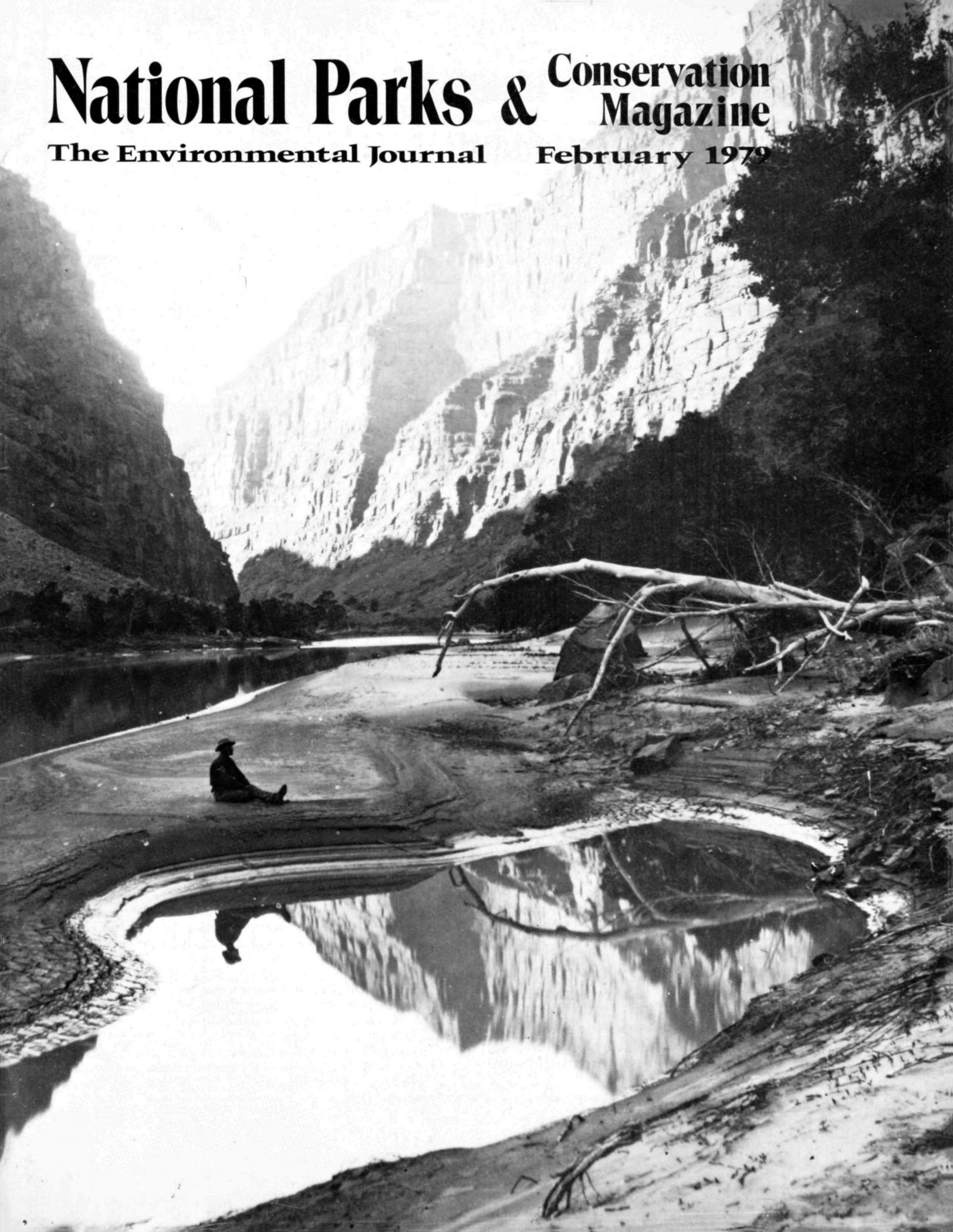


# National Parks & Conservation Magazine

The Environmental Journal

February 1979



# Presidential Stature

**I** THE ASPIRATIONS toward greatness which President Carter voiced after his election may find their fulfillment first of all in the environmental field.

The President's proclamations of December 1, 1978, establishing 56 million acres of national interest lands in Alaska as National Monuments and directing his Cabinet Officers to protect an additional 50 million acres by Secretarial Order may well rank among the great conservation decisions of history.

The Board of Trustees of NPCA was meeting in its semi-annual sessions on the day the President took this momentous action, and adopted a resolution of commendation and support which was published in this Magazine last month.

Without doubt, efforts will be made in Congress to nullify the President's action to protect the interests of the state and nation in Alaska. We are confident that such efforts will meet with the determined resistance of well-organized environmentalists.

No doubt also, attacks will be mounted on the President's decisions in court; here again, we are confident that an able defense can and will be mounted by the environmental movement in support of the President.

We would add that the President's ongoing battle to get harmful water projects under control has not been sufficiently appreciated by environmentalists. Coming forward this year will be Presidential proposals for the reorganization of several Departments, probably including recommendations that the Army Corps of Engineers be stripped of its river basin planning functions and relegated to construction and management.

Setting other possible components of the plans aside for the present, such changes in river basin management should have the wholehearted support of the conservation movement. Their approval would add immensely to the President's stature as a conservationist.

**II** SIGNAL ADVANCES have been made in the preservation of natural conditions in the National Park System since President Carter's inauguration.

An outstanding token of change is the Draft General Management Plan for Yosemite Park which has been the subject of hearings in California and the city of Washington.

The NPCA testified in the sessions in the Park and at Fresno; NPCA members appeared on our behalf in the other meetings on the coast; we testified in Washington.

A significant first step has been proposed in the Plan

to reduce facilities and traffic in Yosemite Valley and elsewhere in Yosemite Park for the benefit of the people who enjoy the Park.

We think that such steps should be carried farther; that public transit should replace the private automobile for transportation from the outlying communities into visitor centers in the Park, and within the Park also, not only in the Valley, but along Tioga Road.

The Service should be commended on this forward step, but should now push ahead, having seen the strength of public support, toward setting up recreational centers under consortium management well outside the parks with franchise-type public transit into the parks. Our testimony, as given in Washington, follows:

I am Anthony Wayne Smith, President and General Counsel, National Parks and Conservation Association, with offices in the city of Washington.

The NPCA will be celebrating its 60th anniversary throughout the coming year, having been founded at the behest of Stephen Tyng Mather, the first Director of the National Park Service on May 20, 1919, to help enlarge and protect the System.

The National Park Service Act of 1916 established the primary purpose of the System as the protection of natural conditions in the parks. Enjoyment was to leave them unimpaired for present and future generations.

Thus the primary test of the suitability of a General Management Plan must be the protection it accords to nature in the park.

As a document providing for such protection, yet also for compatible visitation, the Draft General Management Plan (DGMP) for Yosemite is a vast improvement over previous plans.

We congratulate NPS on this great forward stride toward preservation of the beauty of Yosemite Valley and Yosemite Park for all visitors, present and future.

In their towering majesty, El Capitan and Half Dome rise as altars to natural beauty before which human beings must stand in reverence and awe.

The aqueous trceries of Bridal Veil, Nevada, and Yosemite Falls have a magical power to still the frenetic spirit of modern man.

Toward the preservation of this beauty, unimpaired by construction and traffic, the National Park Service and the conservation movement, indeed all Americans, bear the responsibilities of a solemn trust.

The mindless enemy of the tranquility of Yosemite, indeed any of the great National Parks, is the unregulated private automobile. Congestion, noise, accidents, pollution, pavements everywhere, these are the relentless foes of the human enjoyment of the natural environment.

The NPCA has testified elsewhere, notably at the park itself and at Fresno, California, as to much of the microplanning in the DGMP.

Suffice it now mainly that while we praise the efforts to reduce private automobile traffic in Yosemite Valley, we would go much farther and more quickly.

Free public transit should be substituted for the private car everywhere in the Valley, except for hardship or emergency cases. The freeing up of police, maintenance, and other costs would help to pay the freight.

*Continued on page 31*

# National Parks & Conservation Magazine

The Environmental Journal Vol. 53, No. 2, February 1979  
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- 2 **Presidential Stature**  
*by Anthony Wayne Smith*
- 4 **The Wild Canyon of Lodore**  
*by William L. Graf*
- 10 **Right Whale: Protected But Still In Trouble**  
*by Randall R. Reeves*
- 16 **Aerosol Sprays: A Planetary Time Bomb**  
*by Paul Brodeur*
- 20 **Volunteers On the Appalachian Trail**  
*by Tom Floyd*
- 24 **NPCA at Work**
- 28 **Conservation Docket**
- 29 **NPCA 59 Years Ago**

COVERS Canyon of Lodore, 1871, by E. O. Beaman  
Courtesy of U.S. Geological Survey

*When John Wesley Powell explored the Green and Colorado river systems for a second time in 1871, he was accompanied by E. O. Beaman, a photographer who was the first person to record on film the spectacular scenery of the canyon country. Lined with walls more than three thousand feet high and pierced by the Green River, the Canyon of Lodore in Dinosaur National Monument offers now, as it did then, a pleasant mixture of reflective, peaceful scenery and violent rapids. Current Park Service management efforts in the monument point to greater control of use to preserve the canyon environment. (See page 4.)*

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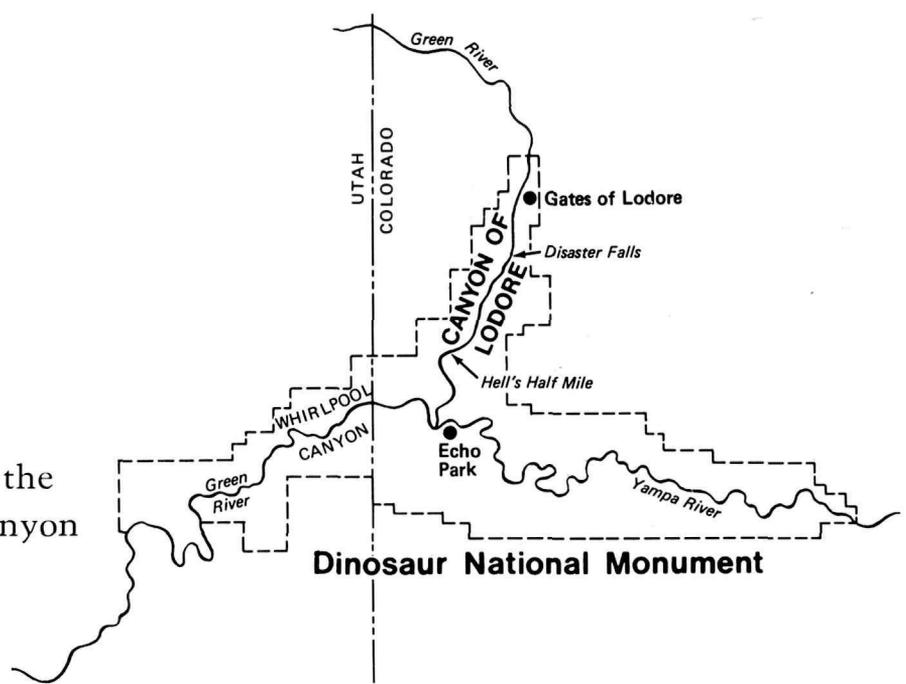
National Parks & Conservation Association, established in 1919 by Stephen Mather, the first Director of the National Park Service, is an independent, private, nonprofit, public service organization, educational and scientific in character. Its responsibilities relate primarily to protecting, promoting, and enlarging the National Park System, in which it endeavors to cooperate with the National Park Service while functioning as a constructive critic. In addition, the Association engages in domestic and international programs involving parks, forests, wildlife, wilderness, recreation, open space, rivers, oceans, pollution, pesticides, ecology, environment, population, transportation, historic and archeological preservation, natural resources, and related or comparable matters. Life memberships are \$750. Annual membership dues, which include a \$7 subscription to National Parks & Conservation Magazine, are \$150 Sustaining, \$75 Supporting, \$30 Contributing, \$22 Cooperating, and \$15 Associate. Student memberships are \$10. Single copies are \$2. Contributions and bequests are needed to carry on our work. Dues in excess of \$7 and contributions are deductible from federal taxable income, and gifts and bequests are deductible for federal gift and estate tax purposes. Mail membership dues, correspondence concerning subscriptions or changes of address, and postmaster notices or undeliverable copies to National Parks & Conservation Association, 1701 Eighteenth Street, NW, Washington, D.C. 20009. When changing address, allow six weeks' advance notice and send address label from latest issue along with new address. Advertising rates are available on request from headquarters in Washington.



GATES OF LODDRE, 1871, COURTESY OF U. S. GEOLOGICAL SURVEY

Regulation of river runners may be the only way to protect a wilderness canyon in Dinosaur National Monument

by WILLIAM L. GRAF



## THE WILD CANYON of LODORE

It was a wild, a fierce, an impressive situation. The unending heavy roar of the tumbling river, the difficulty if not impossibility of turning back even if such a thing had been desired, the equal difficulty if not impossibility of scaling the walls that stood more than 2,000 feet above us, and the general sublimity of the entire surroundings, rendered our position to my mind intensely dramatic.

**S**O FREDERICK DELLENBAUGH, a topographer with Major John Wesley Powell's 1871 exploratory expedition, described one of the rapids of the Green River in northwest Colorado.

Now part of Dinosaur National Monument (Colorado and Utah), these rapids in the Canyon of Lodore present today's river runners with the same thrilling challenges faced by the first explorers of the American West.

But rapids contribute only part of the ambience one experiences in this most dramatic of the four major canyons in the monument, an ambience generated by a combination of the human and the natural history of Lodore.

Not nearly so large as the Grand Canyon—and thus more human in scale—the Canyon of Lodore makes a more direct impact on the

senses precisely for this reason. The vertical walls of dusky red rock, the massive boulders, and the surging river here combine to confront the visitor with an almost frightening sense of challenge.

River travelers often have expressed awareness of these powerful natural forces in Lodore; the journals of early river runners are filled with references to the gloomy nature of the canyon. As explorer Powell pictured the canyon in 1869,

The rocks below are red and brown, set in deep shadows, but above they are buff and vermilion, and stand in the sunshine. The light above, made more brilliant by the bright-tinted rocks, and the shadows below more gloomy by the somber hues of the brown walls, increase the apparent depths of the canyons, and it seems a long way up to the world of sunshine and open sky, and a long way down to the bottom of the canyon glooms.

**T**HE CANYON IS an eighteen mile gash in the eastern flank of the Uinta Mountains. The Uintas are the result of slow but relentless compression of the surface rock layers which have been bowed upward. Their formation began seventy million years ago. Erosion by glacial ice in the upper

parts and by running water throughout has stripped away much material to reveal the bare rock ribs of the range.

Before the final episode of uplift, an ancestor of the Green River flowed over the landscape that later became mountainous. As the rocks were uplifted, the river cut downward by erosion, excavating canyons that became deeper as the mountains became higher. The course of the ancient river was preserved in the twisting course of the subsequent canyon that is still being enlarged. Fed by waters from melting snows in the Wind River Range, the Green River follows the ancient river's course through a series of canyons in eastern Utah to a confluence with the Colorado River in Canyonlands National Park south of Dinosaur.

The interaction of the river and the mountains produces canyons of striking dimensions. Most of the forty-five-mile length of the river in Dinosaur National Monument flows between canyon walls that in some places soar 3,200 feet above water level. Sandstones scored by joints, cracks, and fissures that look like the wrinkles on the face of an old, old man brood over the



PHOTOS BY R. D. GILL

canyon floor that is often wide enough only to accommodate the river. In a few places tributary streams breach the walls to join the Green, and occasionally rockfall chutes descend the precipitous slopes.

The tributaries and chutes carry large boulders into the main channel, where rapids form when the number and size of the boulders exceed the capability of the river to carry them away. The sound of the river singing through the rapids pervades the canyons. If the canyon walls provide this place with its most familiar face, the sound of the rapids provides its most familiar voice.

Although man is an intruder in Canyon of Lodore, other animals are not. Mule deer browse the canyon floors, and a few shy cougars may stalk the dark recesses. Bighorn sheep (descendants of a herd introduced in 1952 to replace a once-abundant population destroyed by a major die-off) roam the area and gaze with interest at passing boaters and hikers. Seemingly ever-present canyon wrens flit among the piñon pine and juniper on the canyon sides, golden eagles

*In a twisting course carved out millenniums ago, the Green River here cuts through the dark red sandstone of northwest Colorado to form the Canyon of Lodore (right). Sheer canyon walls tower two to three thousand feet above the river's edge, casting the somber shadows that led early explorers to call Lodore gloomy and threatening, and to dread the arduous trip down its boulder-strewn course. At left, a heavily laden river runner prepares to portage around one of the many rapids that made the Canyon of Lodore so hazardous for explorers and still justify names like Disaster Falls and Hell's Half Mile. Today's river runners surmount such obstacles with inflatable rafts. The growing popularity of whitewater rafting brings as many as 17,000 visitors a year to Lodore and the other spectacular canyons that wind through Dinosaur National Monument, posing difficult problems for park managers.*

nest on cliffs above the river, and peregrine falcons swoop down from their Echo Park eyrie at the south end of the canyon.

**T**HE FIRST WHITE MEN known to have descended the river through the canyon were members of an exploratory party led by General William H. Ashley of the American Fur Company in 1825. They braved the unknown river in boats built of poles and buffalo hides in the hope of opening up new areas for the fur trade. So hazardous was the journey, however, that the plan was quickly abandoned.

In 1838 a trapper from St. Louis, Denis Julien, made the trip and left his initials in bold block letters half a foot high on the walls of Whirlpool Canyon, just downstream from Lodore. A decade later, in 1849, gold seekers bound for California took a harrowing shortcut through the canyon aboard dugout canoes. But because of the dangers and difficulties encountered on these early trips, the canyon remained a source of myths and half-truths until the late nineteenth century.

Then, in 1869 and 1871, Major John Wesley Powell led two scientific expeditions through the canyon as part of his famous explorations of the Green and Colorado river systems. Traveling in heavy wooden boats, camping and exploring along the river's edge, and making numerous glass plate photographs, Powell and his men provided the first accurate portrait of the Canyon of Lodore.

Powell's party named the canyon after a popular poem of the day, "The Cataract of Lodore," by Romantic poet Robert Southey. Many of the place names in the canyon—such as Disaster Falls, Rippling Brook, Cliff of the Harp, and Hell's Half Mile—reflect experiences vividly described in their subsequent accounts of the journey. Dellenbaugh wrote of Hell's Half Mile, for example,

The entire river for more than half a mile was one sheet of white foam. There was not a quiet spot in the whole distance, and the water plunged and pounded in its fierce descent and sent up a deafening roar. The only way one could be heard was to yell with full lung power.

In spite of such hazards, by the end of the century a hunter and

prospector named Nathaniel Gallo way was running through the Canyon of Lodore almost regularly in search of fur pelts and gold nuggets. Although he found little fur and no gold in the canyon, he did develop a design for lightweight rigid boats so successful that it was used in whitewater rivers until the advent of inflatable rafts half a century later.

During the early decades of the twentieth century riding the rapids in Lodore became a more common though still not a frequent adventure. Julius Stone, a wealthy resident of Columbus, Ohio, made the trip and photographed many areas of the canyon in 1909. Two years later the Kolb brothers, photographers whose studio still stands on the South Rim of the Grand Canyon, mounted an expedition.

Until recently the history of human exploration and adventure in Lodore has blended imperceptibly with the canyon's natural history. The places where Powell's crew camped and surveyed, where Stone and the Kolb brothers photographed, and where many boaters smashed their crafts on hazardous rocks still evoke the canyon's past.

As more and more adventurers ran the river, however, boat design continued to improve until pontoon boats and inflatable rafts ushered in the era of the commercial outfitter following the Second World War.

**U**NFORTUNATELY, so many people now visit Lodore that the qualities of solitude and isolation from the surrounding world so intrinsic to this wilderness canyon are threatened with destruction.

With the rising popularity of river running the canyon that once saw a few people each decade is now visited by several thousand each year. In 1967 about 2,500 people traveled the rivers of Dinosaur National Monument; in 1972, more than 17,000 did so. Since 1972 restricted permits have kept the number slightly below 17,000 and have banned motorized craft. Only a portion of this total travel is through Lodore, but the increase in usage is representative. The rise of this river cult brings into focus a major question facing both Park Service and river users: how can the sense of solitude be preserved



in Dinosaur's river canyons with so many users trying to experience it?

**I**N THE NEAR FUTURE the Park Service will publish a Final Draft River Management Plan for Dinosaur National Monument. Public comment will be solicited before the plan is made final and put into practice. The draft plan addresses problems generated by this vast increase in river users.

Parties of as many as fifty people per trip now run the river and can expect to encounter equally large groups at campsites each night. These congregations of river runners not only shatter the solitude they seek, they have a devastating effect on the surrounding wilderness.

Park Service studies show that the size of individual groups rather than the number of launches per day most affects the canyon's environment. Vegetation around heavily used campsites is destroyed, leaving only hard-packed earth where juniper, sagebrush, and box elder once flourished. The buildup of ash and charcoal from campfires also has an adverse effect on the canyon's ecosystem.

Of primary importance, therefore, is the need for a management policy that will enable as many people as possible to visit Dinosaur's canyons without at the same time impairing the wilderness experience that attracts them.

Such a policy will necessitate some hard choices. Should a moderate limit be placed on total numbers and sizes of groups? Should the canyon be designated as wilderness, with greatly reduced numbers of users? Or should controls go beyond limiting general numbers to limiting the number of launches each day and reducing the use rates of river campsites? Fortunately, the present ban on motors will be maintained regardless of the final management decision.

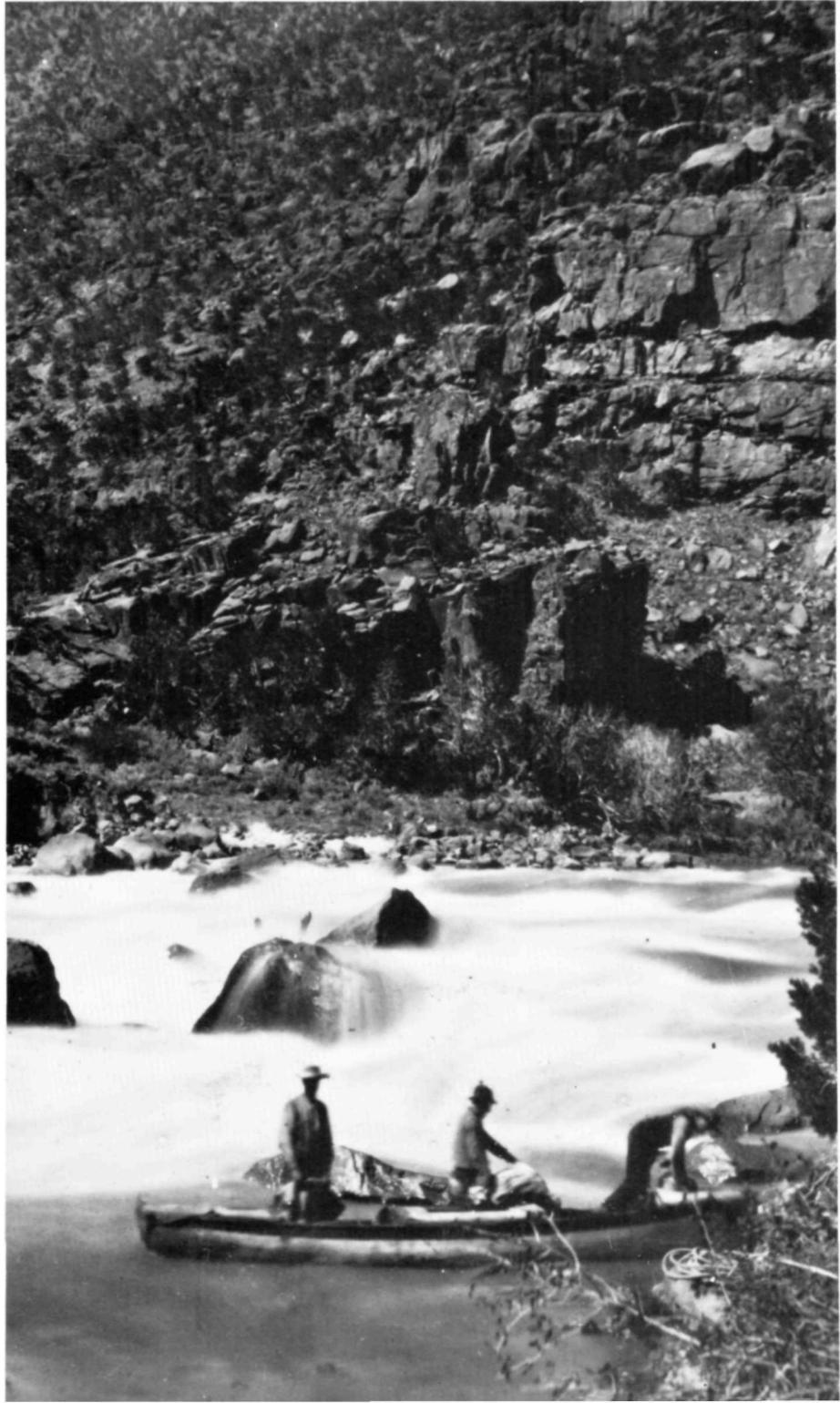
Second, the management of campfires needs to be decided. Possible solutions to the problem range from a relatively lax suggestion that river runners use desig-

nated fireplaces to a stringent requirement that they use firepans and haul out all ashes.

Third, the problem of disposal of human waste must be solved. Although this problem is not yet so severe in the Dinosaur canyons as it is in the Grand Canyon, the prospect of continued heavy use suggests that the present primitive facilities must eventually be replaced by portable toilets and the requirement that all materials be

hauled out from every campsite.

Finally, how can all the users, launch dates, and campsites be scheduled efficiently? In this respect, Lodore is more fortunate than the other canyons in the monument because it has fewer visitors and more potential campsites. Nevertheless, people and time should be scheduled as much as possible to assure that visitors will not encounter excessive numbers of other parties.



Although the choices seem difficult, a visit to the Canyon of Lodore to sample its beauty and solitude dictates some logical answers. The canyon offers a true wilderness experience and should be managed that it continues to do so.

Although most visitors come between mid-May and mid-August, autumn is a spectacular time to visit this part of the Southwest. Extending the season to include the autumn months would com-

pensate in part for reduced river use in the summer.

All waste materials should be hauled out, including campfire ashes and human waste. Experience in the Grand Canyon shows that this practice is possible, and it should be instituted in Dinosaur before further damage occurs.

Campsites should be allocated and the size of river parties limited to protect the wilderness and to ensure that the wilderness experi-

ence does not become an exercise in group dynamics.

**T**HE DECISIONS on these issues by the Park Service and the public will determine the survival of the Canyon of Lodore's integrity and appeal. Americans of the Jeffersonian Era thought that they had a manifest destiny to occupy the land from one ocean to the other. Perhaps the modern version of the idea should be that the land has a manifest destiny that derives from both its natural and its human history. Some parts of the land yield agricultural or mineral wealth; others provide space for everyday living. Certainly, too, some places like the Canyon of Lodore are destined to be preserved as places of grandeur, peace, solitude, and adventure. ■

An environmental scientist in the Department of Geography at Arizona State University, William L. Graf has conducted several research projects to study environmental change in the canyons of the Green and Colorado river systems. He has published many papers on environmental subjects.

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#### Message to Members

#### Save Dinosaur's Wild Canyons

The Park Service's Final Draft River Management Plan setting forth ways to protect Dinosaur's wilderness canyons is expected to be made public in February 1979. NPCA members may obtain a copy by writing the Superintendent, Dinosaur National Monument, P.O. Box 210, Dinosaur, CO 81610. Then send him your written comments expressing support for regulation of river use in the monument. Stress the need for limiting the size of river parties and the number of groups per campsite. Urge that hauling out of ashes and human waste be required and that the visitation season be extended to include the autumn months.

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*Members of Powell's 1871 expedition to the Colorado Plateau check their equipment (left) after successfully running heavy rapids in the Canyon of Lodore. According to their later accounts of the trip, the roar of the rapids was so deafening that the only way to be heard was to "yell with full lung power." In spite of the skill and caution with which they negotiated such rapids, Powell's party more than once lost irreplaceable supplies and equipment to the tumbling river. Now the pressure of constantly increasing river running traffic threatens the solitude of wild canyons like Lodore and the tranquillity and beauty of open areas along the river like Echo Park (above) that once offered welcome respite to Powell and his men after the challenge of the river.*

by RANDALL R. REEVES

Though protected from commercial hunting since 1937, the right whale still has not recovered from centuries of exploitation, and its survival remains in doubt

## RIGHT WHALE: Protected But Still In Trouble

AS THE MAYFLOWER approached the shores of a New World in 1620, the Pilgrims aboard beheld what was for some of them a familiar sight. One noted, "Cape Cod was like to be a place of good fishing; for we saw daily great whales, of the best kind for oil and bone, come close aboard our ship, and, in fair weather, swim and play about us." These, undoubtedly, were right whales, *Eubalaena glacialis*, regarded by European seafaring men as the "right" species to capture because they were easily approached, floated when dead, and yielded a vast quantity of oil and baleen ("whale-bone").

More than three centuries and hundreds of thousands of dead right whales later, an International Convention for the Regulation of Whaling asserted that these were in fact the *wrong* whales to hunt. By 1937, when long overdue protection finally came about, this once abundant and cosmopolitan species was commercially, and very nearly biologically, extinct.

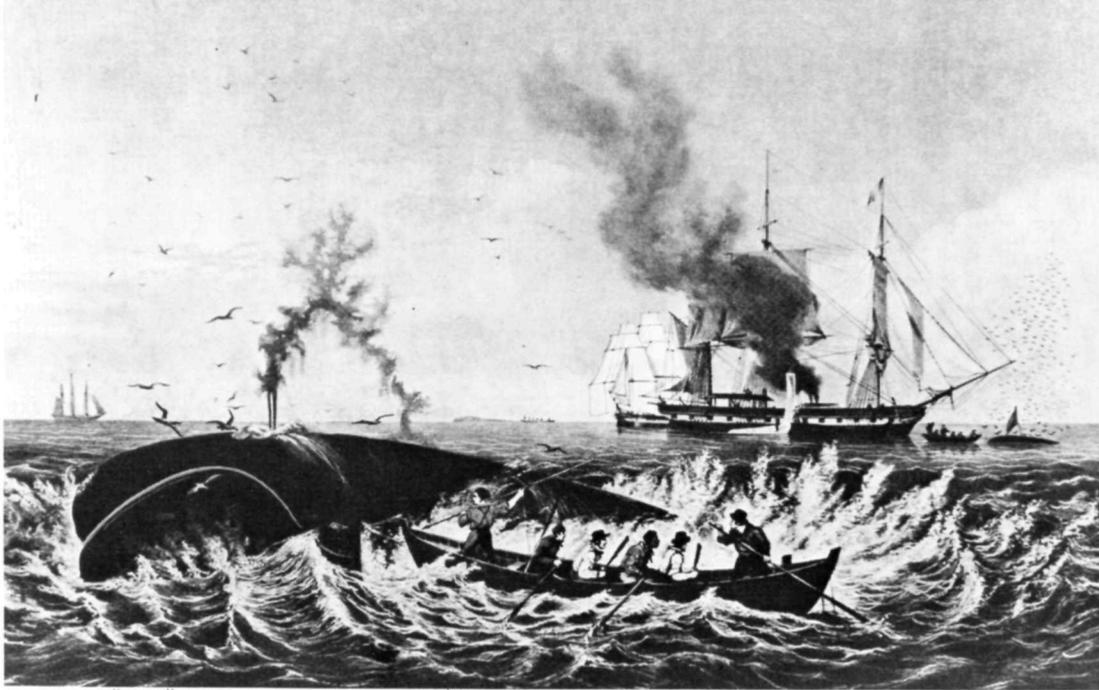
ONLY ONE SPECIES of marine mammal is known to have been exterminated by modern man: the Steller sea cow, *Hydrodamalis gigas*. Its *coup de grâce* was administered by sealers and sea otter hunters who invaded its

last stronghold—the Commander Islands in the southwestern Bering Sea—during the eighteenth century. The Caribbean monk seal (*Monachus tropicalis*) is probably gone, too, thanks to thoughtless overhunting. For most other commercially important marine mammals, some form of protection, often amounting to little more than the unprofitability of continued hunting, intervened in time to prevent their demise and to allow rebuilding of their populations. There are dramatic examples: the sea otter (*Enhydra lutris*), the northern elephant seal (*Mirounga angustirostris*), the gray whale (*Eschrichtius robustus*), and the Guadalupe fur seal (*Arctocephalus townsendi*).

A few species, however, were not so lucky. The right whale, like the Steller sea cow, was an inviting target. Females and their calves cluster around islands or congregate in sheltered bays along continental coasts during winter and spring. Here they are vulnerable to attack with the most primitive equipment. While enroute to summer feeding grounds at higher latitudes, they often keep close to shore, where they can be easily ambushed. Long after the stocks of right whales had been drastically reduced, therefore, their exploitation continued.

Some early settlers between Cape Hatteras and Cape Cod organized their lives around the capture of right whales. By about 1750, however, there were no longer enough whales left to make their regular pursuit worthwhile. Coastal whaling men either took up the high-seas branch of their trade or turned their attention to fishing and farming. Those who stayed home learned to treat whaling as a pastime rather than a profession. Like members of a volunteer fire brigade, they would drop hoe, net, or pitchfork and give chase whenever a spout appeared on the horizon. This rather unorganized and completely fortuitous form of exploitation persisted at Cape Hatteras until 1909 and on Long Island until 1918. So it was that right whales in the western North Atlantic, reduced by the mid-eighteenth century to a pitiful fraction of what they were when the Pilgrims arrived, continued to feel the sting of the harpoon well into the twentieth century.

Elsewhere, similarly battered stocks of right whales continued to be molested "incidentally" in whale fisheries directed at more abundant species. In the North Pacific, for example, no one would have thought to launch an expedition or erect a whaling station after 1900 just for the sake of hunting



ATTACKING A "RIGHT" WHALE, LITHOGRAPH BY CURRIER & IVES, COURTESY OF PEABODY MUSEUM OF SALEM, MASSACHUSETTS

right whales. Nearly all of them had been killed off by then. But there were still plenty of humpbacks (*Megaptera novaeangliae*), sperm whales (*Physeter catodon*), and finner whales (members of the genus *Balaenoptera*) to keep the whaling companies in business. More than eighty right whales were killed in the North Pacific by Japanese, American, and Canadian whalers between 1923 and 1934.

In the Southern Hemisphere, 410 out of 122,000 large whales caught between 1909 and 1927 were rights. Usually no special effort was made to find them. But when right whales were encountered, and when it proved convenient, the whalers continued to take them.

**T**HE RIGHT WHALE is easily distinguished from other cetaceans. To begin with, its back has no fin; among the great whales, only *Eubalaena* and its northern relative, the arctic bowhead (*Balaenamysticetus*), lack this appendage. (The gray whale has a conspicuously serrated dorsal "ridge" in place of a fin.) The flippers are broadly splayed, as if especially suited to slapping. The head is enormous (almost a third of total body length); the mouth, capacious. The lower jaw is strongly bowed to provide room for about 500 slabs (roughly 250 on each side)

of springy black baleen, some of which may be more than two meters (6½ feet) high. Only the bowhead has longer baleen (and a more bowed jaw).

The most diagnostic external feature of the right whale is a series of wart-like growths arranged about the face and on top of the head. The largest one, located on the rostrum in front of the paired blowholes, can be a meter in diameter. Herman Melville (in *Moby Dick*) characterized the "bonnet," as it is called, this way:

If you fix your eye upon this strange, crested comb-like incrustation on the top of the mass—this green (it is often pink or yellowish, actually), barnacled thing, which the Greenlanders call the "crown," and the Southern fishers the "bonnet". . . , you would take the head for the trunk of some huge oak, with a bird's nest in its crotch. At any rate, when you watch those live crabs that nestle here on this bonnet, such an idea will be almost sure to occur to you. . . .

Roger Payne, a research scientist with the New York Zoological Society, recently demonstrated that these excrescences, usually called "callosities," are arranged in a unique manner on each whale, thereby allowing for individual recognition. Each callosity has sparse hairs growing from it.

"Curiously," Payne muses, "right whales' facial hair grows in

the same places that a human's does, and only in those places. The whales appear to have what we call mustaches, as well as eyebrows, beards, and even sideburns!"

Although sometimes called the "black" right whale (apparently to distinguish it from the bowhead, or "Greenland" right whale), *Eubalaena* is not always entirely black. Many individuals have irregular white patches that interrupt their otherwise dark exterior, especially on the belly. Some specimens can be appropriately described as piebald because of such markings.

As is the case with other baleen whales, female rights are larger than males. The absolute maximum length is around eighteen meters (fifty-nine feet), but few grow larger than about fifteen meters (fifty feet). They are extremely fat and may weigh considerably more than fifty tons.

The manner in which right whales attain such impressive bulk is not very subtle. Their long, finely bristled baleen forms an efficient sieve for straining and capturing masses of drifting plankton. Melville compared right whales to "morning mowers, who side by side slowly and seethingly advance their scythes through the long wet grass of marshy meads." They skim along the surface, mouth agape, through "meadows" of tiny

wriggling crustaceans, "leaving behind them endless swaths of blue upon the yellow sea."

When necessary, they feed well below the surface, rising for breath every four to six minutes. There is no evidence that right whales eat fish, unlike humpbacks and several other rorquals. Although they migrate for what we can only assume to be purposes of conserving or acquiring energy, they do not seem to "fast" for long periods; they eat whenever food is available.

**O**NE CONSEQUENCE of the right whale's early depletion is that modern systematists have had little opportunity to evaluate the taxonomic relationships of various stocks. Judging by catch records, the region between 30°N and 30°S represents a vacant tropical belt as far as right whales are concerned. This means there are at least three geographically isolated populations. Unfortunately, not enough specimens were examined and preserved by the whalers to allow a determination of the effect of this isolation on the osteology and anatomy of the three groups.

The International Union for Conservation of Nature (IUCN) lists three separate species in its Red Data Book—the North Atlantic *Eubalaena glacialis*, the North Pacific *E. sieboldii*, and the southern *E. australis*. The U.S. Marine Mammal Commission recognizes two species—the northern *E. glacialis* and the southern *E. australis*. In his recently published list of marine mammals Dale Rice of the National Marine Fisheries Service lumped all right whales into a single species, allowing that the northern and southern forms might deserve recognition as subspecies.

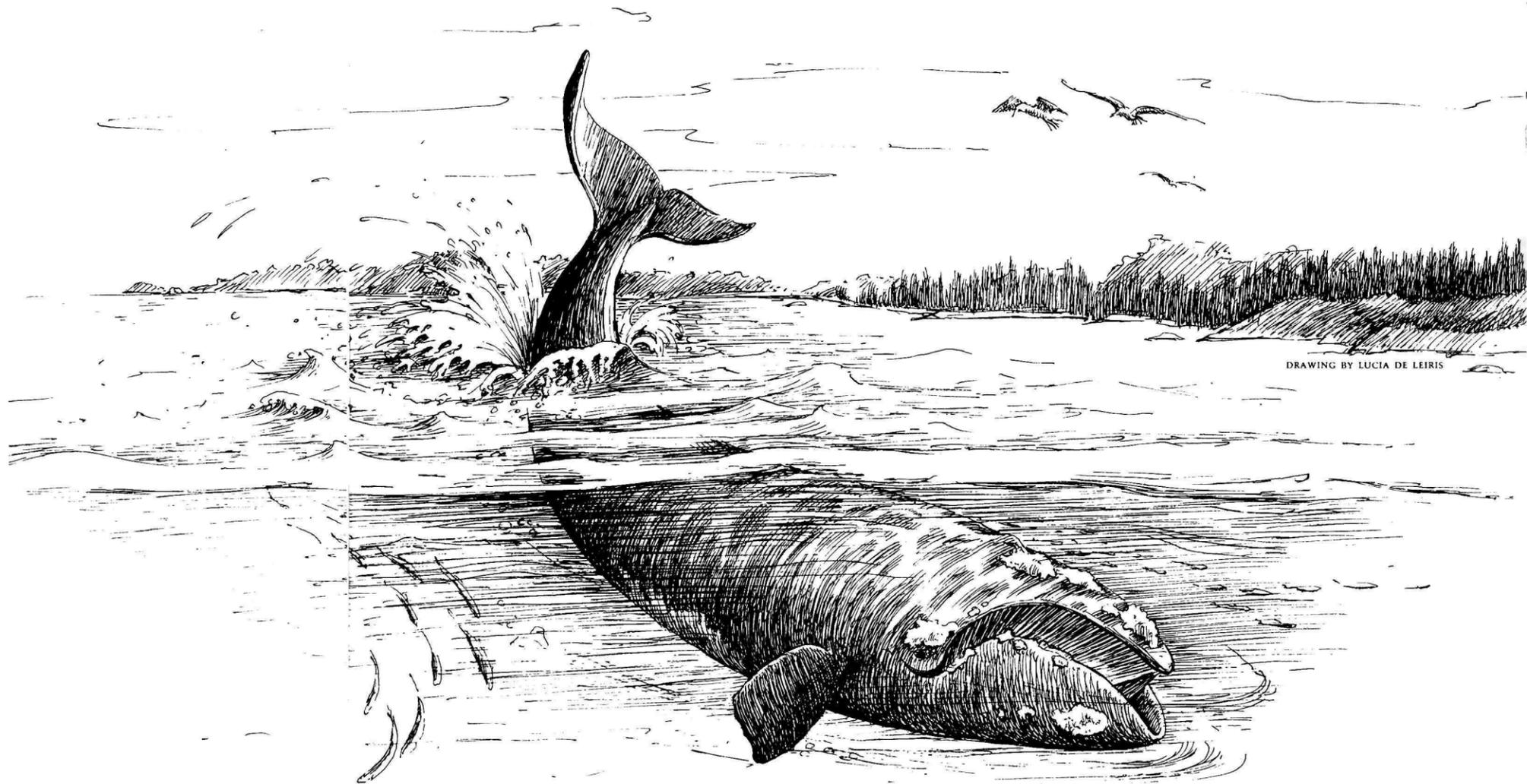
Whatever their interrelationships, there is little argument about the endangered status of all right whales. When they became protected in 1937, there was precious little reason for optimism about their immediate recovery. G. M. Allen of Harvard's Museum

of Comparative Zoology, writing in 1942, believed right whales in the southern oceans to be "reduced to well beyond the danger point," adding, "Whether the species will ever recuperate sufficiently to become commercially important again seems at present doubtful."

Today there are grounds for cautious optimism about the survival of right whales in a few areas, but the possibility of renewed commercial exploitation remains unthinkable. Right whales are still seen in very small numbers around New Zealand and Australia. A recent minimum estimate of the New Zealand population is 130 whales, and the regular appearance of newborn calves near Campbell Island is encouraging. The Australian government initiated a program of aerial surveys for right whales off the west coast in 1976. There is no current information on the species' condition in the eastern South Pacific, but it is believed to be worse than around New Zealand and Australia.

In 1969, members of a research cruise aboard the National Science Foundation's R.V. *Hero* were astonished to find two small bands of right whales in the region of Peninsula Valdez, Argentina. Their discovery prompted other visits to the area, which has since become known as an important winter "nursery" and mating ground for right whales.

Another area still frequented by right whales is that surrounding the islands of Tristan da Cunha in the mid-South Atlantic. Peter Best, a South African cetologist, has been monitoring a small wintering population in the vicinity of Cape of Good Hope since 1969, which he now estimates to number more than 350. Combining his data with sightings by Japanese whaling boats in other parts of the Southern Hemisphere, Best figures there may be several thousand southern right whales, with some groups showing definite signs of expansion at present.



The outlook in the Northern Hemisphere is not so optimistic. On the western side of the North Pacific a few right whales are seen regularly in their old haunts by Japanese and Russian whalers—off Hokkaido, along the Kuriles and Kamchatka, and among the Aleutians. Very recent communications from the Soviet Union indicate that a few tens are still present in the Sea of Okhotsk.

Scattered observations in the eastern North Pacific suggest that right whales are less abundant there than in the west. The majority of observations are of solitary animals. Occasionally pairs, and more rarely trios, are seen. Only a few hundred North Pacific right whales are thought to survive today, and they have given no hint of beginning to rebound.

Interest in marine mammals is high along much of the east coast of North America, and the proba-

bility of right whales that approach shore there being seen and reported is usually good. Conclusions, then, about abundance based on frequency of these reports have to be drawn with much care. For example, Edward Mitchell of the Fisheries Research Board of Canada points out that data gathered a few years ago by whalers would, if taken at face value, give the impression that right whales are fairly common on the whaling grounds for sei whales (*Balaenoptera borealis*) off Nova Scotia. But Mitchell notes that few right whales were seen on a given day. Considering what is known about the behavior of both the whales and the whalers, it is likely that the same individual animals were being seen and reported day after day, thus giving a false impression of abundance.

One thing that can be said with some assurance is that right whales

now occupy much of their former range in the western North Atlantic. They are seen consistently along the east coast of Florida in winter and are very sparsely distributed all the way north to Cape Cod during this season. A strong peak in abundance occurs off Cape Cod in spring, as many as seventy having been seen in one day by Woods Hole scientists William Schevill and William Watkins. Most right whales seem to pass the summer in the Gulf of Maine, the Bay of Fundy, and off the Atlantic coast of Nova Scotia. A recent sighting deep inside the Gulf of St. Lawrence suggests that this former center of right whaling activity may be slowly becoming repopulated at last.

Many people, including myself, believe, perhaps wishfully, that the right whale on this side of the Atlantic is making a painfully slow but steady comeback. There are no

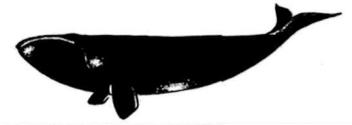
good grounds, however, for contesting Dr. Mitchell's conservative opinion that "the population could number only tens to a few hundred animals. It is apparent that the Northwest Atlantic right whale has not recovered, and there is thus cause for concern regarding its survival as a biological entity."

**T**HIS WESTERN POPULATION may be in trouble, but the European one is in awful shape. It has experienced the most protracted large-scale exploitation of any stock. Basque seamen cut their whaling teeth on the unwary right whale in the Bay of Biscay, possibly as long as a thousand years ago. By the middle of the seventeenth century they had to sail to Iceland and Newfoundland to find whales, having all but eradicated them from the Spanish and French coasts by that time.

As its northern summer grounds



# Reported Sightings of Right Whale, 1935-1978



between Norway and Spitsbergen the eastern North Atlantic right whale was hunted intensively by Norwegian, Dutch, and German whalers, beginning in the sixteenth century. A few dozen were caught as recently as the early part of this century east of Iceland and off the Faeroes, Shetlands, and Hebrides. Since then, the only evidence of the species' continued existence in European waters comes from a probable sighting near Ireland in 1964 and kills made at the Portuguese island of Madeira.

The Madeiran whalers concentrate their efforts on sperm whales, but apparently they are not averse to taking the odd right whale that chances to swim past their station at Caniçal. One was killed in 1959 and two more (mother and calf) in 1967. It is significant to note that Portugal and Spain are the only whaling nations in the North Atlantic not belonging to the International Whaling Commission.

**T**HE RIGHT WHALE'S failure to respond more convincingly to a long period of protection is puzzling. It suggests that subtle biological or environmental factors are working to inhibit population increase. Every species has a "critical" population size, below which its decline to extinction becomes irreversible. Our abiding ignorance of right whale movements, behavior, and life history makes it impossible to guess what its critical level might be; but there is reason to worry that in some areas the species may have been driven very close to its point of no return.

Natural predation seems to be negligible, although killer whales (*Orcinus orca*) probably do, from time to time, attack and kill right whales. Occasionally, right whales become trapped or entangled in fishing gear; this may cause a small amount of mortality. A reduction in food supply due to oceanographic changes, pollution, or competition with other species, may decrease the right whale's productivity. Individuals that visit the

New York Bight are exposed to huge quantities of municipal sewage sludge, acid wastes, and other debris thoughtlessly discarded from the metropolitan area, to say nothing of the tankers and freighters that have become part of the seascape in this and many other formerly important right whale haunts. The degree to which noise, turbidity, and various contaminants affect the suitability of an area for right whale feeding, breeding, or just surviving, is hard to measure.

**W**HAT CAN BE DONE to facilitate the right whale's recovery? Protection from hunting must be maintained for the foreseeable future in all areas, including Madeira. There is no excuse—cultural, nutritional, or economic—for killing right whales today. Doing so should be looked upon as piracy. Captive breeding, translocation, the establishment of reserves—standard tools for restoring other endangered species—are generally not practical for whales. A reserve exists in Argentina, where the Chubut provincial government has set aside Golfo San Jose, which supports the largest known winter concentration of right whales in the world, as a whale sanctuary. But what happens to the whales when they make their seasonal departure from Golfo San Jose? We can't fence the oceans, and right whales are not likely to be mindful of boundaries drawn on a map. No group of right whales that we know of remains year-round within a single country's territorial waters. These whales are international creatures, and their conservation must be an international priority.

It has been said that you don't have to shoot an animal to kill it. Protection of the right whale's habitat must go hand-in-hand with the curtailment of hunting. It is not likely a mere coincidence that the vicinity of Golfo San Jose is one of the least spoiled places on earth. William Conway of the New York

Zoological Society says of it, "There can be few places left where man's hand is so little in evidence, his existence seemingly of so little consequence." Of special concern to people who worry about the right whale's recovery in the Northern Hemisphere is the frantic search for oil on continental shelves and the alarming incidence of major oil spills. In a letter to the Director of the Bureau of Land Management dated December 6, 1976, John Twiss, Executive Director of the Marine Mammal Commission, warned

This species (*Eubalaena*) may be particularly vulnerable to oil spills because it commonly feeds by skimming plankton from the surface as it swims forward open-mouthed. This animal has a tendency to feed along windrows where wind and current have concentrated plankton into a slick which is visible to human observers. Surface oil would also be concentrated in such windrow slicks.

Gray whales off western North America have proven that the "nonconsumptive" (i.e. nonlethal) use of whales as objects of aesthetic appreciation can be of considerable value. On the east coast of North America, where there are no grays, right whales have begun to provide the same kind of inspiration and enjoyment for people lucky enough to see them. Whale-watching tours out of Provincetown are becoming something of a springtime institution on Cape Cod. Their main attraction is the right whales that linger on their way north to summer feeding grounds. New Englanders are once again talking about the "right" whales. But this time they mean the right ones to photograph, to watch, and to enjoy. ■

**Randall R. Reeves is a research collaborator in the Division of Mammals at the Smithsonian Institution. He has done much contract work on marine mammals for the Marine Mammal Commission and the National Fish and Wildlife Laboratory. He is grateful to Stephen Leatherwood for reviewing this manuscript.**

Society's mechanisms for recognizing and dealing with the many problems that beset the environment are inadequate. Perhaps this account of the chance discovery of a potentially disastrous threat to the ozone layer can provide a valuable lesson for the future.

## AEROSOL SPRAYS: A Planetary Time Bomb

by PAUL BRODEUR



**B**ACK IN 1971 it was learned that the chlorofluoromethane gases being used as propellants in aerosol sprays and as coolants in refrigerators and air conditioners had pervaded the entire troposphere—the six-to-ten-mile-high portion of the atmosphere that lies between the earth and the stratosphere. This finding did not occasion any particular alarm, because the chlorofluoromethanes—a class of chlorofluorocarbons (compounds of chlorine, fluorine, and carbon)—were known to be chemically inert. Fortunately for mankind, however, Professor F. Sherwood Rowland, of the Department of Chemistry at the University of California at Irvine, began to wonder where these gases were going and what would become of them.

Rowland pondered the matter off and on for more than a year. Then, in the autumn of 1973, he and a Mexican chemist, Dr. Mario J. Molina, set out upon the trail of the chlorofluoromethanes, never suspecting that it would lead them to contemplate the possibility of a catastrophe for life on earth.

To begin with, Rowland knew that chlorofluoromethanes, like all molecular gases, could be decomposed by ultraviolet light from the sun. He also knew that such decomposition could take place only high in the stratosphere—more than twenty miles above the surface of the earth. Below that, almost all shortwave-length ultraviolet

light is absorbed by a fragile layer of ozone—a gas formed by the action of sunlight on oxygen—which helps make life on earth possible by shielding the planet from harmful solar radiation.

Rowland reasoned that chlorofluoromethanes, because of their relative insolubility in water, could not be removed by rainfall and, because of their chemical inertness, could not be broken down rapidly by any other known mechanisms in the troposphere. This reasoning led him to presume that the several million tons of the stuff estimated to be floating about in the troposphere would rise slowly into the stratosphere, where it would be broken down by ultraviolet light.

Knowing that such a process would result in the release of chlorine atoms, Rowland set about to determine its chemical consequences. He discovered that a single atom of chlorine could initiate an extensive and complex chain reaction that would result in the destruction of tens of thousands of molecules of ozone. He then calculated that the amount of chlorine released from the decomposition of the chlorofluoromethane gases in the stratosphere would eventually destroy ozone faster than it would be replenished. Finally, he came to the frightening conclusion that if chlorofluoromethane aerosol propellants continued to be used at present rates, chlorine might one day take over chemical control of the strato-

sphere, with consequences that could conceivably disrupt, if not destroy, the biological systems of the earth. In effect he had discovered a planetary time bomb.

**I**N JUNE 1974 Rowland and Molina published their findings in *Nature*. In September 1974 Rowland told a meeting of the American Chemical Society that if chlorofluoromethane production continued to grow at the present rate, the resulting decrease of ozone and increase of ultraviolet light would one day cause a significant rise in the incidence of skin cancer around the world. He also warned that ozone depletion could cause other serious biological consequences, such as genetic mutations and crop damage, and might even cause changes in the world's weather patterns. Not surprisingly, he urged that chlorofluoromethanes be banned.

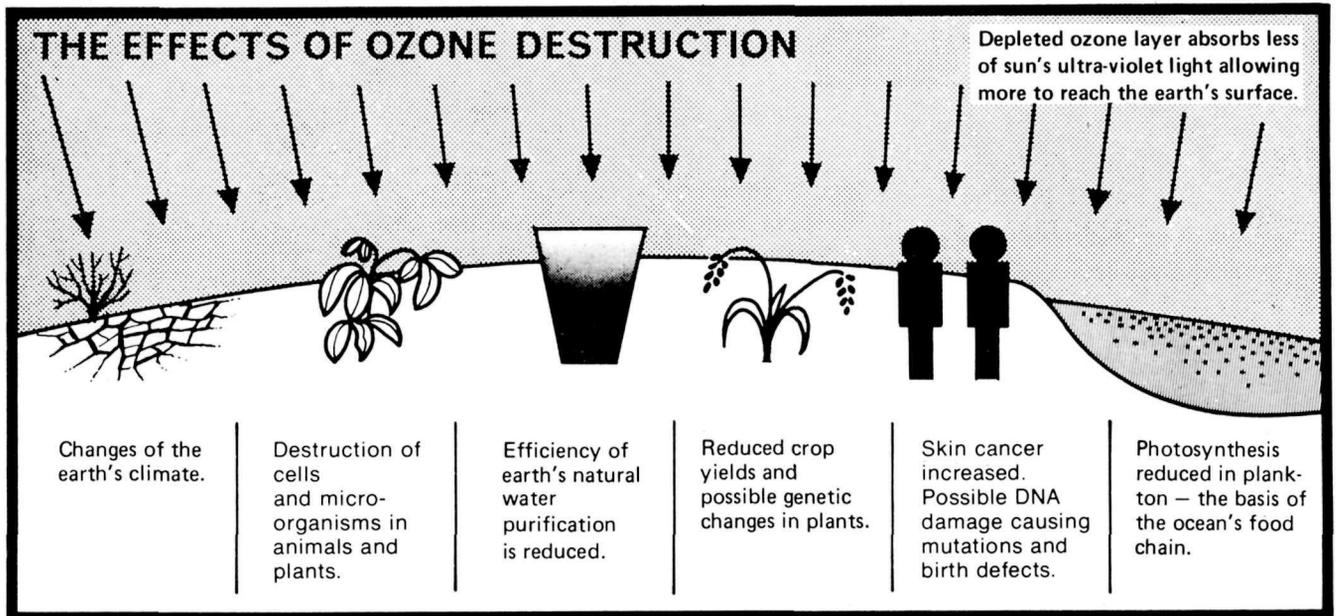
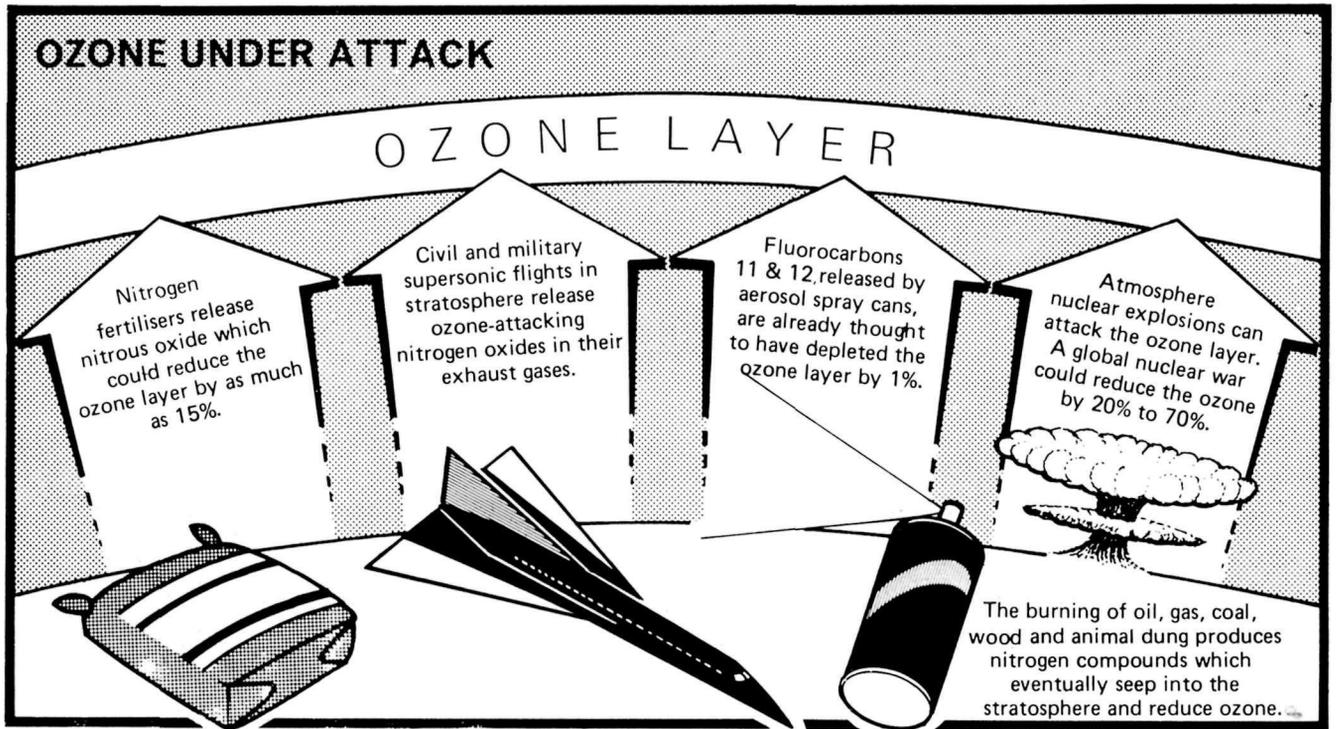
During the next two years, Rowland's theory of ozone depletion was bitterly attacked by the chemical industry in the United States and around the world. It was also exhaustively studied by a number of governmental and scientific organizations and committees. For the most part, the result of these studies served to confirm Rowland's original theory. In June 1975 a task force made up of representatives from fourteen agencies of the U.S. government concluded that unless new scientific data were found to remove the cause for



UNIVERSITY OF CALIFORNIA (IRVINE)

University of California (Irvine) researchers Dr. F. S. Rowland, professor of chemistry, left, and Dr. Mario J. Molina, assistant professor of chemistry, use a gas handling line to determine the composition of a sample of stratospheric air. The two UCI chemists first predicted in 1974 that increasing concentrations of manmade fluorocarbon gases used in many types of aerosol sprays and refrigeration units will, by catalyzing the destruction of ozone gas, greatly reduce the stratosphere's ability to filter harmful ultraviolet radiation from sunlight. More and more countries are concerned about this danger and are controlling emissions, but even more countries should be taking such action.

# The Threat to Ozone



PETER SULLIVAN, SUNDAY TIMES (LONDON)

concern about chlorofluoromethanes, their release into the environment should be restricted. As things turned out, no such evidence was forthcoming. Indeed, after deliberating for more than a year, the Panel of Atmospheric Chemistry of the National Academy of Sciences issued a report stating that "all the evidence we examine indicates that long-term release of chlorofluoromethanes at present rates will cause an appreciable reduction in the amount of atmospheric ozone."

Additional support for Rowland's theory came in November 1976, when the Canadian government's Atmospheric Environment Service issued a report on the problem stating that "the scientific evidence is sufficiently strong to warrant the government making a decision on regulation at this time." The report was soon followed by an announcement that the aerosol industry in Canada had voluntarily agreed to cut the use of chlorofluoromethanes in aerosol sprays in half during 1977, and to phase it out altogether during 1978.

In March 1977 an international conference organized by the United Nations Environment Programme identified chlorofluoromethanes as posing a far more immediate threat to the ozone layer than either the nitrogen-oxide emissions from supersonic transports, or the nitrous oxides that may be produced by the widespread use of nitrogen fertilizers.

During 1978 both the National Academy of Sciences and the U.N. World Meteorological Organization warned that better measurements of some important rates of chemical reaction have caused more ominous revision in the estimated ozone losses. The newer estimates are for two to three times as much ozone loss as calculated by the NAS in 1976.

**T**ODAY, nearly five years after Rowland published his findings, and four and a half years after he urged that chlorofluoromethanes be banned, the federal government finally has prohibited the use of certain chlorofluorocarbons as

propellants in self-pressurized containers—except for specified essential uses.

In a joint action by the Environmental Protection Agency (EPA), the Food and Drug Administration, and the Consumer Products Safety Commission, the government banned manufacture of fluorocarbon gases in bulk as of October 15, 1978; manufacture of spray products containing fluorocarbons as of December 15, 1978; and interstate shipment of existing stocks of these products as of April 15, 1979. Stocks still remaining on shelves after the latter date can be sold until depleted.

Certain uses of these propellants considered essential are exempted, however; and nonpropellant uses, such as in refrigeration and air-conditioning, are not covered in these regulations. Studies are underway, though, on ways to achieve further reductions in emissions.

The U.S. ban, however, will solve only part of the problem. According to Barbara Blum, deputy administrator of the EPA, "This move by the United States should decrease total world usage of CFCs by 25 percent. If no action is taken by those remaining countries which manufacture, process, and use CFCs as aerosol propellants, this reduction will be offset by a projected increase in total worldwide emissions by 1985."

According to the EPA, Sweden will begin stopping the use of fluorocarbons in aerosols on June 30, 1979. Canada has brought about a voluntary reduction of these gases in spray products and is developing a regulatory program. Germany's industry, too, has agreed to voluntarily curtail its use of these gases. The Netherlands requires that aerosols containing fluorocarbons be so labeled.

An international meeting on fluorocarbon controls in Munich, West Germany, early in December 1978, however, failed to elicit any firm commitments to further reductions by other countries, although the conference passed a resolution that all countries should significantly reduce their chloro-

fluorocarbon emissions. The meeting was attended by the United States, Australia, and the western European nations; the Soviet Union and Japan failed to attend. England and France are skeptical of danger from fluorocarbons, but Scandinavian countries and The Netherlands are considering instituting controls. Altogether, "wait and see" was the prevailing attitude at the conference, and much hinges on a new report on the effects of chlorofluorocarbons by the National Academy of Sciences expected in 1979.

**A**S FOR Professor Rowland, he is a patient giant of a man with a passion for opera who has spent much of his time these past five years tirelessly describing the scientific background of the ozone problem at congressional hearings, before state legislative committees, for various federal and state regulatory agencies, and at international meetings. Now that his theory of ozone depletion by chlorofluoromethanes has finally been vindicated, how does he feel? "The fact that there has been this much delay in regulating a hazardous chemical whose major use is basically superfluous raises a serious question," he says. "How will society react to a major environmental problem caused by a more essential compound?" ■

Paul Brodeur has been a writer on the staff of the *New Yorker* for twenty years. In 1973 his five-part series of articles entitled "Annals of Industry: Casualties of the Workplace" won Columbia University's National Magazine Award for reporting excellence. His article on the aerosol threat won the 1975 Science Writing Award from the American Association for the Advancement of Science. In 1976 the *New Yorker* published his two-part series on the health hazards of microwaves, which has been widely acclaimed in the United States. The article on aerosols published here was released as part of the 1977 State of the World Environment Report, issued by the U.N. Environment Programme in Nairobi, Kenya; it has been updated by NPCA editors.

Since 1921 the Appalachian Trail has been built and maintained largely by dedicated and hardworking volunteers

## Volunteers On the Appalachian Trail

**A** PASSING HIKER might well have pitied what seemed to be a prison gang digging on a hillside in Virginia's Blue Ridge Mountains that bitter February day. But with seventeen inches of snow on the ground and the temperature well below freezing, there were no hikers. Happily, there were no prisoners, either. The work gang was in fact a group of volunteers from the Potomac Appalachian Trail Club, Washington, D.C., hard at work restoring damage caused by a herd of cattle that had gotten loose on the trail several months before.

Anyone familiar with the PATC would not have been surprised that sixteen volunteers had turned up on that February weekend. Its members had already clocked nearly twelve thousand hours during the previous year in their determined effort to reverse the damaging effects of erosion and heavy use on nearly 700 miles of trailways.

Work crews from the PATC go out every weekend of the year, regardless of the weather. Usually they go to the Appalachian Trail, where the club maintains 231 miles of the footway in Pennsylvania, Maryland, West Virginia, and Virginia. PATC is one of several volunteer organizations that have responsibility for maintaining assigned sections of the Appalachian Trail. All the clubs are

members of the Appalachian Trail Conference, headquartered in Harpers Ferry, West Virginia.

**T**HE APPALACHIAN TRAIL began as a volunteer work project in 1922, when a group of Boy Scouts cleared the first mile of the now-famous pathway at Bear Mountain in New York State. The original concept for the trail had come from Benton MacKaye, a forester, design engineer, and naturalist from Shirley Center, Massachusetts. MacKaye envisioned an "endless" wilderness trail, where people could renew their link to the wild spaces and revive the spirit of the early American pioneers. As early as 1904, MacKaye had tried to promote the idea of the trail, but the time was not right, and no one listened.

Not until October 1921, when MacKaye described his dream in the *Journal of the American Institute of Architects*, did the idea catch fire. In an article on regional planning, he enunciated his philosophy that there should be some means for people from the cities to experience a primeval environment. He recommended a hiking trail from Maine to Georgia along the backbone of the Appalachian Mountains.

"When people saw that article, they wanted to go," according to trail historian Les Holmes. "Planners picked up on the idea, and

they set to work organizing volunteers up and down the eastern states."

**A**S TODAY'S MEMBERS of the Potomac Appalachian Trail Club know, there is more to creating a new trail than simply establishing it. In the past few years, they have opened more than a hundred miles of new trails in locations ranging from urban parks to remote wilderness areas, and they are planning two hundred miles more. They are also finding new woodland routes for long sections of the Appalachian Trail that are now on roads as a result of closings of portions of the trail in recent years. Club members spend a lot of their vacation time going through land records at county courthouses; and on weekends they scout the mountains and rural valleys, talking to landowners and selecting routes for the new trails.

Most of the landowners are interested in trails and want to cooperate. In fact, about 85 percent of those asked have given permission for a new alternate trail route in Virginia and West Virginia, known as the Big Blue Trail, to cross their lands. Several of the landowners have joined the club, and some have even approached their neighbors on behalf of the trail. A number of farmers have served meals to volunteer work crews and given them beds for the night.

by TOM FLOYD

But not all the local people are that friendly. PATC's Ralph Morris tells of a gun-toting man who threatened the work crews and even called out the state police when the trail supervisor mistakenly routed fifteen feet of the trail across an unmarked corner of his land. "What the state police didn't know was that we had three off-duty police officers on our side too, working as volunteers building the trail," Morris added.

Most of the original trail, too, had to be built on private land, which meant obtaining agreements from hundreds of landowners. The early volunteers were blessed with luck from the beginning, however, because these landowners were mountain people who, for the most part, willingly extended their traditional neighborliness to include the trail.

It was to take fifteen years of hard work to build the 2,000-mile trail; but the volunteers persisted, clearing and blazing the new trail across fourteen states. Finally, on August 15, 1937, they completed the last mile of the Appalachian Trail on Sugarloaf Mountain in Maine.

**F**ROM THE BEGINNING, parts of the Appalachian Trail have crossed federal lands owned by the U.S. Forest Service. The federal government became fully involved only in the late 1960s,



RICHARD BRAATEN

*Volunteers of the Potomac Appalachian Trail Club logged more than 12,000 hours in 1978 maintaining 700 miles of foot trails, including a 231-mile part of the Appalachian Trail which runs from Maine to Georgia.*

however, when Congress made the Appalachian Trail a national scenic trail and authorized the National Park Service to acquire land to protect the trail corridor. At the same time state governments were given the option to acquire and manage the trail, but only Maryland and New Jersey have taken on the job of protecting the corridor without federal assistance.

Even so, more than 800 miles of the trail are still unprotected. The trail people don't like that, and neither does the U.S. Congress. Early in 1978 Congress passed a bill authorizing \$90 million for land acquisition. The House of Representatives passed the bill 409 to 12, and the Senate passed it by a voice vote. The actual appropriation requires separate approval by Congress, and supporters are counting on getting the funds in time to acquire the entire trail within three years. So far Congress has appropriated \$14.6 million. PATC's Ed Garvey and Ruth Blackburn have spent much of their time visiting congressional offices to promote the funding. Hank Lautz, executive director of the Appalachian Trail Conference, has been the volunteers' key spokesman pushing the appropriation.

The Park Service's Appalachian Trail Project Manager, Dave Richie, and a team of land specialists are completing plans to acquire parts of the corridor. The remain-

ing purchases will have to await further appropriations. The width and shape of the trail zone will vary, depending upon the terrain and geology; the location of viewing points, springs, and camping areas; the desires of landowners; and the potential for development in each area. What some people foresee is a series of large chunks of land connected by narrower stretches. The job will be formidable, involving the purchase of some 1,700 parcels or easements.

Richie is also concerned about the condition of the trail and the quality of the physical and biological community through which the footway passes. He and Hank Lautz are coordinating several planning projects to assess the condition of the footway and its carrying capacity and to develop strategies to preserve the natural resources adjacent to the trail. Club volunteers are undertaking several research projects to test various trail designs, construction techniques, and maintenance standards for the footway and to assess the impact of various hiker activities on different types and sizes of trail land.

**L**EGALLY, responsibility for the trail now rests with the Department of the Interior, parent organization of the National Park Service. The decisionmaking process within the department is coordinated by the Appalachian

National Scenic Trail Advisory Council. One of the tasks facing the Council is to develop a recommendation defining more precisely the relationship of the National Park Service to the states and the associated clubs. These relationships eventually will be spelled out in formal management agreements.

In spite of state and federal involvement in the administration of the trail, volunteer organizations like the PATC will continue to do almost all the maintenance work, and they would have it no other way. If ever there was a trail that belonged to the people, it is the Appalachian National Scenic Trail.

One clue to the active role volunteers still play in this national trail lies in the management skill of Dave Richie, who is keenly aware of the long tradition of volunteer participation, today stronger than ever. "We're trying to find an effective arrangement that will keep the volunteers in the equation," Richie said.

Richie's job is not easy, considering that the Park Service must share its responsibility with several state governments, a host of landowning government agencies, the Appalachian Trail Conference, and individual volunteer clubs.

"The key word is partnership," Richie said. "We're seeking a unique relationship among the states, the Conference, the clubs, and the federal government. We would hope that neither the Park Service nor any other organization will attempt to impose its will on others, but at the same time we would not expect any of the parties to be subordinate."

**A**T THE START of that cold February workday at Watercup Creek, everyone had gathered around the trail foreman while he demonstrated the use of tools.

"This is a pick-mattock. It's the standard trail tool. It has one end that's pointed and one end that's broad like a hoe. It's different from a regular pick, which is pointed on



TOM FLOYD

*PATC members combine camping and good fellowship with invigorating outdoor labor year-round to help maintain the national trail. Under a new law, the National Park Service will help state governments in acquiring 1,700 parcels of land to protect the trail from private development, but volunteers from several clubs along its 2,000-mile length will continue to do almost all the maintenance work.*

both ends and is no good on the trail."

Then the foreman scraped away some snow and for the next ten minutes worked the earth like a sculptor. He used both ends, the sides, and the handle of the pick-mattock to dig, chop, scrape, excavate, beat down, fill in, smooth out, measure, and dress up a trail shoulder.

When everyone was ready to start, Randy Saliga of Alexandria, Virginia, a high school senior who had donned a ten-gallon hat, marked a line in the snow for the trail. "Okay," he explained, "we follow that line. Don't touch anything above that line."

The others obeyed, including adults twice Randy's age. Some took shovels to break through the snow. Others dug out a trench in the earth and loosened the soil and rocks. Then a dress-up crew came through to smooth out the new trail, shore up the sides with large rocks, and build water-diversion channels.

Behind the dress-up crew came an excited field mouse, which bit

and nibbled on the freshly exposed root stems. The mouse scampered back and forth for hours between the trail and its den in a fallen tree.

Later, as the shadows of trees lengthened across the snow, the trail crews hiked to two primitive cabins to chop wood for the cook-stove and make ready for the night. For dinner the cook brewed chili and beans spiced with extra hot sauce and peppers and served up the meal with rich mountain-made wine. The weary trail gang feasted, drank, and talked of trails and mountains and friends.

Before the first light of dawn next morning, the cook was stoking up the fire and putting on the coffee. After a breakfast of eggs, bacon, and hot biscuits, eaten by the light of a kerosene lantern, the trail builders were hard at work again, breaking through snow and a three-inch layer of ice and frozen dirt to extend the new footway. A new day on the Appalachian Trail had begun.

**R**EADERS who would like to volunteer for work on the Appalachian Trail can do so simply by getting in touch with a local member club of the Appalachian Trail Conference. For information about clubs in your area, write to the Appalachian Trail Conference, Box 236, Harpers Ferry, WV 25425. Anyone planning a trip to Washington, D.C., is welcome to spend a weekend working with one of the trail crews of the PATC. Write to the Supervisor of Trails, PATC, 1718 N Street, N.W., Washington, D.C. 20036. Please note that no one should attempt to work on the trail except under the auspices of an authorized local club. ■

**Tom Floyd is supervisor of trails for the Potomac Appalachian Trail Club. His work has been published in *Potomac Appalachian Magazine*, *Trailways News*, and the book *Ways to Play* (Roda Press, 1978). Tom is now writing a book describing his adventures when he hiked the full length of the Grand Canyon.**

## ALASKA D-2

### Congress Gets Second Last Great First Chance in Alaska

President Carter's historic move creating seventeen new national monuments in Alaska has given the Congress a second "last great first chance."

After the 95th Congress defaulted on passing Alaska wildlands legislation in its final days, the Administration acted decisively to protect more than 100 million acres on our last wilderness frontier. Carter thus ensured that the public's representatives in Congress—rather than private development interests—could decide the fate of these lands.

Already state and development interests had been moving to claim, stake out, or put some of the public lands into legal limbo—and thus disrupt the complete ecosystems planned in park and refuge proposals before the Congress. Recognizing the problems caused by setting aside only incomplete watersheds and wildlife habitats in the Lower Forty-Eight states, the Carter Administration wanted to ensure that we could do it right the first time in Alaska. But now Congress must follow through to complete the job.

The Administration action will make the 1979 Alaska congressional campaign a whole new ball game; now the burden of proof is on special interests that want to develop these public lands rather than on the conservationists who want to protect them. On December 1, 1978, the NPCA Board of

Trustees applauded the President's action in a resolution passed immediately after the announcement of the proclamations earlier that day. (See January issue, p. 29.) Here is the solid foundation that the Congress will have to act upon:

- The President signed seventeen proclamations under the Antiquities Act of 1906 designating seventeen new national monuments for a total of 56 million acres. Presidents often have used the Antiquities Act during the past seventy-two years. Glacier Bay and Katmai national monuments in Alaska as well as Grand Canyon, Death Valley, Grand Teton, and many other park units originally were established under this authority, which gives the areas permanent protection unless Congress makes changes. The monuments include the thirteen national parks contained in Carter's Alaska legislative package sent to Congress in mid-1977, two proposed wildlife refuges, and two proposed forest wilderness areas. (See descriptions on page 24.)

- The President approved action by Interior Secretary Cecil Andrus to proceed with designating an additional 40 million acres of national wildlife refuges in twelve areas under the authority of the Bureau of Land Management organic act. These withdrawals also will afford permanent protection, in that only an act of Congress can change

their status once established. Included are refuges in the Arctic Range, Copper River, Innoko, Kanuti, Kenai Range, Koyukuk, Nowitna, Selawik, Tetlin, Togiak, Yukon Delta, and Alaska Marine areas. The process of establishing them (involving an impact statement) was incomplete at press time.

- Secretary of Agriculture Bob Bergland also signed an order under the BLM organic act to set aside for two years 11 million acres in the Tongass and Chugach national forests of southeast Alaska. (Some 3.3 million acres of this area—located in the Misty Fjords area and on Admiralty Island in the Tongass—are also included in the total acreage figure of the national monuments established by the President. The secretarial order gives these two areas additional protection.)

Included within the new monuments are the nation's largest unpolluted river valley, portions of the nation's highest peak, the nation's largest group of peaks over 15,000 feet high, the place where man first entered the New World, an archeological record of man's past in the Arctic going back at least 4,000 years, prime habitat for Alaska brown bears—the world's largest carnivores, nesting sites for millions of waterfowl that return each fall to each of the Lower Forty-Eight states, and the nation's largest remaining virgin forest.

*Continued on page 25*



IRA N. GABRIELSON, FWS

*President Carter's December 1, 1978, proclamations gave permanent protection to seventeen new national monuments in Alaska—doubling the size of the park system and protecting some of the lands that support wildlife such as our nation's last truly large populations of wolves. Carter stated that he "felt it imperative to protect all of these lands and preserve for Congress an unhampered opportunity to act next year." As the new Congress considers the Alaska lands issue, NPCA is working to defend the new monuments from any legislative incursions; to restore areas left out of monuments such as Lake Clark, Wrangells, and Noatak; and to support creation of additional wildlife refuges, wilderness areas, and wild and scenic rivers.*

## NEW NATIONAL MONUMENTS IN ALASKA

(Proclaimed by President Jimmy Carter on December 1, 1978)

### **Monuments under the Park Service**

(References to past issues indicate feature articles on each area in *National Parks & Conservation Magazine*.)

**Aniakchak:** This 350,000-acre monument on the Alaska Peninsula protects one of the world's largest dry calderas. The interior of the crater contains volcanic features such as lava flows and cinder cones and the unusual Surprise Lake, from which the Aniakchak River cascades through a gash in the caldera wall and flows to the Pacific. (See June 1975.)

**Denali:** Mount McKinley National Park is enlarged by a 3.89-million-acre monument that protects the entire Mount McKinley geological formation, critical caribou wintering grounds, wolf dens, and other wildlife habitat. (See January 1978.)

**Katmai Enlargement:** The already-existing monument has been rounded out with 1.37 million acres needed to protect brown bear populations and to preserve watersheds necessary for red salmon fisheries. (See March 1978.)

**Cape Krusenstern:** Bordering the Chukchi Sea, this 560,000-acre monument has a succession of lateral-ridge beaches that tells of Eskimo communities during every known cultural period in Arctic Alaska—going back more than 4,000 years. (See May 1978.)

**Bering Land Bridge:** On the north side of the Seward Peninsula, only fifty miles from Siberia, is a 2.6-million-acre monument that takes in remains of a land bridge that once linked Asia and North America and was the route by which humans first reached the New World. (See April 1978.)

**Kenai Fjords:** This national monument near Seward preserves 570,000 acres of the interrelated Harding Icefields and fjord system on the Kenai Peninsula. Glaciers spin off from the icefield in four directions, and the fjords contain rich rainforest habitats. (See October 1978.)

**Noatak:** The mountain-ringed Noatak river basin is the largest river basin in the nation still virtually unaffected by technological human activity. This 5.8-million-acre monument protects the northwesternmost fringe of boreal forest in North America, the sixty-five-mile-long Grand Canyon of the Noatak, a biotic transition zone, and

the migration route for Alaska's largest caribou herd. (See June 1977.)

**Lake Clark:** Southwest of Anchorage on the head of the Alaska Peninsula, bordering on Cook Inlet, is an extraordinarily diverse scenic area with active volcanoes, tundra, azure lakes, rivers, waterfalls, mountains, forests, and seacoast. Within the 2.5 million-acre-monument are habitats for grizzly, wolf, wolverine, lynx, caribou, and Dall sheep. (See July 1977.)

**Glacier Bay Enlargement:** A 550,000-acre addition to the monument, located west of Juneau, would protect and interpret the northwest slope of Mount Fairweather, the U.S. portion of the Alsek River, and mountain-flanked beaches. (See September 1978.)

**Yukon-Charley:** Encompassing 1.72 million acres along the Yukon and Charley Rivers in east-central Alaska on the Canadian border, this monument preserves river basin habitat for nesting peregrine falcons and other wildlife, internationally significant geological and paleontological resources, and historic resources from the gold rush era. (See July 1978.)

**Wrangell-St. Elias:** A day's drive east of Anchorage, this wilderness of 17,000 square miles is so vast and wild that nonnatives have not yet visited many of its remote mountains and valleys. In the monument are 10.95 million acres, including the country's greatest collection of peaks over 16,000 feet, the continent's largest assemblage of glaciers, and diverse species of wildlife. (See August 1978.)

**Gates of the Arctic:** Geological diversity is the essence of this 8.22-million-acre monument lying wholly north of the Arctic Circle. Included are the bladelike Arrigetch Peaks, turreted Mount Igikpuk, and exceptional habitat for the Western Arctic caribou herd and other wildlife. (See April 1976.)

**Kobuk Valley:** Situated in northwestern Alaska between the Baird Mountains on the north and the Waring Mountains on the south, this monument of 1.71 million acres embraces the central valley of the Kobuk River. It will protect boreal forest, arctic tundra wildlife habitat, and archeological resources as well as the Great Kobuk Sand Dunes, which are located above the Arctic Circle. (See June 1978.)

### **Monuments under the Fish and Wildlife Service**

**Becharof:** Near the north end of the Alaska Peninsula, this 1.2-million-acre monument contains one of the major wildlife sanctuaries in Alaska. The giant peninsula brown bears range widely, feeding in salmon streams and coastal marshes and hibernating in mountain dens.

**Yukon Flats:** Warm temperatures and other conditions in this basin of interior Alaska have produced a profusion of lakes, oxbows, potholes, and other lush wetlands that make the area one of North America's most productive waterfowl nurseries. This basin contributes an annual flight of 2.1 million ducks and thousands of geese, sandhill cranes, loons, and grebes to the flyways touching all parts of the Lower Forty-Eight, Canada, and Mexico. The monument includes 10.6 million acres of habitat for waterfowl and major populations of moose, wolves, bears, and salmon.

### **Monuments under the Forest Service**

**Admiralty Island:** This island in the Tongass National Forest in Southeast Alaska includes more nesting bald eagles than are found in all other states combined, dense populations of brown bears, and the largest unspoiled coastal island ecosystem in North America. The island has been continuously inhabited by the Tlingit Indians for about 10,000 years, and archeological sites are plentiful. Russian fur traders and Yankee whalers left behind a number of objects and sites of historic interest. The national monument covers 1.1 million acres.

**Misty Fjords:** In the coastal mountains of Southeast Alaska is a spectacular wilderness of extraordinarily deep and long fjords with sea cliffs rising thousands of feet above the water. Misty Fjords has an essentially untouched, intact ecosystem; and the monument includes the complete range of coastal to interior climates in a remarkably compact area. This area harbors diverse wildlife and is a major producer of Pacific salmon. The 2.2-million-acre monument also will include active glaciers and other important geological and ecological resources.

## Alaska—from page 23

"These proclamations," Secretary Andrus said, "were required to protect scientific, cultural, historic, and living resources no longer available in any other part of our country. The value of these areas was clearly recognized [in 1978] when the House of Representatives passed by a vote of 227 to 31 legislation very similar to the Administration's proposals. The Senate Energy and Natural Resources Committee also reported out Alaska lands legislation. It was only the threat of an end-of-session filibuster by one senator which blocked congressional passage of a more sweeping Alaska National Interest lands legislation." Andrus and Carter have urged prompt congressional action in 1979.

Leading the effort in the House to protect public lands in Alaska are Interior Committee Chairman Rep. Morris Udall, who introduced the original Alaska legislation in January 1977, and Rep. John Seiberling, the chairman of the Subcommittee on General Oversight and Alaska Lands. During 1978 the subcommittee directed an unprecedented legislative research effort and a public participation program unmatched by anything since the civil rights movement a decade ago. Sen. John Durkin (D-N.H.) and other Senate supporters of the bill during the 95th Congress are expected to be active on the Senate side once again this year.

NPCA and other members of the Alaska Coalition are working to defend the newly protected areas from legislative incursions and to restore areas left out of some monuments, as well as to create wilderness areas and wild and scenic rivers—actions for which the President has no authority.

**You Can Help:** NPCA members are urged to ask their senators and representatives to sign up as co-sponsors of legislation supported by NPCA and the Alaska Coalition and to play an active role in promoting the legislation. You can reach your representative at the U.S. House of Representatives, Washington, D.C. 20515, and your senators at the U.S. Senate, Washington, D.C. 20510. Call the Alaska Coalition Hotline at 202-547-5550 for a recorded message on how to help. ■



## Wilderness Parklands in Alaska

Edited by Eugenia Horstman Connally

Paperbound, color cover, 84 pages, fully illustrated

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## ILLEGAL IMMIGRATION

### NPCA Proposes Comprehensive Legislation to Control Influx of Illegal Aliens

The 95th Congress failed to act on substantive legislation to contain the influx of illegal aliens that is contributing to population pressures in the United States. NPCA nevertheless won an important victory when the bill authorizing confiscation of vehicles used to smuggle illegal aliens was passed in the waning hours of the 95th Congress. Thanks is due to the NPCA members who wrote in support of the legislation and thus bolstered the staff effort.

The Immigration and Naturalization Service (INS) had been requesting such authority since 1928. The bill had been introduced several times in previous Congresses, but it did not receive consideration until NPCA rescued it from obscurity and made it a priority item of its immigration project. NPCA rallied other population, labor, and civic organizations in support of passage.

Gerda Bikales, NPCA Administrative Assistant on Population and Immigration, was on an observation trip along the U.S.-Mexican border when word arrived that President Carter had signed the bill. She received the personal thanks of Border Patrol agents and officials, who had been aware of NPCA's leadership in pushing for the bill.

Shortly before adjournment, the Congress passed a bill creating a Select Commission on Immigration and Refugee Policy. The commission is to report findings by September 30, 1980. This group undoubtedly will dominate immigration policy initiatives for the next two years and may well serve as an excuse for avoiding all action on this emotional issue until after the 1980 Presidential and congressional elections.

However, adverse national publicity about lax enforcement of the immigration laws and other developments are creating some momentum for needed legislation.

NPCA again is proposing a legislative package that will include sanctions for employers of illegal workers, a counterfeit-proof social security card, and an expanded agricultural guest-

worker program. The key legislator on immigration issues is now Sen. Edward Kennedy (D-Mass.), who has replaced long-time chairman Sen. James Eastland (D-Miss.) in the Senate Judiciary Committee.

Kennedy's inclinations are not yet clear—he is the foremost champion of Hispanic groups that have opposed any restrictive measures.

Nevertheless, Kennedy has indicated some agreement with the need to balance humanitarian concerns with economic and environmental limits.

**You Can Help:** NPCA members interested in early legislative action on illegal immigration are urged to write

to Sen. Kennedy, Chairman, Committee of the Judiciary, U.S. Senate, Washington D.C. 20510, stating that the problem is critical and must be resolved expeditiously.

For more information on the issue of population pressures and the escalating threat from illegal immigration into the United States, members also are invited to write:

Gerda Bikales  
Administrative Assistant,  
Population & Immigration  
National Parks and Conservation  
Association  
1701 18th Street, N.W.  
Washington, D.C. 20009 ■

## NPCA BENEFACTORS

### The Legacy of Mary Watkins

The national parks are indebted to the late Mary Watkins of Providence, Rhode Island, who made a permanent legacy of her love for the parks by leaving a substantial bequest recently received by NPCA. Miss Watkins died on January 14, 1977, at the age of sixty-four.

A Life Member of this Association for thirty-seven years, she was a graduate horticulturalist who took particular pleasure in visiting the national parks and nicknamed her extensive azalea garden back at home "my park."

The nickname was, in fact, more than appropriate. A long-time friend, Dorothy Gifford of Providence, reminisces, "She was a great lover of the out-of-doors, and her garden was a magnificent place with winding paths through wooded areas lined with literally hundreds of azaleas and rhododendrons, as well as with dozens of flowering dogwoods. Except for places like Magnolia, Middleton, and Longwood Gardens, it was one of the finest displays that I have ever seen, rivaling all others in variety. Miss Watkins did much of the manual labor involved in grooming those acres, wrestling with the ever-present poison ivy and New England boulders and attacking invading problems herself with ax, crowbar, hoe, and tractor. She was much interested in hybridizing and was ruthless

in discarding seedlings which failed to measure up to her standards of clarity of color, perfection of form, abundance of bloom, and hardiness. A perfectionist, she kept careful records from year to year of her seedlings in the nurseries as well as of the plants in the garden itself."

Her interest in the park system dated back many years to the time when she spent whole summers touring the parks in the West. Miss Gifford recalls that Miss Watkins' favorite park was Zion; but she also loved the Blue Ridge Parkway, where the friends returned year after year. On park trips Miss Watkins made a point of going off the beaten path, wandering over newly found trails and down back roads.

She was a graduate of the Lincoln School and the Pembroke College of Brown University in her native Providence and Lowthorpe School of Landscape Architecture. Miss Watkins was a director of the Rhode Island Society for the Prevention of Cruelty to Animals and was involved in a number of educational, cultural, and scientific organizations related to her profession and civic concerns.

In short, from her careful cultivation of the azalea garden to her thoughtful bequest to carry on the work of NPCA, Mary Watkins led a life steeped in nature and the arts. ■

## NPS APPROPRIATIONS

### Will Grim Budget Figures Equal Trouble For Newly Expanded Park System?

The papers are full of stories of a federal budget cut to the bone. Agencies and programs throughout the government will have budgets that show no growth—not even enough to keep up with inflation. In many cases, budget levels will actually be less than last year's figures.

At press time the Carter Administration had not released its Fiscal Year 1980 budget proposal; but it was clear that the Park Service would feel the pinch along with most agencies.

For the Park Service, however, the tightening of the budget comes at a particularly poor time. In recent years the number of units in the park system has grown significantly, and Americans and foreign tourists are visiting the parks in record numbers. All of this translates into a need for additional funds for operating and maintaining the parks and more personnel to serve the hundreds of millions of visitors.

In the past Congress alone, eighteen new parks were created. Major boundary increases were made for numerous other parks. Then President Carter, in a tremendous conservation decision,

established 56 million acres of national monuments in Alaska—doubling the size of the park system. Although substantial visitation to most of these new parks and monuments won't come in the next few years, more park personnel are needed now to begin preparing for future use of the areas.

Most of the land in the new units established by Congress in the lower forty-eight states must be acquired out of appropriations from the Land and Conservation Fund (LWCF). (The Alaska monuments were created from public lands.) Some of the areas in the

new parks are still threatened by development even though they are within the park boundaries. Timely land acquisition in these areas will be particularly crucial. With all these new areas, there will be a great need to provide substantial funding from the LWCF. In some cases the funding can be deferred until a time when the budget restrictions are reduced. However, this will result in higher costs as land prices continue to escalate.

The Park Service also has several other major needs in areas of planning, park transportation, historic preservation, and scientific programs. Moreover, funds are needed to rehabilitate and repair park areas and facilities that were degraded because of inadequate funding in the late 1960s and early 1970s.

NPCA does not expect that the Administration's budget proposal for the park system would be sufficient to meet all its needs. We will be working hard over the next year to make sure that Congress appropriates enough money to ensure that park resources are not harmed. ■



## SOUTHWESTERN PARKS

### Industry Proposals Could Make Utah Parklands Region a National Sacrifice Area

Besides Alaska, the area surrounding southern Utah contains this nation's wildest and most spectacular natural heritage. The Department of the Interior currently is considering industry proposals that constitute the largest, most expensive coal mining venture ever undertaken in the American West—in the midst of this spectacular region.

A 237-mile-long railroad would be constructed from Cedar City, Utah, into the heart of the southern Utah parklands region. A proposed deep-mining complex on the Kaiparowits Plateau would produce at least 30 to 40 million tons of coal a year to supply electricity to distant urban centers. The proponents have indicated that markets for the coal would be Southern California and foreign markets—principally Japan.

The proposed Allen-Warner Valley

Project would include two large strip-mines in the Alton Hills near Bryce Canyon National Park to supply 10.5 million tons of coal yearly for transport by slurry lines to two power plants. The 2,000-megawatt Allen Plant would be located northeast of Las Vegas, Nevada, and the 500-megawatt Warner Valley Plant would be sited in southwestern Utah, twenty-three miles west/southwest of Zion National Park.

A coal strip mining and deep mining operation would be developed in the nearby Paria Amphitheatre, the huge sculptured bowl of which Bryce Canyon is a part. Five million tons of coal a year would be hauled by truck from these mines to the proposed Southern Utah railway.

A proposed strip mine in the Henry Mountains, four miles east of Capitol Reef National Park, would supply 2

million tons of coal per year to be hauled through the park to an existing railway at Green River, Utah.

These development proposals are described in the Southern Utah Coal Regional Environmental Statement prepared by the Department of the Interior. Environmental impacts to the region outlined in the statement include the following:

- The area's present population of 48,524 would increase to 144,535 residents by 1990, dwarfing the energy-development population booms previously experienced in Rock Springs, Wyoming; Colstrip, Montana; Edmington, New Mexico; and Price, Utah.

- The region is expected to experience dramatic increases in the overcrowding of recreational resources, national parks, and scenic highways. Ex-

*Continued on page 28*

# conservation docket

## The Lineup for the Parks at Opening of 96th Congress



MAX V. GOOD

*Blacksamson dot the prairie in Kansas and Oklahoma. A new proposal for a Tallgrass national reserve embodies several sites emphasizing virgin prairie preservation and Indian and pioneer history.*

**Danger to Utah Parks—from page 27** tensive damage to fragile desert resource lands would result from increased offroad vehicle use, littering, vandalism, and damage to archeological sites. The proposed railroad route would traverse the unique Hackberry Canyon BLM roadless area. The proposed strip mining and deep mining operation would be adjacent to the proposed Table Cliffs/Henderson Canyon wilderness area.

- Vegetation and wildlife habitat on 50,481 acres of land would be destroyed by mining operations, construction of roads, support facilities, and urban development. Considerable increases in wildlife highway mortality and illegal shooting of deer, elk, and antelope herds would result. The endangered bald eagle could be displaced from eight roost sites.

- Strip mining operations in the Alton Hills would be visible and audible to visitors at Bryce Canyon National Park's Yovimpa Overlook, four

As the 96th Congress convened on January 15, 1979, conservationists were once again giving top priority to the Alaska national interest lands. (See page 23.)

Also on conservationists' agenda is a proposed Tallgrass Prairie parkland. As the result of a recent conference in Kansas in which NPCA was a leading participant, various groups united behind a proposal to work for legislation to establish a national reserve in the Flint and Osage Hills of Kansas and Oklahoma. In comparison to previous plans, this modified proposal would bring the area into the Park System over a longer period and without the use of condemnation.

The Administration will promote a National Heritage bill to establish a national natural heritage program, operating at the state level, for site inventory and data collection efforts similar to existing programs in twenty states. The program would include federal grant incentives plus registration of nationally significant areas identified in the inventory.

Other issues that will be the focus of park and conservation efforts during the 96th include expansion of Indiana

miles from the mine site. Blasting activities at the strip mine could prematurely topple the park's fragile eroded spires. Particulate emissions from the 8,300-acre Alton strip mines could violate the Class I air quality standards set for national parks and wildernesses and contribute to the impairment of Bryce Canyon's panoramic vistas. A hundred years or more would be required to restore affected piñon pine-Utah juniper plant communities to their present state, assuming such restoration is even possible.

- The 11,360-acre strip mine in the Henry Mountains would destroy 6,240 acres of winter range for one of the last remaining free-roaming bison herds. Revegetation of this sensitive desert area is described as "questionable."

- Air pollution could seriously impair the region's existing pristine air-quality values. Some 34,744 tons of particulates, 108,746 tons of sulfur dioxide, and 118,301 tons of nitrogen oxides would be emitted annually from

Dunes National Lakeshore, the proposed Jackson Hole Scenic Area in Wyoming, oversight hearings on historic preservation, expansion of Manassas National Battlefield Park, RARE II wilderness proposals, adequate Park Service appropriations, Concession Policy Act oversight, adjacent land use authority for the Park Service, and proposed wild and scenic river status for the Upper Mississippi. The Park Service was due to send a list of at least twelve possible new NPS units to Congress at press time.

In addition, the Endangered Species Act and Clean Air Act may be threatened during this Congress. The Endangered Species Act will be up for reauthorization again, and at press time weakening amendments to the Clean Air Act were being drafted. The amendments would result in a relative increase in sulphur dioxide pollution and lax protection for national parks and national wildernesses.

Issues left unresolved by the 95th Congress include mining law reform, drinking water legislation, deep seabed mining, the Clinch River breeder reactor, nongame wildlife legislation, and population issues (see page 26). ■

the mines, haul roads, railroad operations, and the proposed Warner Valley Plant, excluding contributions from population increases. Emissions from the proposed Warner Valley Plant could exceed the Class I standards of nearby Zion National Park.

- The expected socioeconomic effects are described as "enormous." Boom towns would be built near Glen Canyon City, Arizona; Page, Arizona; and Escalante, Utah. Rapid and permanent alteration of present rural lifestyles, as well as inadequate social services, hospitals, schools, law enforcement, fire protection, and water and sewer systems to meet the increased demands are expected. Increases in crime, juvenile delinquency, and alcoholic and drug abuse could compound the social impacts. Sharply contrasting cultural characteristics of emigrant workers could lead to social conflicts with local residents.

Despite these problems, less than 40

*Continued on page 30*

# NPCA 59 YEARS AGO



THE NATIONAL PARKS ASSOCIATION  
1512 H STREET NORTHWEST  
WASHINGTON, D. C.

BULLETIN 14

December 22, 1920

## THE WAR ON THE NATIONAL PARKS

### *Review of the Situation at the Opening of Congress*

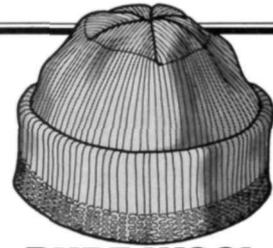
Congress has assembled, and the winter campaign has begun on both sides.

We of the Defense are no longer, as we were at the end of May, a hastily-summoned handful barely holding out against an all but triumphant Commercialism, and praying for the respite of the session's end before we should be swept off our feet. We are now a militant multitude numbering millions, representing every State in the Nation, men and women of every profession, of many varieties of business, and of innumerable callings.

It only needed the spreading of the news of the national parks' danger to bring this great body of voters to its feet. And, with scores of patriotic associations now at work, the news is spreading faster than ever. Our faithful and energetic allies, the veteran General Federation of Women's Clubs, and the new National Federation of Business and Professional Women, are carrying the good gospel among the many millions of the newly enfranchised.

In Congress we are beginning a vigorous campaign to straighten out the dent which was beaten into the national parks' front by the insertion of the words "national parks and monuments" into the Water Power Act, and alert for the defeat of the offensives of irrigation. The latter are two in number, so far: that same undefeated Smith bill of the last session (H. R. 12466) to authorize a reservoir in the Falls River Basin of the Yellowstone National Park, and Senator Walsh's new bill to authorize the damming of Yellowstone Lake.

Other irrigation bills may be introduced later in the session. We may confidently expect them if there is marked faltering in our advance, or if the forces of Commercialism score even a minor and temporary victory. There are others in readiness, affecting other national parks besides Yellowstone, awaiting only encouragement and precedent.



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## IMMORTAL MAPLE

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**Danger to Utah Parks—from page 28** percent of the coal that could be deep mined would be extracted by the projected methods, leaving 60 percent or more of the coal—840 million tons—in the ground in an unrecoverable condition, virtually eliminated from consideration for future use.

Moreover, once the proposed rail system was constructed, further industrial developments would be greatly facilitated. NPCA is concerned that the presently pristine southern Utah parklands region could be trans-

formed into an industrial and energy-exporting complex.

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*Continued from page 2*

Other public transit systems, coach or rail, operated under franchise, would provide access from outlying communities such as Mariposa to visitor centers immediately inside park boundaries, from which free internal public transit systems could carry visitors farther into the park.

The franchises would be granted by NPS to private consortiums of recreational business operators in the outlying communities. Fares would be regulated by contract. A commitment would be made by NPS to reduce the amount of private automobile traffic from the community to the visitor center. The existing authorities of NPS, including those conferred by the new external transportation legislation should be adequate for this purpose.

Facilities within the park should not be expanded. The older cabin-type accommodations should be rehabilitated and retained. The ski slope, which is a mechanical intrusion and a crowd attraction, should be closed out; the all-weather cabins contemplated as new construction would then be unnecessary.

We do not oppose ski resorts in proper places in the national forests or public domain; we would encourage them on private land outside the public lands, where they might better prove themselves in terms of competitive economic viability. But the prime responsibility of NPS is the preservation of natural conditions, and facilities of this kind conflict with this responsibility.

Against this background, also, the proposed new parking facility at Taft Toe is incongruous; it should not be built.

The DGMP contemplates much heavier development along the Tioga Road than is justified. Tioga Road should never have been constructed as a trans-Sierra highway. In mitigation of the damage, the wilderness areas should be pulled down to the roadsides; that is a good principle for the National Parks generally.

That would mean in this case, that visitors would use the franchise-type public transit to reach the trail bases or other access points along Tioga Road. Through traffic along the road would be given clearance for travel, and for stopping to load and unload, but not for extended parking. But obviously interdepartmental agreement between Interior and Transportation would be necessary.

The NPCA has long advocated the establishment of an interdepartmental agency at the White House level in the federal government for the protection of the parks and the dispersion of visitation to the other public lands, and indeed to private lands in outlying communities.

The need for a government-wide protective policy for construction of park roads and the management of traffic on such roads illustrates one type of inter-agency coordination needed.

Another would be between the Park Service and the U.S. Forest Service with a view to dispersing visitation into the National Forests, and to establish ecological timber harvesting in the forests, to preserve their scenic and recreational quality.

The parks cannot be protected adequately merely by planning within the parks themselves, however admirable, but only within much larger regions, comprising the National Forests, the public domain, Defense Department lands, and in a cooperative way, state forests and parks.

The 15-year period contemplated in the DGMP will comprise most of the time to the year 2000. By that time, even if we get our illegal immigration problem under control, our population will have risen by 40 million to about 265 million, where it may well stabilize.

If we do not get our illegal immigration problem under control, our population will have risen to at least 305 million by the year 2000, with no end in sight for continued expansion.

Very few of the illegal immigrants, of course, will ever visit the parks, but they will add to the total population. Visitation is a function of many factors, but mainly total population.

These figures forecast relentless pressures for overcrowding in the National Park System. The destructive impact will result not so much from mere numbers of people who may visit the parks, but

from the automobiles which will bring them there unless managed as recommended.

True, rising costs of motor fuel, which are inevitable, may mitigate the damage which will otherwise be done to the great scenic and natural wonders of America. At the same time, these mounting expenses of travel will reinforce the need for efficient and comfortable public transit into the parks and within them.

We urge the National Park Service to revise its Draft General Management Plan with a view to more vigorous protection of natural conditions and the reduction of traffic and construction in Yosemite National Park, and in other parks as well, for the enjoyment of present and future generations as required by law.

**III.** AS IF to underscore quite firmly the protective policies it intends to pursue for the great wilderness parks, the National Park Service has moved to terminate the main concession at Yellowstone National Park.

Our views about this matter are perhaps most concisely expressed in our letter to the Director of the Service congratulating him on this action, as follows:

Dear Director Whalen:

Congratulations on the strong stand you have taken in terminating the contract with the Yellowstone Park Company.

In return for the rich privileges granted by the Park Service, concessioners should be required to maintain the highest quality of service to park visitors and manage their businesses in a way to accord maximum protection to natural conditions in the parks.

We shall be happy to support the acquisition of the Yellowstone Park Company's assets by the National Park Service at a valuation fair to the American people.

We look forward to new arrangements in Yellowstone Park whereby facilities owned by the people of the United States will be managed by competent operators under contract in the interest of all visitors and with the protection of the natural features of the park in mind.

In our view this case proves the desirability of public investment in the overnight facilities in the parks for purposes of good service to the people visiting the parks; we are confident that the reorganization of park operations after acquisition by the Service will prove the soundness of such investment in terms of the budget of the United States.

The older facilities in the wilderness parks, like Awahnee at Yosemite, could be reasonably profitable investments for the Service if managed for normal profitability by lease, on a non-discriminatory reservation basis, without having to compete with excessive development elsewhere in the park. The cost of acquisition by the government should be entered in the national budget as a capital investment, with amortization and maintenance covered by income from the lessee. The unwelcome and unwholesome proprietary interest of concessioners in the parks could thus be ended.

We note only, in conclusion, that good planning for the National Park System must be part of comprehensive recreational regional planning requiring the participation of six or eight Departments of Government, coordinated at the White House level. Here again, a strong President could take a long forward stride toward the protection of natural conditions in America for the benefit of all the American people before the end of his first term in office.

—Anthony Wayne Smith

