter months visitors can obtain adequate access to the parks along roads kept open by the Park Service, NPCA pointed out. If they are interested in vigorous outdoor recreation, they can pursue snowshoeing or cross-country skiing.

The noise and intrusion of snowmobiles necessarily disturbs wildlife and breaks the wilderness atmosphere of the parks for other visitors. In addition, it seems to NPCA quite impossible to police any system that permits these vehicles to travel existing uncleared roads or trails, because the Park Service does not have enough personnel to control violations.

NPCA noted that a number of superintendents have displayed good judgment in deciding to exclude snowmobiles from their parks whereas others have permitted snowmobiles, and stated that in the future the burden of this decision should be carried by national headquarters.

MINERAL KING

30-Year-Old Scheme

Three decades ago the U.S. Forest Service began investigating the suitability of a major ski development in the Mineral King valley of California. This fragile alpine valley, an arm of Sequoia National Forest jutting into Sequoia-Kings Canyon National Park, unfortunately was left out of the national park in earlier years because mining of the valley was contemplated. However, no minerals were found, and luckily the idea was abandoned years ago. Currently the Forest Service manages Mineral King valley as a wildlife preserve.

In 1965 the Forest Service issued a prospectus for developing full public access and year-round recreation in Mineral King and shortly thereafter granted a planning permit to Walt Disney Productions, Inc. Halted so far by a lengthy planning process, litigation, and the necessity to prepare an environmental impact statement, final decisions on the huge mechanized ski resort may now be at hand. At stake is the future of varied wildlife and flora

and other resources of both Mineral King and Sequoia National Park. The development would imperil habitat types of endangered or rare species such as the wolverine and California bighorn sheep.

Nevertheless, in February 1976, the Forest Service issued its final environmental impact statement on the Mineral King proposal, recommending intensive development of the valley and surrounding slopes for year-round recreation. Facilities would include eighteen ski lifts; lodging for 4,500 persons; food service accommodations with a total seating capacity for about 1,900 persons; and other service facilities including utilities and medical, recreational, and informational facilities. The development would accommodate 6,000 persons in the summer and 8,000 persons in winter. Access to the valley would be provided by 24 miles of new roads from the town of Hammond, California, across Sequoia-Kings Canyon National Park and up to the rim of the valley. The final 1 1/4-mile descent into Mineral King valley would be accomplished by mass transit, and the proposal would allow development of a parking structure at Faculty Flat large enough for several thousand cars.

The access road across the national park, strenuously opposed by NPCA and other conservation groups, would require the development of 71 acres of national park land, in addition to the upgrading of the dirt road through the park on 65 acres.

In an effort to halt this intensive recreational development of a pristine area, legislation has been introduced in Congress to include Mineral King valley in Sequoia-Kings Canyon National Park. Similarly, NPCA, in comment-

ing on the environmental statement, has urged that Mineral King valley be declared a national monument by the President by executive order under the Antiquities Act. At press time no action had been taken on either proposal to include Mineral King valley in the Park System. Members who believe that Mineral King valley should be preserved should write to President Ford (White House, Washington, D.C. 20500) urging inclusion of the valley in the National Park System.

LASSEN

Avalanche Danger

NPCA recently opposed temporary reopening of the Manzanita Lake Campground in California's Lassen Volcanic National Park because, in consideration of geologists' warnings about the danger of high-speed rock avalanches in the area, any reopening would pose a grave risk to campers. NPS subsequently opened most of the campground for the 1976 season.

The Park Service had asked for public comment on an environmental assessment concerning reopening the campground this summer. The campground, along with the entire Manzanita Lake park center (including lodging and a visitors center and services) was closed two years ago after a four-year U.S. Geological Survey study of the area to determine its safety. At the time, then-NPS head Ronald Walker stated, "evidence at hand is so compelling that no other decision than closing the operation is consistent with our responsibility for protecting the lives and safety of our visitors." Nevertheless, the announcement provoked an avalanche of complaints from residents of areas neighboring the park,

even though it did not prohibit anyone from choosing to visit the area.

However, NPCA stated in its recent comments that "unless further reevaluation of the geologic conditions extant in the vicinity of the Manzanita Lake Campground is able to confirm that the potential for seismic disruption . . . is negligible and that the campground can be permanently reopened, NPCA would be opposed to any temporary reopening of this facility whether at full or reduced capacity." Even with a seismic monitoring system, NPCA emphasized, the capability for early warning and timely evacuation of park visitors is uncertain while the potential threat to human safety is "too great a risk for the National Park Service to bear."

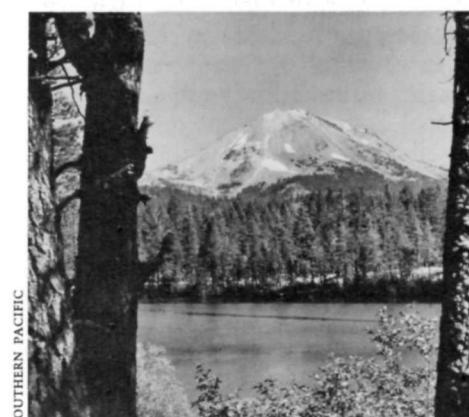
NPCA said that the park resources instead should be concentrated on the planning and development of campground facilities in a new location well removed from hazardous areas and noted that the situation lends itself perfectly to a reliance upon private industry for the development of adequate camping facilities outside the park, especially because the Manzanita Lake area is near the boundary of the park. The National Park Service should be able to offer considerable support in this regard.

NEW RIVER

Dam Battle Intensifies

On March 13, 1976, Secretary of Interior Thomas Kleppe announced his intention to declare a twenty-six-mile stretch of the New River in North Carolina as a state-administered segment of the National Wild and Scenic Rivers System. The announcement buoyed the hopes of NPCA, which op-

The beautiful Manzanita Lake area (left) near Lassen Peak is naturally attractive to park visitors, some of whom have supported a reopening of a campground in the area. However, the peaceful scene obscures a real threat to campers. If geologic history repeats itself—as a U.S. Geological Survey study indicates is possible—an avalanche of great magnitude could descend on the campground area from Chaos Crags (right), domes just north of Lassen Peak. The rock jumbles in the foreground are remains of a past avalanche. Watch for a feature article on this threat in the June issue.



poses construction of a mammoth twin dam on the New and has been urging Kleppe to help preserve the wild river; but just eleven days later a federal court gave the dambuilders a go-ahead.

The American Electric Power Company (AEP) wants to build a huge pump-storage hydroelectric power project in Virginia that would flood 50,000 acres of historic farmland in North Carolina. In fourteen years, the opposition to the dam has grown from a local effort to a major national one. Kleppe's decision was welcomed as a turning point in the battle.

However, the U.S. Court of Appeals for the District of Columbia, rejecting environmental arguments by the state of North Carolina, ruled on March 24 that a dam construction permit issued by the Federal Power Commission to AEP is still valid. The Secretary previously had voiced the opinion that such a court decision would take precedence over his proclamation. (NPCA recently commended Kleppe for his proclamation, but expressed regret that he accepted an "incorrect" opinion concerning the license.)

Nevertheless, North Carolina may appeal the decision to the Supreme Court, and several congressmen have indicated that they will seek direct congressional action to invalidate the license, granted in 1974, and thus to prevent the damming of the second oldest river on earth.

GLACIER

Still Beleaguered in 1976

NPCA, other members of the Flathead Coalition, and Rep. Max Baucus apparently have been successful in gaining assurances from the Bureau of Land Management and the Forest Service that decisions on proposed oil and gas leasing on U.S. forest lands adjacent to Glacier National Park will be delayed pending negotiations with Canada concerning a coal development that also threatens the park. Such threats to this Montana park as the proposal for leasing for oil and gas development in Flathead National Forest and the proposed massive strip mining operation just eight miles over the U.S.-Canadian border at Cabin Creek prompted a description of the park as "Glacier: Beleaguered park of 1975" in our November 1975 Magazine.

Although it seems at this time that

no leases will be offered on the *federal* forest lands in question, at least until the end of 1976, the threats to this famous park and its wildlife and other resources are mounting.

The state of Montana, over the protests of NPCA and the Flathead Coalition, recently announced the acceptance of bids for leases on more than 7,000 acres of state forest lands in the Coal Creek State Forest. Like the proposed federal leasing areas, these lands are along the North Fork of the Flathead River, which forms the western boundary of Glacier National Park, and leasing would disrupt wildlife and pollute the river, thus having immediate multiple impacts on the park. NPCA noted that the principal lease applicant, Texas Pacific Oil Company, is a Canadian firm (reportedly a wholly owned subsidiary of the J. E. Seagram Distillery of Montreal), so U.S. opposition to the Cabin Creek mine in British Columbia could be considered grossly inconsistent if oil and gas leasing on U.S. lands were permitted. The United States would be permitting one Canadian company to develop on U.S. lands even while it opposed development by another Canadian company (Rio Algom, Ltd.) on Canadian lands. Allowing the lease sale would also throw our concern for the North Fork environment into question and erode our strength in the Cabin Creek negotiations.

The decision to grant the leases in Montana rests with the State Land Board, composed of Governor Thomas Judge and Montana's state lands commissioner, secretary of state, attorney general, auditor, and superintendent of public instruction. Bids on the state tracts were received on March 2, but at press time the State Land Board had not rendered a decision about whether to accept or reject those bids.

In yet another of the seemingly unending series of threats to Glacier National Park, a religious group calling itself the Rainbow Family has asked the Park Service for permission to bring 15,000 of its members into the Belly River section of the Glacier National Park backcountry during July 1976. NPCA has contacted Park Service officials both in Washington, D.C., and at Glacier park expressing strong opposition to approval of this proposal because such a large concentration of

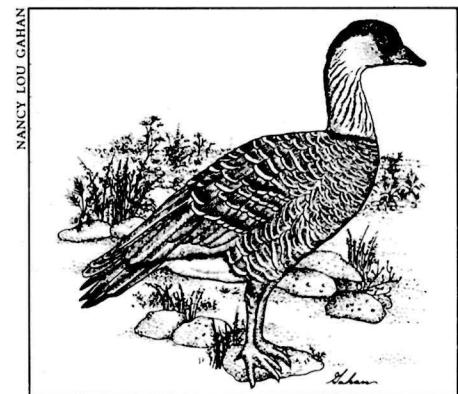
people would have devastating impacts on the fragile vegetation and the wildlife of the backcountry, which includes habitat for the grizzly bear and bald eagle. It would also infringe on other park visitors. Park Service officials at Glacier have indicated that allowing the crowd to gather would be contrary to Park Service backcountry policy and will be strongly opposed at the Park Service level. However, the final decision has not yet been made.

YOSEMITE

Slickness & the Status Quo

The Music Corporation of America's Yosemite Park and Curry Company, principal concessioner in Yosemite National Park, recently released its responses to the Park Service's innovative worksheets for collecting public opinion about the future of this California park. The Park Service received a surprisingly large volume of requests—some 60,000—for the planning kit. Many responded on their own initiative, and both the conservation groups and MCA had urged responses to the worksheets.

MCA has printed an elaborate thirty-page document containing both



NENE / HAWAIIAN GOOSE; see page 16

general and specific responses to the master-plan team's worksheets. Despite its design imitating the NPS worksheets and its slickness and emphasis on its corporate "operating experience," an assessment of MCA's plan for Yosemite National Park shows that it would continue—and in some cases aggravate—the deteriorating conditions in the park for which the concessioner should bear heavy responsibility.

NPCA maintains, in contrast, that the Park Service must choose a course

of action that will preserve Yosemite for the enjoyment of future generations, while continuing to provide access to the park to present generations in an efficient manner. (See April 1976, p. 20.)

Because the keystone of NPCA's policy relating to Yosemite National Park centers on the transportation system, it is important to look at this aspect of park functions first. NPCA would eliminate the private automobile from inside the park, greatly expand the shuttle system inside the park, and establish a mass transportation system into the park from staging areas on the perimeter or in neighboring communities. MCA, on the other hand, calls for continuing use of the private automobile within the park and reopening the roads of Yosemite Valley to private vehicles where the park's free shuttle system now operates. MCA implies that the continued and increased use of private automobiles in the park is the only way of "allowing the traveling American public to enjoy those things it has traveled to experience."

MCA calls for the status quo regarding visitor use, including accommodations and services, whereas NPCA urges a decrease in density of campgrounds and tent cabins and their location outside of significant scenic areas.

MCA advocates acceptance of commercial filming in the parks as long as it does not interfere with visitors, whereas NPCA has called for a ban on filming except for park interpretive and park conservation-related documentaries. MCA supports hang gliding in the park—opposed by NPCA. MCA wants conventions in the park during the off-season, but NPCA has stated that they should be banned even then because generally their purposes are not park-related.

Regarding park operations, MCA advocates that concession offices, maintenance and warehouse facilities, and its employee housing should be placed as close as possible to the place of utilization or work, whereas NPCA advocates that at least these facilities and activities should be located on the periphery of the park rather than in significant scenic areas.

In Yosemite Valley, in addition to calling for increased use of automobiles, the concessioner has called for

winterizing and upgrading of Curry Village units and continuing to allow the present number of campers in the valley. In the NPCA plan for Yosemite Valley, however, no private automobiles would be permitted, and none of the Curry Village units would be winterized. In fact, the numbers would be reduced and the density of campgrounds would be decreased. The shuttle bus system would be expanded to service all areas of the valley on existing roads.

MCA also has called for the construction of separate bike trails to service the entire valley, because in the MCA plans cars would be using the existing roads. However, in NPCA's plan, no new construction of bike trails would be necessary because the bike riders could share existing roadways with the shuttle buses.

MCA would keep grocery sales, equipment sales, full hospital service, dental service, gift sales, gas and oil service, auto repair and towing, auto rental, banking service, clothing sales, barber and beauty services in the valley. NPCA would eliminate all of these as incompatible for one of the most scenic areas in the Park System.

At Badger Pass, MCA would continue the downhill ski facilities and provide private automobile access, whereas NPCA would eliminate the downhill skiing, convert the lodge to a cross-country ski center in winter and provide vehicular access by park shuttle only.

On Glacier Point, MCA seems to favor great upgrading of services now provided such as snack shops, gift shops, restrooms, and interpretive facilities by incorporating these concessioner-run facilities into a new National Park Service information center.

In such places as Hodgdon Meadow, Crane Flat, and White Wolf, NPCA would have the campgrounds converted to walk-in with shuttle access along the Tioga Road, whereas MCA would continue private vehicular access.

Finally, at Tuolumne Meadows, MCA advocates a major visitor use area with private vehicular access to the campgrounds and about the same number of accommodations, though winterized. NPCA considers this area to be primarily a minor visitor use area in itself, serving as the gateway to the

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Memo to Members

Dear Friend:

We are a nation founded on faith, faith in the private citizen, in the belief that we, as individuals, in concert, possess the right and the ability to govern ourselves. Our government is a construct of this faith. Its three branches—executive, legislative, and judicial—operate to ensure the functioning of this faith and its fulfillment.

There exists, in addition, what is often referred to as a fourth branch, composed not of elected or appointed officials, but of the people themselves—the voluntary citizen associations.

Associations have played a fundamentally significant role in our national life since its inception. Alexis de Tocqueville, the French traveler and author of *Democracy in America*, noted their prevalence in this country a century and a half ago. They impressed him as a hallmark of the American way of life.

Today, these concentrations of intellectual and moral power are still growing in strength and number. They are a natural outgrowth of the democratic process—of the need for individual citizens to address themselves collectively to the issues of the times and to influence the course of human events as they affect their lives.

NPCA is one such organization. The problems it strives to solve are many and complex: the encroachment of commercial interests here, excessive visitation or the need for pollution abatement there; the procurement of adequate funding to maintain park standards of public safety and service; and basic resource protection. The effort to loosen up the restrictive budget allotments clamped on the Park Service by the President's Office of Management and Budget has been a major one, as has the fight to halt mining in our national parks and monuments, and to keep the clutter of the fast-buck artists out of places like Yosemite—to mention a few. In recent years, in re-



sponse to public need, we have become involved in such areas of concern as air and water quality, population reduction, land use, ecological forest practices, strip mining, seaway pollution.

Increasingly, we are coming to view our work as dealing with the right of every person to the essentials of clean air, clean water, food that has not been contaminated by chemicals, livable cities, open space, landscapes free of urban and industrial blight, accessible areas of wild nature. Loss—even diminishment—of such fundamental rights breeds human decline, starts men on the downward course to self-destruction.

These rights are in jeopardy. They are threatened on all sides daily by ungoverned and socially irresponsible forces, by special interests indifferent to the public good. The impulse to safeguard these rights must originate with you, the private citizen—not with the President, nor the law-makers, nor the leaders of business and industry, but with concerned individuals like yourself working together through organizations like NPCA.

It is well to remind ourselves, this Bicentennial year, that we are a free people—free to fight for these rights. It is well to remind ourselves, too, that the best way to lose this freedom is not to exercise it.

It is a year to think about this American land of ours—and to think about us, the people. We are the proprietors of this land. It does not belong to the government or the corporations, the scientists or the politicians; it is held in common by all of us. We are

responsible for it. To default on that responsibility is to deny our heritage, the heritage of a free people.

Think back on the America of the Founding Fathers. It was a land of beauty and abundance then, a veritable Eden. It can be so again—at least, in part. We have used up much of the abundance, destroyed most of the beauty. But it is not too late to salvage what remains, and perhaps restore some of what has been lost.

NPCA is battling to accomplish this; but, like any other organization on the firing line, its fighting ability depends on its support system. We need more fire-power to blast through the problems confronting us. We need reinforcements. This means new members—people concerned, as you are, about our deteriorating environment and determined to do something about it.

I urge you to take this appeal to heart. If each of you would enlist one new member, think what it would mean. It would double our membership—and our effectiveness! It would bring us that much closer to the hope that you and I share for this land of ours.

Sincerely,
Gilbert F. Stucker

Chairman, Board of Trustees

P.S. To show our appreciation for these valuable new memberships, NPCA is offering an exciting premium for each new member you enlist. From the most beautiful covers of our magazine we have compiled the NPCA Wilderness Portfolio—eight magnificent park scenes, four of which are in breathtaking color and four in dramatic black and white. All are suitable for framing. (For a more detailed description see the April 1976 issue.)

In this issue you will find an envelope for your use in getting a new member for NPCA. You can use it for giving a gift membership (in which case you will receive the portfolio), or you can use it to enlist a new member who pays his or her own dues. (In this case, both of you receive the portfolio—but please cross out the word "gift" where it appears to ensure that both of you receive the premium.)

Yosemite backcountry. NPCA would phase out the grocery and recreational equipment sales and rental as well as gift sales, gas and oil service, auto repair and towing, post office, laundry, and alcoholic beverage sales—all of which MCA would retain.

The Park Service recently announced that due to the large volume of requests from citizens across the country for the workbooks and worksheets and increased time and cost of evaluating the responses, the draft Yosemite Master Plan will not be released until January 1977.

CONCESSIONS

Congress Blasts NPS

Although the highly controversial issues concerning private concessions operating in units of the National Park System are far from being resolved, two committees of Congress recently issued a report containing strong recommendations for the immediate reform of the National Park Service's concessions management policies as well as suggesting a number of necessary changes in the Concessions Policy Act of 1965.

The report, entitled "National Park Service Policies Discourage Competition, Give Concessioners Too Great a Voice in Concessions Management," was issued jointly by the Committee on Government Operations and the Committee on Small Business of the House of Representatives. Two subcommittees of those committees—the Subcommittee on Conservation, Energy and Natural Resources chaired by Representative William S. Moorhead (D-Pa.), and the Subcommittee on Energy and Environment chaired by Representative John Dingell (D-Mich.)—have conducted a year-long study that conclusively demonstrates many points that NPCA has argued for years. Specifically, the report says "that the National Park Service administration of concessions has been inadequate and ineffective; that the concessioners have, in effect, been allowed to do business with little overall control or supervision by the NPS; that concessioners have undue influence over NPS concession management and policies; that concession contracts are vague, ambiguous, and generally do not adequately protect the government's interest; that the 1965 concessions

statute discourages competition for concessions and encourages large corporations to take over an increasing number of concession operations at the more profitable areas of the National Park System, to the detriment of small business; and that the general public is rarely consulted concerning the management of Park Service concessions."

Other specific findings of the report include the following:

- Long-term (ten- to thirty-year) contracts awarded by the Park Service to concessioners with requirements that the concessioners spend substantial sums for visitor facilities, "enable the NPS to obtain visitor accommodations outside the normal congressional appropriations process and with little public scrutiny." Concessioners generally relish the construction requirement because it increases their attraction to park visitors and grants them a possessory interest in any structure or other improvement they make on government land. Should the NPS wish later to remove a particular concessioner operator or its facilities, the NPS would have to pay the existing concessioner a fair market value for his possessory interest. Thus the NPS is often stuck with unsatisfactory concessioners because it cannot afford to buy them out.

- The franchise fees paid to the federal government by the concessioner cannot be increased unless the concessioner agrees to that increase. Thus MCA, the concessioner in Yosemite National Park, pays only 3/4 of 1 percent of gross receipts as franchise fees even though the Park Service has concluded that they should pay double that amount.

- Concessioners have a disproportionate degree of influence in relation to the general public in the preparation of master plans for national parks. As NPCA has pointed out many times in the past, the report also notes that "Some of the facilities and services provided to the public appear to interfere with the Park Service's responsibility to protect the park's natural resources."

- Although the Concessions Policy Act of 1965 grants the concessioner a preferential right for renewal of contracts, this is not a mandatory provision. The report says, "the NPS does

not make even a cursory effort to determine on a case-by-case basis whether 'The public interest requires' a 'one-concessioner park.'" Congressman John Krebs (D-Calif.) characterized the preferential right provisions coupled with the long-term leases granted some concessioners as making the park "the domain" of the concessioner. "Such a [preferential] right should be granted only on a case-by-case basis after an affirmative determination that to do so would be in the public interest." Under the Park Serv-

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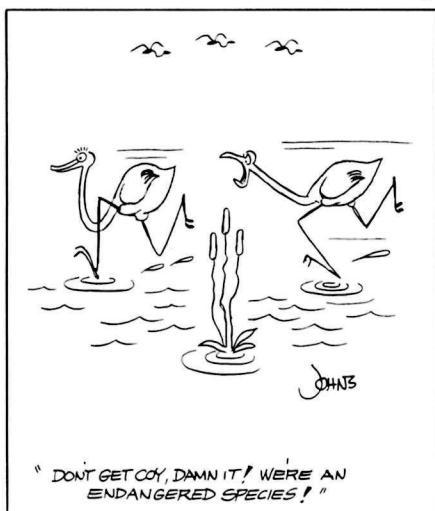
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ice's current interpretation of the Concessions Policy Act, unsatisfactory performance would be the only circumstance under which a concessioner would be terminated or not have his contract renewed upon expiration. However, the Park Service has no procedure for determination of unsatisfactory conduct, and no formal record is kept of complaints and findings regarding concessioner performance. (To provide for public accountability on the part of concessioners an ongoing NPCA suit seeks release of financial data. See February 1976, p. 25.)

The report therefore recommends that "the Secretary of the Interior should promptly publish in the *Federal Register* regulations establishing standards and criteria for annually



evaluating the performance of concessioners operating within the National Park System." At July 1975 hearings on concession management the Park Service testified that regulations concerning contract renewal would be issued by October 1975. However, a revised Park Service schedule delays publication of these regulations until 1978. The report states that this delay is "unreasonable and unacceptable."

In addition to the lack of performance criteria for concessioners, an additional deterrent to competition for a particular concession contract is the ownership of a possessory interest in the park facility. The Interior Department's own concession management task force, in its report to the Secretary, stated that "Ownership of a possessory interest makes impractical the ultimate sanction of a concession contract termination." The report concluded

that "In short, the granting of possessory interests amounts to the sale of a portion of the parklands for the sake of financing visitor facilities, but with the subsequent possibility of inability to properly control and manage for the benefit of the public the facilities thereby constructed." (See October 1975, p. 20.)

The committee report recommends that the possessory interest provision of the Concessions Policy Act be repealed and that instead one alternative means for providing such facilities would be to require the use of appropriated funds for construction or alteration.

Forty-eight concession contracts, the report points out, are for terms of twenty years or more, and none of the concessioners who hold thirty-year contracts fall into the category of small business. The report recommends that "the Secretary of the Interior, prior to approving any contract or renewal thereof which [a] provides a term of more than ten years, or [b] requires a concessioner to expend funds for new visitor facilities or for additions or substantial alterations to existing visitor facilities, should provide for public review, which may include public hearings, of such contract or renewal and state the reasons for such term or expenditure."

Citing the "desperately understaffed" condition of the national parks and especially the inadequate number of NPS concessions management personnel, the committee report recommends, "the Secretary of the Interior should promptly [a] redouble efforts to raise personnel ceilings and obtain additional funds to provide qualified and trained personnel for National Park Service concession management, and, [b] commit to regulation . . . Park Service concession management directives, policies, criteria, and standards for concession operations."

In noting the increasing number of conventions that are being promoted in the national parks by park concessioners, the report states that "the Park Service should not permit conventions or any similar groups meeting to be held in a facility within a national park area at any time unless the NPS is satisfied that they will not prevent the concessioner from accommodating individual visitors." In addition, the re-

port suggests, "the Park Service should consider what advantages accrue to the prime purpose of the park—namely preservation of the natural resources—when visitation is minimized during the off-season."

With regard to the facilities themselves during any part of the year the report states that "it is not always appropriate to locate such facilities within national park areas. . . . Unless carefully designed so as to have minimal visual impact on the environment, restaurants, snack bars, motels, souvenir shops, garages, maintenance facilities, and houses can seriously detract from the scenic splendors which national parks are created to preserve. . . . For these reasons it is logical that the Park Service consider, where appropriate, removing existing concession facilities throughout national parks." With this fact in mind, the report recommended that "the National Park Service should, as part of the master planning process, evaluate the importance of all the facilities at Yosemite National Park and, where appropriate, insist on their relocation or removal. This evaluation should be performed on a regular basis as a part of the master planning process at each park."

NPS PERSONNEL VACANCIES

Another OMB Budget Trick

In yet another attempt by the Office of Management and Budget (OMB) of the Executive Branch to further tighten its hold on the National Park Service, in February the OMB ordered the Park Service director to abolish *all* authorized permanent NPS positions that were unfilled as of December 31, 1975. This means that 1,094 presently unfilled positions are to be removed from the books.

Although no permanent personnel already on the payroll will be cut as a result of this OMB action, individual parks throughout the National Park System will lose vacancies that they happened to be carrying on their rosters at the time of the order. Staff positions ranging from maintenance personnel to park rangers, naturalists, and interpreters will go unfilled, thus decreasing the chances of adequately staffing any individual park up to the level that the park superintendent deems necessary. (*Continued on p. 28.*)



Handy Tips for Park Trips



This list of publications, information guides, and events of interest to park visitors is by no means a "compleat" guide, but NPCA hopes from time to time to present helpful information for planning park vacations. Orders for the publications for which a GPO stock number is indicated should be sent to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Include title, stock number, and full payment by check or money order.



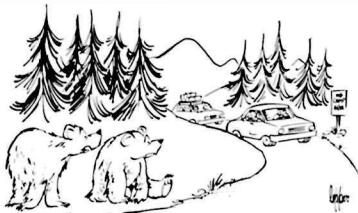
Choosing a Park & Getting There

★ *Index of the National Park System:* Divides the almost 300 units of the National Park System into natural, historical, and recreational areas and for each area gives a brief description of outstanding natural characteristics and history and the superintendent's address. 1975 edition. GPO Stock # 024-005-00612-5. \$1.65.

★ *National Parks of the United States: Map and Guide:* Handy map of the units of the National Park System. Includes a thumbnail reference chart showing whether there is an entrance fee to a given area and indicating the availability of NPS guided tours, various outdoor activities, living history programs, camping, campgrounds and lodging, and other facilities. GPO Stock # 024-005-00546-3. \$75.

★ *Doorway to Adventure: Visit a Lesser-Used Park:* Features, services, facilities, and locations of 132 lesser known park areas offering exciting and more hassle-free vacations. GPO Stock # 024-005-00589-7. \$70.

★ For more description of specific parks, a visit to your local library should uncover a number of commercially published guides to the parks. Or ask NPS for brochures. ★



"If this keeps up, we'll have to move to a lesser-used park!"

Fees & Passports

★ In 1976, 66 National Park System units (out of nearly 300) will charge entrance fees ranging from 50 cents to \$3.00 per person, and some areas also charge recreation use fees of similar amounts.

★ 1976 Golden Eagle Passport: For persons under sixty-two years of age. Good for one calendar year. Costs \$10 and admits the purchaser and all persons traveling with him in a private, noncommercial vehicle to all designated federal entrance fee areas at no charge. Does not cover recreation use fees such as camping fees.

★ Golden Age Passport: Good for lifetime of the permittee. Free to citizens or permanent residents of the United States who are sixty-two years of age or older. Provides the same admission privileges as the Golden Eagle Passport, and also provides a 50 percent discount on camping and other recreation use fees and services. Must be applied for in person.

Both passports may be obtained at the designated fee areas. An information brochure on the passport program listing all federal entrance fee areas and other offices where you can obtain the passport is free from the Bureau of Outdoor Recreation, Department of the Interior, Washington, D.C. 20240. ★

Camping & Backcountry Use

★ *Camping in the National Park System:* Information on camping facilities, fees, camping seasons, limits of stay, reservations, and recreational opportunities available to campers in 99 NPS areas in 1976. Includes both the more developed campgrounds and group camps and backcountry camping. GPO Stock #024-005-00627-3. \$85.

★ Some campgrounds and backcountry areas require advance reservations or backcountry permits. If you are planning to camp in or otherwise use the backcountry, always check in advance to see if a permit is required and whether you should mail in your request ahead of time. Permits, which are necessary to protect some areas from overuse, are free. Check with the superintendent of the park of your choice or the Division of Natural Resources, National Park Service, Washington, D.C. 20240, for more information on regulations, use limitations, and permits.

★ All campgrounds at Grand Canyon and Acadia national parks, Point Reyes National Seashore, and Chickasaw National Recreation Area require advance reservations for 1976. (The latter is a new area joining Platt National Park and Arbuckle National Recreation Area into one unit.) Four campgrounds at Mount McKinley National Park require advance reservations. In addition, many areas also require advance reservations for use of group campsites and hike-in campsites in the backcountry. Reservations can be made by writing to the park superintendent. For reservations at Virgin Islands National Park, write to the park concessioner, Cinnamon Bay Campgrounds, P.O. Box 4930, St. Thomas, V.I. 00801. Although many National Park System units provide individual campsites on a first-come, first-served basis, the Park Service advises you to check with superintendents in advance for the latest information. ★

Lodging

Check with the park superintendent, or the local Chamber of Commerce for information on enjoyable accommodations operated by local business enterprises in locations convenient to the park of your choice. In many National Park System areas, private concessioners provide food and lodging within the park. The Park Service offers a booklet on these concessions: *Visitor Accommodations* is available free from the Office of Public Inquiries, National Park Service, Washington, D.C. 20240. ★

Bicentennial/Bikecentennial

★ *Bicentennial Events:* Schedule of special events, tours, living history programs, lectures, and concerts at more than 100 National Park System areas. Both one-time celebrations and continuous programs during 1976. Free from Park Service Bicentennial Office, Washington, D.C. 20240.

★ *1776: National Park Service Guide to the Historic Places of the American Revolution:* GPO Stock # 2405-00517. \$3.15.

★ *Bikecentennial:* Vacations utilizing a Trans-American Bicycle Trail that traverses 4,500 miles of America's rural heartland including several Park System units. Contact Bikecentennial, Box 1034, Missoula, Montana 59801.

★ *1976 Bicentennial Hike of the Pacific Crest National Scenic Trail:* Participate on relay team in hike of mountain trail that runs from Canada to Mexico across seven national parks and other scenic areas. One to four days in August. Send stamped, self-addressed envelope to Bicentennial Hike, Box 1907, Santa Ana, California 92702. ★

More Tips

For additional information on national parks, including safety tips, write the superintendent of the park of your choice or the Office of Public Inquiries, National Park Service, Washington, D.C. 20240. ★



Although the effects of this budgeting trick by OMB will not immediately be felt, it will mean that before any more positions can be procured for the Park Service, they will have to be completely rejustified to the OMB.

OMB, an office that has acquired increasing powers since its establishment during the Nixon Administration, also recently asserted that Congress does not authorize positions for the National Park Service or other agencies of the government, but that this is a function delegated to the OMB by the President. On the contrary, the House Appropriations Committee, which has initiated a study into the impacts of OMB's personnel ceilings on the Park Service, argues that it is Congress that authorizes and appropriates funds for permanent personnel at the Park Service and other agencies. The conflict has yet to be resolved.

NPCA continues to press for adequate personnel and budget levels for the Park Service. A recent NPCA survey of National Park System units revealed the shocking deterioration of area after area—caused by personnel ceilings imposed on the Park Service by OMB. (See February, March, and April 1976 issues.) A subcommittee of the House Government Operations Committee called hearings as a result of the survey.

PREDATOR CONTROL Success Without Poison

Representatives of two Senators and of seven national conservation organizations including NPCA recently met with Secretary of the Interior Kleppe to urge that he continue the ban on the use of predator poisons such as compound 1080 on public lands.

Recent efforts by the National Woolgrowers Association to have the use of 1080 and other poisons reintroduced on public lands prompted the meeting. Compound 1080 is a particularly harmful poison in that it causes much suffering to its victims and persists in their bodies to kill other animals that eat their carcasses. In addition, poison baits set for coyotes also attract nontarget bears, foxes, bobcats, lynx, cougars, skunks, badgers, domestic dogs and cats, large raptors, swine, and other animals. NPCA objects to lifting the ban for these reasons and because the public interest in wildlife

values certainly should come before the private interests of the woolgrowers using public lands for grazing purposes.

The Animal Damage Control Specialist from the Kansas State Agricultural Extension Service provided information at the meeting about a tremendously successful program for controlling animal damage in the state. Kansas is the only major sheep- and cattle-raising state that has an animal damage control plan utilizing neither poisons nor aerial hunting. Rather, the successful plan relies primarily on improving the husbandry techniques of individual farmers through education



Bobcat

and on removal of individually targeted predators—only when necessary—that are actually causing major problems. This program indicates that poisons aren't necessary.

Furthermore, environmentalists pointed out to Kleppe that there is no evidence to support the effectiveness of a poisoning program. Before the ban on predator poisons on public lands (years when there was extensive poisoning on these lands), there was no significant reduction in losses of livestock. Moreover, there has been no significant increase in livestock losses since the ban.

Kleppe made no commitments to the group during the meeting, though expressing concern and a desire to look further into the matter.

PARK LITTER

Throwaways: Thumbs Down

NPCA recently strongly endorsed proposed EPA solid waste management guidelines for beverage containers. The guidelines would require a deposit of at least five cents on containers sold at federal facilities and would mandate that beverage containers sold or offered for sale at those facilities be sold in returnable containers.

NPCA noted that the control of solid waste litter—especially soft drink bottles and beer cans—in and around commercial facilities of NPS units has presented the National Park Service with a serious cleanup problem at a time when the agency finds itself already short-handed and underfunded. In addition glass fragments from broken bottles or metal pull-tabs from beer cans are hazardous to wildlife and park visitors. NPCA said that there can be no better places than units of the National Park System for beginning a strong national policy of wise resource utilization and energy conservation.

This Association suggested certain amendments to strengthen the guidelines. Currently the proposed guidelines allow the head of each federal agency to determine how to meet the requirements and to justify any non-compliance on the grounds of economic impracticality. NPCA noted that the latter is not defined and that it would be unacceptable unless substantiated by the independent findings of EPA. EPA should make the final determination, after a suitable period of consultation and negotiation.

Furthermore, NPCA said that the definition of a beverage container should be expanded to cover future changes in beverage containers and that the guidelines should ban the use of detachable flip-top or pull-top tabs for beverage cans because they present a safety and litter hazard. NPCA maintains that deposits of less than five cents should be allowed only in areas with specific statutory minimum deposit levels of less than that amount.

The multimillion-dollar beverage container industry will surely be fighting these guidelines. You can help by expressing your support of them to:

Mr. Sheldon Meyers
Deputy Assistant Administrator
Environmental Protection Agency
Washington, D.C. 20460

conservation docket

Toxic Substances: S 3149; HR 7229—By a vote of 60 to 13 on March 26, 1976, the Senate approved and referred to the House of Representatives S 3149, the Toxic Substances Control Act. This bill would provide means for regulating toxic substances including some known carcinogens. It would require a 90-day pre-market notification to EPA for new chemicals and would give citizens greater opportunity for input into toxic substances regulation. The bill's sponsors, Senators John Tunney (D-Calif.) and Warren Magnuson (D-Wash.), said it was designed to cope with chemicals including kepone, vinyl chloride, arsenic, asbestos, and PCBs. In fall 1975 the House Subcommittee on Consumer Protection and Finance reported a similar bill, HR 7229, introduced by Rep. Bob Eckhardt (D-Calif.).

Chickasaw NRA: PL 94-235—On March 20 the President signed into law legislation consolidating Oklahoma's Platt National Park and Arbuckle National Recreation Area plus some connecting land to form a single new NPS unit, the Chickasaw National Recreation Area. HR 4979 had been passed by a voice vote of the Senate after clearing the House. Mineral springs and other natural features will continue to be protected in the new NRA, but there

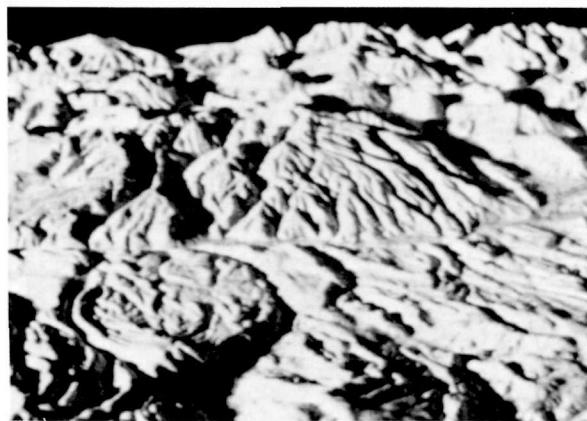
will be increased opportunity for recreation activities in the combined area.

Alpine Lakes: HR 7792—This bill would designate 303,000 acres of land in Washington as immediate wilderness and would later incorporate another 80,000 acres. The bill, introduced by Rep. Lloyd Meeds (D-Wash.), passed the House Interior and Insular Affairs Committee with an amendment by Rep. Keith Sebelius (R-Kans.) that declared it the intent of Congress that the land be acquired through condemnation within five years.

OCS: HR 3981; S 586—The House bill, which passed by a vote of 370-14, would amend the Coastal Zone Management Act to authorize a total of \$1.45 billion over the next five years to assist states to study, plan, manage, and control primary and secondary impacts from outer continental shelf (OCS) oil and gas development and production. The Senate has reported a similar bill, S 586. A major difference in the bills is that the Senate bill provides grants for any adverse impacts from any energy facility in a coastal zone, whereas the House bill would give grant money only to OCS-related facilities. A House-Senate conference will be required to settle the difference. The Administration has expressed opposition to the bills and favors a comprehensive assistance program for all energy-related development, both coastal and inland.

Forestry: HR 11894; S 2926; S 3091; HR 12232—Both the House Agricul-

ture Committee and the Senate Agriculture and Forestry Committee have held hearings on a number of bills to modify forestry practices on U.S. Forest Service lands. HR 11894 and S 2926—introduced by Rep. George Brown (D-Calif.) and Sen. Jennings Randolph (D-W.Va.), respectively—would create the National Forest Timber Management Reform Act of 1976 to promote multiple-use, sustained-yield management practices in national forests. Specific standards would be established such as: requiring a 1,000-foot border that must be maintained between clearcuts for a ten-year period; limiting clearcuts to no more than 25 acres; requiring adequate tree borders along streams; marking trees to be cut and keeping records of trees cut and left standing; restricting cutting and even-age management in eastern mixed hardwood forests; prohibiting cutting of trees that are not dead, mature, or large; prohibiting concentration of sales and harvesting in any one forest; and requiring the planning of sales by specialists who will take into consideration other values such as wildlife, fisheries, and soils. S 3091, introduced by Sen. Hubert Humphrey (D-Minn.), would amend the Forest and Rangeland and Renewable Resources Planning Act of 1974. It would set general goals for the U.S. Forest Service (USFS) to attain. It would give the Secretary of Agriculture two years to promulgate regulations for multiple-use, sustained-yield develop-



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ment using a multidisciplinary approach in compliance with the National Environmental Policy Act. It would repeal the section of the USFS Organic Act that restricts sale of timber to "dead, matured, or large growth trees." HR 12232, introduced by Rep. Robert L. F. Sikes (D-Fla.), is an interim bill that would permit the USFS to continue its traditional timber practices for two years while a Joint Congressional Study Committee makes recommendations for change.

Potomac: HR 1185—Introduced by Representatives Gilbert Gude (R-Md.) and Joseph Fisher (D-Va.), the bill would create the Potomac National River, a corridor of open space along the river from Washington, D.C., to Cumberland, Maryland. States would be given the opportunity to protect the lands along the river by means of zon-

ing; failing such, the Secretary of Interior would be authorized to obtain scenic easements or, where necessary, to buy the land to ensure protection. In addition, the Western Maryland railroad right-of-way that is being abandoned between Hancock and Cumberland would be acquired for use as a hiking and biking trail. The Senate Subcommittee on Parks and Recreation held a related hearing on S 2561, a similar Senate bill. (See December Conservation Docket.) Because strong feelings both for and against the bill were expressed at the hearings, field hearings will be held this spring to permit more local input. Referred to House and Senate Interior committees.

Indiana Dunes: HR 11455—Would add 4,300 acres to the Indiana Dunes National Lakeshore. It increases the amount authorized for acquisition of

land by \$53.5 million to \$89 million and authorizes \$8.5 million for development. The bill also provides for eventual acquisition of all land within the lakeshore. The House has passed the bill, and Senate action is expected soon. Senators Birch Bayh (D-Ind.) and Vance Hartke (D-Ind.) will probably introduce the Senate legislation.

Congaree: HR 11891—This new bill would establish a Congaree Swamp National Preserve in South Carolina. It authorizes the necessary funds and directs the Secretary of Interior to acquire the approximately fifteen-thousand-acre Beidler tract. That tract, which contains some of the best large stands of virgin hardwood trees in the East—including some record-size trees—is currently being heavily logged. Introduced by Rep. Floyd Spence (R-S.C.). Referred to Interior.

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Continued from page 2

WE HAVE NOT YET studied seriously the effects of human density, but only a crude appraisal is necessary to see the trends. In terms of the kind of living standard we and other peoples of this planet would consider desirable at the present time, it is a fair estimate that mankind would be better off at a level of one billion rather than four billion. However, this is almost a visionary thought, because we know that numbers will go on increasing to an unpredictable year in the future, and then they will level off and probably decline.

Will the timing of these changes be dictated by calamity or by the ascendancy of human wisdom? Or is that a fair question? The exploitation of today's earth in an attempt to satisfy four billion people may preclude any reasonable management to supply twice that number in thirty-five more years. Whatever our objective, the job is so big and complex that our best knowledge of earth and life dynamics is not adequate if we need guarantees of the result. If we do not insist on predictability, then we do not deserve the responsibilities we have undertaken to supervise all creation. The crux of the matter is that we are in a great hurry and we are taking chances—a natural course, perhaps, since many of the penalties of error can be put off for a while.

It is true also that resource management errors may accumulate in piecemeal obscurity until they are in full flower as issues of great social significance, after it is almost impossible to handle them. It has been widely recognized that decisions made at the local level are almost exclusively oriented toward local and immediate interests. This is well illustrated by what has happened in the soil conservation movement. The Soil Conservation District is a unit of state government, and it is operated by a local committee. Thus we can have high-sounding national policies relative to watershed management and the conservation of wetlands. But at the local level these can be ignored, and the program of a given district can be directed toward draining headwater marshes, channelizing a natural stream, and building a reservoir to catch the silt. In fact, it frequently works out that way.

Nationally and internationally, by steady attrition, we are losing the habitats of our migratory waterfowl and many other kinds of wildlife. Some of this total loss of wet-

lands—aggregating perhaps 50 million acres—was necessary if we were to have a productive agriculture. A major portion resulted from the momentum of a behavior pattern and the casual assumption that land that cannot be plowed is going to waste.

THE RIGHT OF LANDOWNERS to do almost anything to "their property" is built into our system. Totally unconforming enclaves and long-standing grazing and mining rights in some units of our national park system are an example. Notorious problems of this kind seem to go on forever in Yosemite, Sequoia-Kings Canyon, Organ Pipe, and Death Valley. Congress could change the situation, but they do not.

We have by no means done a perfect job of protecting the small, private landowner from arbitrary bureaucratic action. But on the whole he is better off than the general public. In the face of pressure-group rule and behind-the-scenes lobbying, the public interest has become our forgotten cause.

This needs little proof beyond an examination of how our lobbying laws are rigged. Lobbying for the financial gain of individuals or corporate interests is a business expense and tax deductible. It does not have this status for foundations or organizations of citizens working without compensation to preserve something they think society will need in the future. This issue is long overdue for action in the United States Congress. Citizen organizations should have the right to represent the public interest as they see it and to influence legislation without losing their tax-deductible status. From all indications, this right will be vitally important in decades ahead.

Bringing to bear the crude judgment referred to previously, we can see that the populations of cities do not support themselves. For them to survive, there must be hinterlands near and far that produce food, water, energy, and a great array of materials. There is another value in these hinterlands; they are the open space needed for many kinds of outdoor recreation. . . .

THE GREATEST TRIUMPH of eco-understanding to which we could rise at present would be the simple admission that great areas of the earth and its waters need to be kept in some semblance of the natural condition. This will help ensure the primary processes on which productive stability depends.

After thirty-odd years of protestation by students of human ecology, some of our world leaders are discovering an astounding

truth—that growth cannot be forever. Not in population, not in resource consumption, not in gross national product, not in pollution, not in the erasure of natural environments.

One exception we can make. There is no technical reason why growth in the quality of life for some optimum number of people should have any limits. Among the more sophisticated managers of biology-based natural wealth—soils, waters, forests, grasslands, wildlife—there has been endogenous feeling that when the season has run its course and one brings in the sheaves, he should look behind him at his work. And he should see there some modicum of permanent or long-range improvement in the productive resource.

This is responsible husbandry for the long haul. It must bring to bear the best of technology for the indefinite future. The core of its wisdom is to admit our areas of ignorance, move with caution, and give the natural system a share in keeping our world clean and productive. In all areas of scientific inquiry, we should be studying how to contrive stability out of gone-wild growth.

Our grossest national product is too many people. This does not go on forever, but will we stop it while we have something left? The natural conditions that constitute our margin of safety in clean air, usable water, living soils, vegetation, and animal life—these are the most vulnerable features of the human estate, for they can be whittled away piecemeal while we look the other way.

The pressures against them will be massive and persuasive. Those who understand the facts of life and care about what is ahead must be firm and sure. When the chips are down, they must take an uncompromising stand and say, for us and for those who do not yet speak for themselves, "This we want; this we need; this we are going to keep!"

—Durward L. Allen

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