National Parks & Conservation Magazine

The Environmental Journal

January 1978

On Forestry

WERE GIFFORD Pinchot to return today in spirit and re-visit the forests of America, he would burst into one of those rages which contributed to his fame and would launch a mighty campaign to rescue his beloved forests and his profession.

For those who do not remember—or were never taught—he founded the U.S. Forest System and the American forestry profession. He believed that forests should be managed, except in special cases, by individual tree selection. He wrote that principle into the acts of 1897 and 1905 on which the Forest Service was built.

Over the years, the Service fell away from those principles and violated its governing laws. The clearcutting of the national forests became established policy. The Izaak Walton League took the issue to court several years ago in respect to the Monongahela National Forest and the Natural Resources Defense Council, in respect to the Tongass National Forest in Alaska. The Circuit Courts of Appeals enjoined further clearcutting in both cases; but the Service continued the practice in the other Circuits.

Legislation was introduced in Congress to rewrite the basic law; as enacted, it purported to place limits on clearcutting, but conferred a broad discretion to develop programs based on professional judgments. Under this authority, unfortunately, the Forest Service now proposes to resume its clearcutting on four important forests in the east.

The Service has done this thing precisely at the moment that most of the federal agencies have moved toward, not away from, environmental values. Why has the Forest Service turned its face the other way? Its name was once synonymous with conservation.

WE DISCUSSED these problems at the semi-annual meeting of the Board of Trustees of NPCA in November 1977. Dr. Leon Minckler, a member of the Board, reviewed the trends, inquired why it should be that the Forest Service followed these policies, and argued that the best silvicultural practices in the eastern forests would be based on group selection.

Dr. Harry Jopson and I had visited some of our old haunts in the George Washington National Forests in Virginia in October. I saw the clearcuts in areas that should have been managed by selection methods. I saw the replantings of white pine, instead of natural mixed hardwoods. White pine is considered the most profitable crop, but who knows what will be profitable when this stand reaches maturity? The advantages for wildlife in such methods are slender and transitory; the mature stands will be inhospitable to wildlife; the recreational and scenic assets are impaired, throwing visitation back on Shenandoah National Park to the east; erosion can be serious. This is no way to run a forest.

ONE TURNS the pages of the slick magazines. Powerful corporations are pouring millions of dollars into propaganda. The pressure is on for what is referred to as "intensive management" on the more fertile timberlands; this means clearcutting, replanting, monoculture, grafted or upbred stock of problematic long-term productive value, fertilizers, insecticides, rodenticides, big machinery, and capital-intensive methods generally, with destructive effects on employment. As a sop, some of the less productive lands may be yielded for wilderness. Will the wilderness advocates fall for this approach?

Not all the companies by any means follow the big-clearcut system. There are good properties all over America where one or another selection method is used. These companies have much to teach conservationists about timber management. Common cause should be made with them toward a reunion between men and the forests.

The article by Alton A. Lindsey in this magazine for November told the story of the view from the high mountains in Mount Rainier National Park—long vistas of range after range of clearcut forests. Is it contended that forestry has nothing to do with the national parks? And that the NPCA should have nothing to do with forestry?

ALL OVER AMERICA farmers are impoverished, propaganda to the contrary notwithstanding. One reason for their poverty is the low productivity of the farm woodlots, which have been high-graded for generations. Why has it been impossible for farmers to get the financial and technical assistance to manage these woodlands on an ecological and yet profitable basis? Why have they had no help in organizing efficient managing, marketing, and processing cooperatives, capable of making use of the profit motive but keeping it under control? The small private investor in nonfarm woodlots is in the same position. Vast holdings of woodlands all over America fall into these ownership categories.

Continued on page 31

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COVER Wonder Lake and Mount McKinley, by Ed Cooper
The magnificent massif of Mount McKinley rises in the distance like an unbelievable mirage. A current proposal would rename and enlarge Mount McKinley National Park to include the entire mountain and more complete wilderness ecosystems north and south of it. *(See page 4.)*

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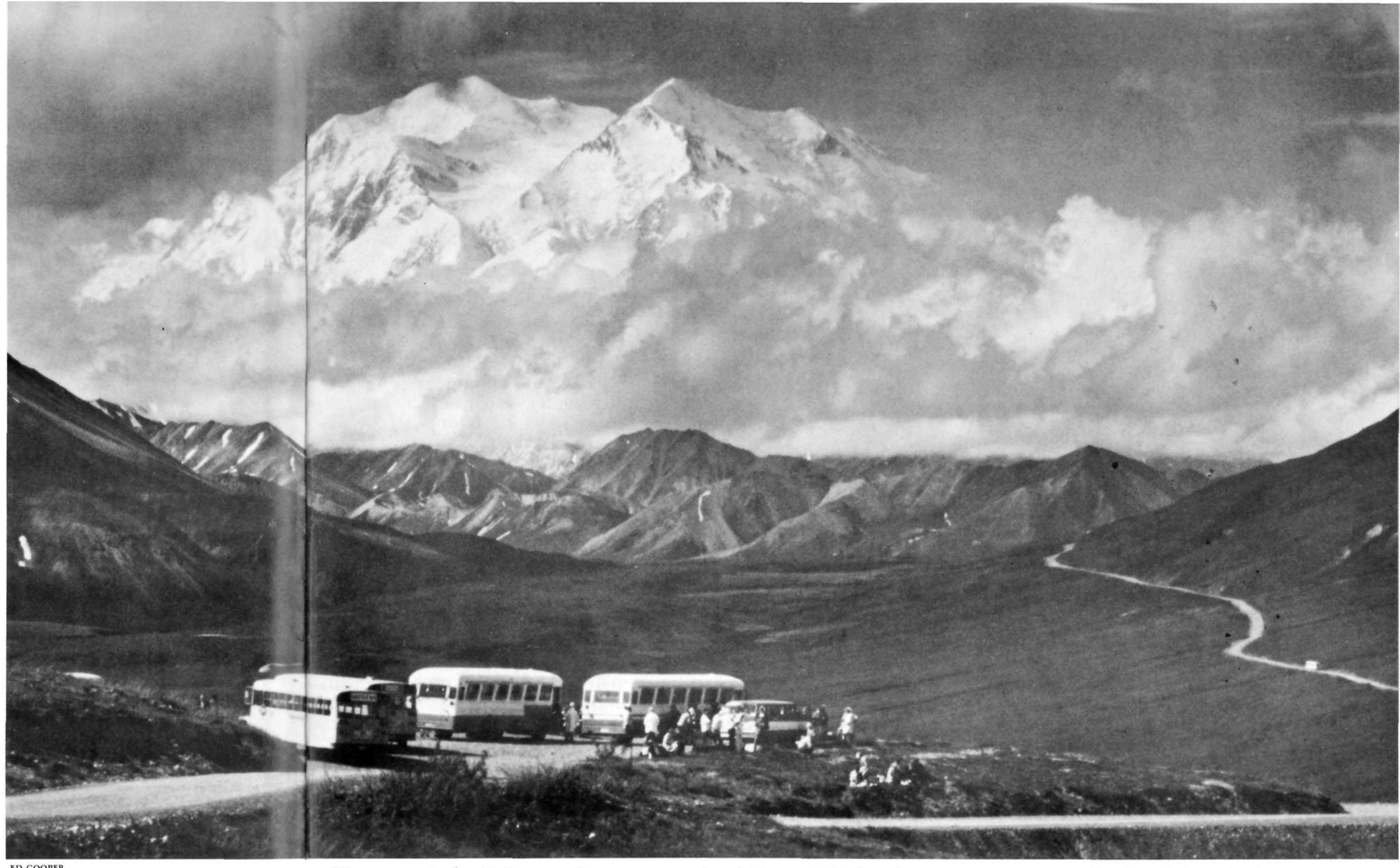
National Parks & Conservation Association, established in 1919 by Stephen Mather, the first Director of the National Park Service, is an independent, private, nonprofit, public service organization, educational and scientific in character. Its responsibilities relate primarily to protecting, promoting, 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.

The national park that honors the most majestic mountain in North America is proposed for expansion

by LOUISE MURIE

Denali Wilderness



ED COOPER

Visitors are lucky if they see the imposing sight of Mount McKinley, for in summer it is usually shrouded in clouds.

ADE AND I were parked at a high overlook in Mount McKinley National Park watching a herd of caribou as it wandered and fed slowly westward on its annual migration out of the park.

"Where is the mountain?" We heard this question from a group of visitors whom we encountered on the park highway. It is a frequent query from visitors to the area, for in summer Denali—the mountain's Indian name—is shrouded in clouds and rarely makes an appearance. The wish to see it is indeed understandable, for Mount McKinley is the highest, most majestic, and most impressive mountain in North America. The park also has other snow-clad mountains and many extensive but lesser spur ranges, any of which could vie with the Tetons or similar spectacular ranges elsewhere. The charming sheep ridges, the myriads of tundra ponds, the glacial streams make this northern area a veritable fairyland. And living within this richly varied scene are equally fascinating northern flora and fauna. A drive in summer over the ninety miles of highway, from the Nenana River on the eastern boundary to Wonder Lake just north of Denali, is always a fresh adventure.

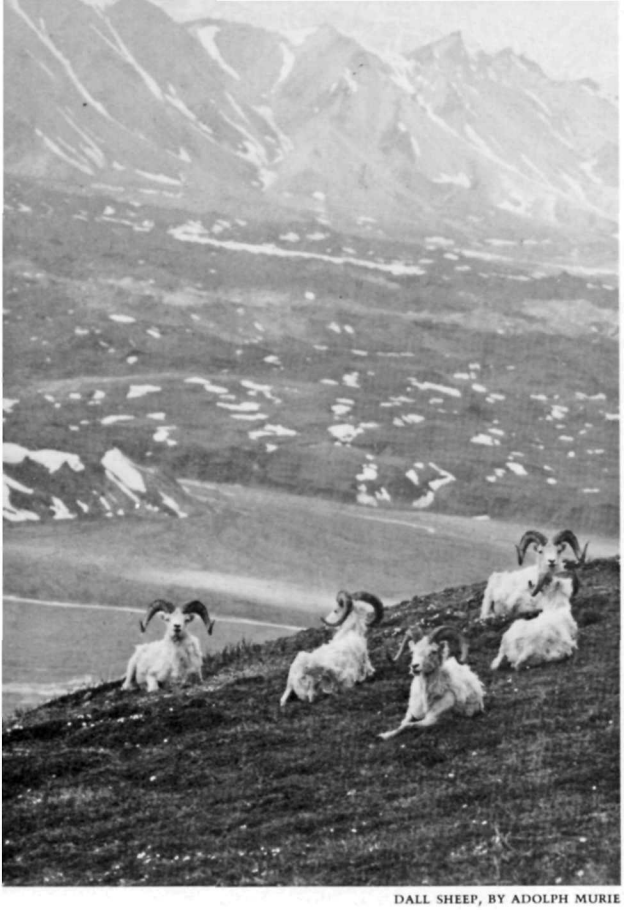
IN 1902 Alfred Brooks led a party from the U.S. Geological Survey into the McKinley and Kantishna districts of the territory of Alaska in order to map and classify the geological formations. Then in July 1906 Charles Sheldon, famous hunter-naturalist, traveled up the Kantishna River to explore the base of the range with five horses and two packers, one of whom was Harry Karstens, who later became the first superintendent of McKinley. Of the moment when they neared Denali and broke over the summit of low hills above Wonder Lake he wrote in *The Wilderness of Denali* (Charles Scribner's Sons, New York–London, 1930):

> I can never forget my sensations at the sight. No description could convey any suggestion of it. . . . Three miles below lay the glacial bar of the Muldrow Branch of McKinley River fringed on both sides by narrow lines of timber, its swift torrents rushing through many channels. Beyond, along the north side of the main Alaska Range, is a belt of bare rolling hills 10 or 12 miles wide, forming a vast piedmont plateau dotted with exquisite little lakes. The foothill mountains, six or seven thousand feet in altitude, and now free from snow, extend in a series of 5 or 6 ranges parallel to the main snow-covered range on the south. Carved by glaciers, eroded by the elements, furrowed by canyons and ravines, hollowed by cirques, and rich in contrasting colors, they form an appropriate foreground to the main range.
>
> Denali—a majestic dome which from some points of view seems to present an unbroken skyline—rises to an altitude of 20,300 feet with a mantle of snow and ice reaching down for 14,000 feet. Towering above all others in its stupendous immensity it dominates the picture. Nearby on the west stands Mt. Foraker, more than 17,000 feet in altitude, flanked on both sides by peaks of 10,000 to 13,000 feet that extend in a ragged snowy line as far as the eye can see.

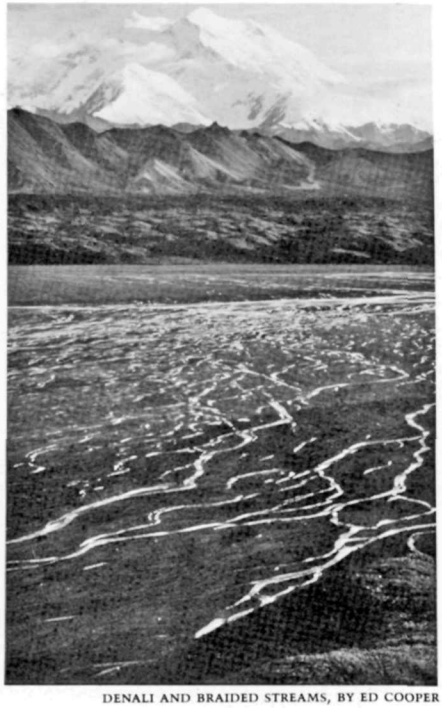
Sheldon subsequently spent a year in the park and built a cabin four miles down the Toklat River from the present bridge. The remains of his cabin are still visible. He collected many big game specimens as well as some smaller mammals for the Smithsonian's National Museum of Natural History and by keeping detailed notes on his observations of the wildlife, he made a significant contribution to the knowledge of the behavior and home ranges of caribou, moose, mountain sheep, grizzly bear, and wolverine. Sheldon's intense interest in superb mountain scenery and his desire to preserve the animal community prompted him to petition Congress to set aside the area now designated as Mount McKinley National Park, and in 1917 this legislation was enacted.

Unfortunately, however, the entire massif was not included in the park; a large part of the mountain on the south is outside the park boundary. And an extensive area on the north that is ecologically important to the park was omitted because of the minerals it contains.

Since establishment of the park many people have visited the area and watched the birds and mammals in prime natural habitat. The park highway is well suited to this purpose, because as it wends its way over the treeless terrain, it provides a number of high overlooks from which to spot wildlife. But the visitor must take his chances, for on some days few animals are to be seen. An elderly lumberjack from Washington State who spent many summers in the park after his retirement was wont to travel out in the tour bus on rainy days and regale the other passengers with his sage comments. Once, when a visitor asked him where all the animals were, he replied in the thick accent from his Russian back-



DALL SHEEP, BY ADOLPH MURIE



DENALI AND BRAIDED STREAMS, BY ED COOPER

ground, "This ain't no zoo, lady." On another occasion he said, "You can't have your animals on a silver platter." His comments focus in on the essence of the park experience—the element of uncertainty and surprise.

Mount McKinley National Park is a little more than one hundred miles long and, considering the parts habitable for wildlife, only fifteen to twenty miles wide. At Wonder Lake, from a foreground of 2,000 feet, Denali rises to a height of 20,320 feet. Many huge glaciers flow from the range and are still actively sculpturing it. For example, Muldrow Glacier, which reaches almost to the park highway, is about thirty-five miles long. Much of the park is treeless tundra; but strips of woods follow the rivers, and patches of trees grow here and there on the adjacent mountain slopes. Timberline varies according to soil and exposure from 2,000 to 3,000 feet.

The most common conifer is white spruce; the scarcer black spruce is confined to poorly drained and boggy areas. Cottonwood and aspens are widely distributed, and a few birch trees grow at lower elevations. The tundra supports a growth of willow and dwarf birch. More than twenty kinds of willow may be found ranging in size from the dwarf varieties only two or three inches tall to brushy growths up to twenty feet high. Alder brush is widely distributed, and especially near Wonder Lake many clumps of alder grow out in the rolling tundra. The low ground cover consists of mosses, lichens, sedges, grasses, horsetail, and many species of herbaceous plants. In late April the beautiful pasqueflower makes its appearance as the first wildflower of the new year. The annual berry crop is nearly always plentiful and consists of blueberry, crowberry, cranberry, buffalo berry, and alpine bearberry. The berries begin to ripen in late July and are an important source of food for birds and other animals.

A number of parallel northward-flowing streams head in glaciers lying along the north slope of the Alaska Range. Though the streams are not large, they are bordered by very wide gravel bars, because the streams continually change channels and gouge out new ones. When the main stream reaches the bank, it erodes and thus broadens the river bar.

People who visit the park in the early part of the summer may see extensive fields of ice on the river bars, the result of what is called *overflow*. In cold weather the water freezes to the bottom, leaving no room for the stream to flow underneath. As a result, the stream breaks out over the top of the ice under the snow and forms more ice. This process continues throughout the winter, and thus ice patches many feet thick form.

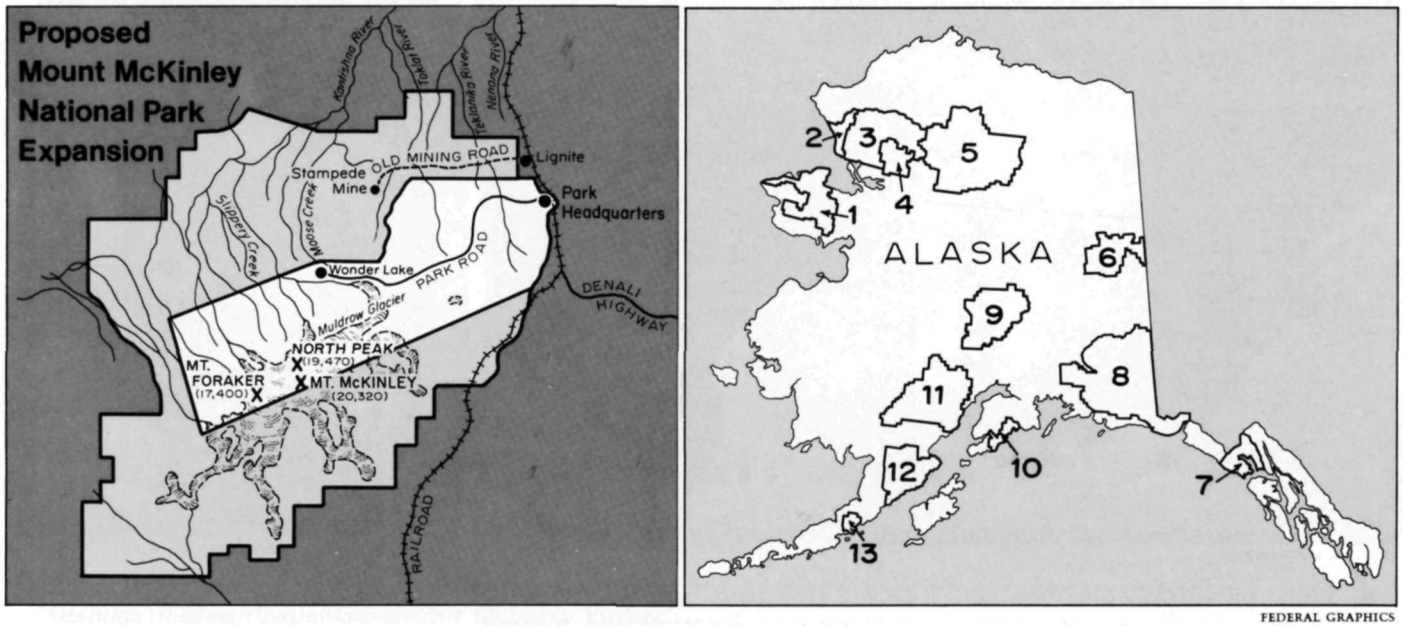
For the hiker and backpacker it is easy to travel up the river bars and even over the open tundra, and no trails are needed. With the advent of a free bus system over the park road a few years ago many hikers now go out for the day and catch a bus back to campground or lodge in the evening.

HISTORICALLY, a mountain as high and remote as Denali is a challenge to people from all walks of life who desire to reach its summit. As early as 1903 Dr. Frederick Cook of polar exploration fame made such an attempt along with four others, including journalist Robert Dunn. Their venture was not successful. Dunn later published articles and a book, *The Shameless Diary of an Explorer*, about the experience, and Cook wrote his account of the country and the trip in his book, *To the Top of the Continent.*

Cook then received financial backing in 1906 for another expedition to climb McKinley. In his party were Belmore Browne and Herschel Parker. After the failure of this group to reach the top Dr. Cook left them. With one of his packers named Berrill, he traveled back up the Ruth Glacier and—so he later claimed—on to the summit, returning to base camp in a period of only ten days. His story was given credence for several years until 1910, when Browne and Parker organized a well-equipped party and traced Cook's route as he had described. They found the site

NATIONAL PARK SYSTEM PROPOSALS IN ALASKA

1. Chukchi-Imuruk National Monument
2. Cape Krusenstern National Monument
3. Noatak National Preserve
4. Kobuk Valley National Monument
5. Gates of the Arctic National Park
6. Yukon-Charley Rivers National Preserve
7. Glacier Bay National Monument
8. Wrangell–St. Elias National Park-Preserve
9. Mount McKinley National Park
10. Kenai Fjords National Monument
11. Lake Clark National Park
12. Katmai National Monument
13. Aniakchak Caldera National Monument



FEDERAL GRAPHICS

from which Cook had taken the photograph of Berrill holding the American flag on the so-called "summit," but which was in truth a rocky outcrop at about 8,000 feet in elevation and at least twenty airline miles from the top of Mount McKinley.

That same year a party of four Alaskan miners and prospectors, who called themselves the Sourdough Party, climbed the north peak of the mountain carrying a spruce tree pole, which they planted on top. Alaskans were skeptical of their success until 1913, when the Hudson Stuck–Karstens party made the first successful climb of the higher south peak and from there were able to see the pole clearly outlined against the sky.

Since 1932 climbers have reached the heights of Denali many times, aided by light planes that are able to carry climbers and supplies to the upper parts of the glaciers. With the experience open to so many more people and with growing enthusiasm for alpine mountaineering, congestion at the peak of Denali is occasionally a problem now. In the summer of 1976 about sixty people were in the vicinity of the peak on the same day. Naturally, this situation has given rise to the problem of littering, and the National Park Service will probably have to exercise more control in the future in order to preserve the pristine beauty of this magnificent mountain.

My late husband Adolph Murie, who for a period of thirty years made big game studies for the Park Service in Mount McKinley National Park, long advocated extending the park boundary to the north in order to make a more natural, self-perpetuating ecological unit. In his booklet, *The Mammals of Mount McKinley National Park*, published by the Mt. McKinley Natural History Association in August 1962, he wrote:

> The grizzly has survived in only a few states, more by accident than by our planning for his future. In Alaska we have a great opportunity for giving the grizzly and the rest of the fauna ample room for carrying on their living in a natural, free manner. The grizzly needs extensive wilderness country for his way of life, and wild country is also vital for the highest development of human culture. If we provide for the future of the grizzly, we at the same time provide wilderness for our own needs.

Hunting, mining, and recreational development continue to be more or less constant threats to the park's animal populations and ecosystem. As an example, many years ago a road was built from Lignite on the Alaska Railroad, west along the foothills of the Alaska Range north of the present park boundary to a mine at Stampede on the Clearwater Fork of the Toklat River. The road is no longer passable, but within the past year the representative to the Alaska Legislature from this district has asked the State Highway Department to improve the first eight miles of the old road so that it will be usable for ordinary cars. If the road were to be improved, the caribou, mountain sheep, moose, wolves, and grizzly bears would be subjected to intense hunting. The best protection for this wildlife is to extend the park boundary northward and to forego rebuilding the old road.

Recreational impact has already been felt in the Wonder Lake–Kantishna western end of the park. A few summer homes were built about fifteen years ago and at least two summer tourist accommodations are operating just outside the park's boundary. In the past there

SPECTACULAR CAMPGROUND AT MOUNT MCKINLEY, BY ED COOPER

ALASKAN GRIZZLY BEAR, BY STEVEN C. KAUFMAN

CARIBOU, BY ADOLPH MURIE

has been pressure from various sources to build a large hotel complex near Wonder Lake. More recently, however, this idea has been abandoned in favor of building outside the park on the south side of the range, from which there is an equally spectacular view of Denali. One would hope that the country in the foreground of Denali on the north might be protected from any expansion of man-made intrusions.

Mining has been detrimental to the land in several areas of the park, notably along Moose Creek outside the northwest boundary. Scars made by bulldozers on the tundra above the creek probably will never heal. A trail made by bulldozer for several miles west of Wonder Lake to a mine on Slippery Creek has also left an indelible scar on the land.

The abuses stemmed from the fact that at the time the park was established, the way of life in Alaska was so oriented to mining that the right to prospect and mine within Mount McKinley National Park was included in the enabling legislation. However, now the Park Service intends to utilize a new law to halt mining in the present park for all time. The Mining in the Parks Act of 1976 closed this park and all others to new mineral location and mining entry. Under the new law and related regulations, existing operations on fifteen claims within the present Mount McKinley National Park also were halted until NPS checks out the validity of the claims next summer. The Park Service intends to buy up all valid claims, provided Congress appropriates the funds.

Many of the park animals move beyond the park boundaries at all seasons and thus are subjected to adverse hunting pressure. Wolves especially move in and out and could easily be exterminated if the pressure continues. For example, an unusual white bull moose with a large dark patch on one side lived in the Igloo Creek and Teklanika River region for three summers and was seen by many visitors. Then one spring it failed to return; it had been killed near the boundary by a hunter who had spotted it from an airplane.

Ade's words clearly explain the needs of Denali's wildlife for a natural, complete, unspoiled ecosystem:

> Here all the plants and animals enjoy a natural and normal life without human restrictions. Freedom prevails—the foxes are free to dig burrows where they will, to hunt ptarmigan, ground squirrels and mice as the spirit moves; and they share in the ownership of the blueberry and crowberry patches. The grizzlies wander over their ancestral home unmolested, dig roots and ground squirrels, graze grass, and harvest berries according to whatever menu appeals to them. The "bad" wolf seeks an honest living as of yore; he is a respected citizen, morally on a par with everyone else. His hunting of mice, ground squirrels, caribou and Dall sheep is his way of life and he has the freedom to follow it. No species of plant is favored above the rest, and they grow together, quietly competing or living in adjusted composure. Our task is to perpetuate this freedom and purity of nature, this ebb and flow of life—first, by insuring ample park boundaries so that the region is large enough to maintain the natural relationships, and secondly, to hold man's intrusions to the minimum.

Let us hope that a complete ecosystem to the north will soon be provided for the moose, wolves, caribou, and grizzly bears and that all of Denali will finally be included within this great park. ■

Louise Murie spent twenty-five summers in Mount McKinley National Park while her husband Adolph conducted his studies of wildlife for the Park Service. Fascinated by the park's plant life, she came to know it intimately during her years at Mount McKinley. Since her husband's death Louise has lived in Grand Teton National Park at Moose, Wyoming.

Message to Members: **Design for Denali's Future**

Proposed additions to Mount McKinley National Park currently are included in various legislative packages that would set aside millions of acres of federal lands within the huge state of Alaska as national parks, wildlife refuges, forests, and wild and scenic rivers. Following hearings on legislation introduced by Rep. Morris Udall (D-Ariz.) and presentation of the Administration's Alaskan proposals, House Interior subcommittee staff prepared a working draft for legislation to protect 102 million acres in the state.

Adopted as a markup vehicle by the Subcommittee on General Oversight and Alaska Lands, the bill would rename Mount McKinley National Park as Denali National Park, in keeping with the Alaska native Indian name for the mountain. (President McKinley, for whom the park was named, never even set foot in Alaska.) It would add 3.8 million acres to the park to protect critical range for wolves, sheep, moose, and caribou; the part of the Denali massif not included in the existing park boundary; and the awesome Cathedral spires and associated forelands, glacial features, and other scenic resources. The additions also provide for improved opportunities for visitor access and interpretation.

The subcommittee staff proposal has the support of Interior Committee Chairman Udall, whose original bill (HR 39) called for adding 4.7 million acres to Mount McKinley. The Alaska Coalition, of which NPCA is a member, believes that the staff draft provides an excellent northern boundary for the park, but the proposal omits a number of scenic lakes, access points, and fringing lowlands on the west and south sides.

Both the staff draft and the Administration proposal call for designating most of the added acreage as wilderness. However, the Administration proposal excludes the Stampede road corridor (see map) —the route that miners want the state to rebuild for them. In effect, they are lobbying to have the state subsidize them by providing access to the mines at Stampede. Conservationists maintain that this action would be entirely inappropriate, and they support wilderness designation for the corridor. Moreover, although the subcommittee staff's proposal for Mount McKinley National Park does not differ significantly in acreage from the Administration's plan for the park, it does include more complete geographic units in several places.

On the pro-development side of the Alaskan controversy, Rep. Don Young (R-Alaska), the subcommittee's ranking minority member, has submitted a competing legislative proposal that would drastically cut the amount of acreage of protected Alaskan national interest lands and open many areas to development. Young wants to make fairly minimal additions to Mount McKinley, with the notable exclusion from the park of mining areas.

Subcommittee members are considering the various legislative proposals and at press time were scheduled to begin markup of a bill in late November, with House action expected early in 1978. The controversy over proposed additions to Mount McKinley represents only a small portion of the most important land conservation battle in our nation's history, and the coming weeks will be critical for that battle. (See page 26 for more information.)

NATIONAL PARK SERVICE

What special combination of factors creates the charming people who so effectively interpret the national parks to visitors?

by EILEEN LAMBERT

The Magic of the SEASONALS

OUR GENIAL guide on a hike in Grand Teton National Park introduced us to Audubon's warbler and the colorful western tanager. He explained how to tell a chipmunk from the golden-mantled ground squirrels that were scampering nearby, and he pointed out the differences among lodgepole pines, Englemann spruces, and Douglas firs. He drew our attention to moose tracks and droppings on the spongy trail, and he told us it was calving time. As we sat on a cliff above Jenny Lake and looked up at towering jagged peaks, he mentioned trails and likely places to see moose calves and other wildlife.

The awesome Grand Tetons became friendly to us through this ranger who loved them and seemed to know them as if he had been here all his life. We were flabbergasted when we learned he was not even a full-time park employee but a high school teacher from far away, employed here only for the summer. How could he so quickly catch and so effectively convey to park visitors the spirit and meaning of these mountains?

We've had similar experiences elsewhere in the National Park System, among scenes of nature's majesty and at sites of historic events. Almost always our guide has been a part-time employee. Statistically, seasonal employees are the only contact that 65 percent of park visitors ever have with park personnel. The national parks have had too few year-round employees to take care of the summer influx, and the ratio of visitors to employees is ever widening. Because of rapid enlargement of the system (approaching three hundred areas now) and mushrooming visitation (some 280 million visits a year), the seven thousand or so permanent staff people are spread ever thinner in the parks and at Washington and regional offices. They are so busy administering the protection, development, and maintenance of the irreplaceable park resources that they have little time for visitor contact.

Seasonals are the solution. Seasonal positions are highly coveted, and the number of applications always exceed openings. Most of the successful applicants are teachers, students with at least two years of college, or graduates in the natural sciences, history, archeology, behavioral sciences, or dramatic arts. Appropriate educational background and the experience of the many part-timers who return year after year to the parks are elements of the success of the seasonal program. But just as important to the effectiveness of the part-timers is a comprehensive orientation program. Not until I attended training sessions at Shenandoah National Park did I catch glimpses of the full secret of seasonal magic.

TRAINING WEEK opened at Byrd Visitor Center, Big Meadows, with an all-inclusive gathering. Seventy-six seasonal returnees and twelve new recruits selected from an astonishing 4,000 applications attended. Also present were eighty volunteers and students on work-study programs—a likely source for future seasonals. (I was pleased to see so many women in the group.) The recruits had re-

NATIONAL PARK SERVICE

ceived hefty portfolios crammed with information. A long-time district ranger—the very archetype of "rangerness"—welcomed everyone and introduced speakers and discussion leaders. The superintendent reminded us that the parks belong to the people. He said the seasonals were to play the role of host while setting examples of stewardship. He added, in a way that somehow brought full-timers and part-timers together as one big family, that if they ever had an irate visitor they couldn't cope with, they should put him or her on the phone to the superintendent.

Full-time staffers reviewed the history and mission of the National Park Service—to protect and enable the people to enjoy these great examples of our heritage. They described park organization and functions of divisions. A slide show, "Our Job," brought out the idea that "we're here to take the static out, so visitors can hear the music." A tall district naturalist discussed the park personnel image—uniform, attitudes, public relations. As I listened, I began to feel a new awareness growing, the beginning of a melting together and of new bonds, and not just people-with-people but people-with-park, too.

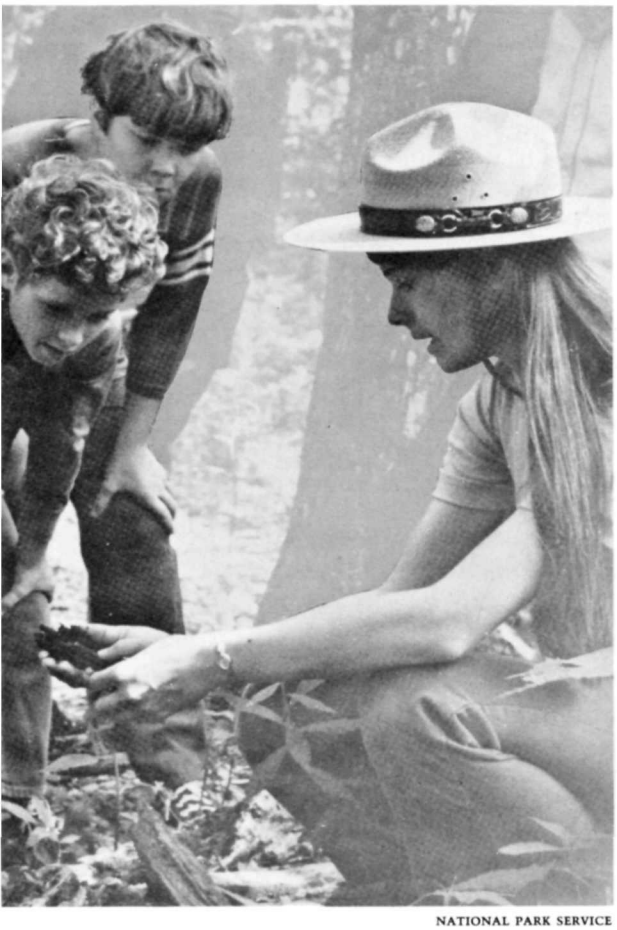
THE TRAINEES met separately the rest of the week for specialized training. Rangers who would be patrolling the backcountry, roads, trails, and campgrounds and collecting fees and enforcing laws and regulations focused on visitor protection and resource management. As one ranger told me afterward, their job is to protect the visitors from each other and from park hazards and to protect the park from visitors. The trainees studied bear and fire problems and search and rescue operations. They saw first-aid equipment demonstrations and experienced a mock accident that demanded immediate coping and prompt investigation. They learned about entrance station and campground duties, patrol vehicles and techniques, stopping offending cars, quieting disturbances, defensive tactics in making arrests, about radar and the breathalyzer, alcohol and other drugs, and deviant and abnormal human behavior. Many of these ranger-trainees were working toward the five hundred hours of law enforcement training, including criminal law, firearms, narcotics and mob control, that are now required for full enforcement authority.

I accompanied the other group—ranger-naturalists who would be giving campfire programs, leading hikes, and operating visitors centers. As we sat at the edge of Big Meadows, swallows swooped low, a vesper sparrow sang from a nearby pine, three deer fed in the meadow, and the warm June sun enveloped us in its warmth. The wild creatures and the sun, I saw, were among the training instructors; and while their lessons penetrated, the chief naturalist asked the trainees to express in one word or phrase what the park meant to them. Among the answers were "Beauty," "Life," "Peace," "Relationship with Nature." The assistant chief naturalist also asked thought-provoking questions. Full-time supervising naturalists have had the benefit of advanced courses at Mather Training Center, Harpers Ferry, West Virginia, dealing with interpretive trends and management, contemporary ideas and techniques, selection and development of personnel, and coaching of front-line people involved in visitor contact.

When the group moved into the library-study room of the visitor center, the rangers asked for suggestions from seasonals who had worked here before. One woman talked about wilderness experiences as a source of understanding. (One hundred twenty-five square miles of Shenandoah National Park recently attained wilderness status.) Another woman—sometimes called "bird-brain" because she's so interested in birds—discussed keeping notes on natural history observations. A teacher and father of two gave ideas that work for children's programs. The librarian —a collaborator with years in the park— told of available books and other aids for preparing talk-slide shows.

That evening the supervising naturalists sponsored a picnic for the seasonals. Friendships were started or renewed, and I began to realize that formal sessions alone could never explain the seasonal magic. Nothing alone could explain it. In relaxation the learning went on, maybe even stepped up. Tales about adventures and observations were exchanged as we ate in small groups on the grass. I heard about blacksnakes mating, behavior of bears and gray foxes, the ritual flights of woodcocks at evening, what special wildflowers were blooming and where.

NEXT MORNING the subject was safety and how to deal with emergencies involving visitors. That afternoon another experienced seasonal told how the park's photographic albums and oral tapes of old-timers could help interpret human history. A guest speaker engaged in research discussed the park's genesis and legislative-administrative history. We heard and discussed tapes of con-



NATIONAL PARK SERVICE

ducted hikes and programs presented by seasonals in previous years. The regional chief of interpretation, from Philadelphia, talked about overall Park Service interpretive directions and the relating of park experiences to the environment and the energy crisis.

The week included a hike during which trainees were invited each in his or her own way to interpret something along the trail—the idea being not to intrude between nature and the visitors but to help visitors see things they don't normally notice. The art of interpretation resembles painting. Ever after you've tried it you keep finding shapes and textures and details you hadn't previously focused on. For instance, a veteran seasonal, usually laconic, drew attention to drops of water clinging to a pine tree, a small miracle many visitors might find for themselves with some unobtrusive help from the naturalist. Deer and bird songs and other "happenings" on the hike were takeoff points for trailside revelations.

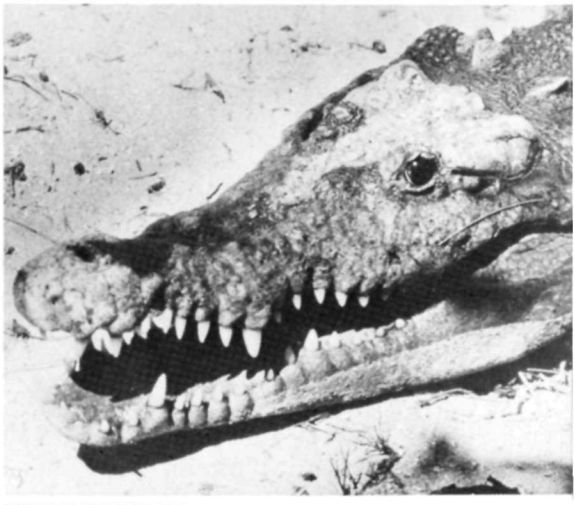
We experienced much more, of course; it was a busy week. But each seasonal had time to talk over ideas for possible programs with supervisors and time for working on program preparation. Hazards were discussed—such as what to do when sixty to eighty visitors show up to go on one conducted hike. All agreed that no perfect answer to the overcrowding dilemma exists, but I began to feel that we park visitors have a key part to play. For example, we should insist that there be enough skilled seasonal employees in each park unit to evoke the personal and special insights that enrich the mind and add meaning to our park experiences.

NATIONAL PARK SERVICE

BUT THE MAGIC—what is the source of the magic that enables the seasonals to do this job for us so well? I confess I was still confused at the end of the week. Part of the secret is in the training, true. The natural beauty and dynamic forces that flow and pulsate through the park itself are also parts. Still another element the seasonals brought with them when they came; the eager enthusiasm that had sparked each one to compete with thousands for the privilege of working in a national park was a force of vast potential. It moved the trainees to study and explore on their own time and to accompany other park people on their rounds. This force created a powerful yen to learn and to share. And it was contagious. It had been growing and spreading all week and would go on growing and spreading among all park personnel and the park's visitors.

A young seasonal employee summed up the secret at last when she said, "Things have come together for me. I'm living in a national park, surrounded by wild beauty, and I can do something worthwhile for others—help them see and feel and understand and care. I feel so lucky." ■

Naturalist Eileen Lambert, past-president of Shenandoah Natural History Association, works as a free-lance writer at her home just outside Shenandoah National Park, Virginia.



BOB EAST, MIAMI HERALD

Once found in abundance in southern Florida and in most countries bordering the West Indies, the American crocodile is now threatened with extinction

by PAUL S. TOWNSEND

Can the Croc Come Back?

THE CROCODILE inhabited earth long before mammals appeared, and survived the test of time throughout millions of years. While thousands of species were dying out or evolving into new forms, the crocodile held its own and proved itself adaptable and resilient.

For 140 million years crocodilians inhabited vast areas of several continents. Today, the comparatively tiny region of the Everglades National Park in southwestern Florida offers the last hope for the survival of one of their descendants, the American crocodile.

Of the five hundred or so crocodiles that survive in the United States, most exist precariously in Florida Bay in Everglades National Park. A few also nest on Key Largo in the Florida Keys. Others survive in Jamaica, Cuba, Hispaniola, Central America, and Colombia; but all these populations are depleted, and none is assured of protection.

The near decimation of the species *Crocodylus acutus* has taken place in only seventy calamitous years—a result of loss of habitat and the sacrilegious conversion of the skin into products of adornment. As recently as 1957, the American crocodile was found in larger numbers in most of the countries bordering the Caribbean basin. In Florida it once ranged along the coast from Lake Worth to Cape Sable, but it is now largely limited to shores and islands of northeastern Florida Bay. Within little more than a few decades, this magnificent species is now officially listed as endangered.

The crocodile is coastal and estuarine in distribution. The species was probably carried to southern Florida from Central America, the Tamaulipas area of Mexico, and from northern Venezuela centuries ago by hurricanes and tropical storms. Adults are at home in full-strength saltwater conditions for several months, but the young cannot exist for long in strong salt water; they need either fresh or mildly saline water.

Climatically, southern Florida is only marginal habitat for the cold-blooded *Crocodylus acutus* because of fairly extreme temperature variations. For example, in January 1977, the Everglades experienced record low temperatures of twenty degrees. However, in other respects the park affords ideal habitation. Not only are the crocodiles there protected from man, but the brackish waters, created by a mingling of freshwater runoff from Lake Okeechobee to the north with sea water from Florida Bay and the Gulf of Mexico, provide an ideal environment. Nevertheless, Florida Bay probably becomes too salty at times for young crocodiles.

THE AMERICAN crocodile is perfectly tailored to survive in its natural environment, if man will let him. I have watched a crocodile remain in one position for hours, even after sundown, to retain warmth in its body. With only his eyes, ears, and nostrils above water, he is keenly alert to every movement in his vicinity. The click of a camera is all he needs for an excuse to make a sudden disappearance.

The croc creates burrows in the peat, marl, or mud banks of the rivers and streams that flow into northern Florida Bay from the Everglades. Because the crocodile cannot automatically regulate his body temperature within the required limits, these secluded lairs provide warm retreats when the temperature drops. If he remained in the water in very cold weather, he could become so torpid that he might sink and drown. The openings to these burrows are sometimes wholly under water, or half submerged. In any case, the lairs penetrate the bank to a depth of

from twelve to almost thirty feet, probably aided by the lateral thrashing motion of his extremely long, powerful tail. If a crocodile uses the same lair year in and year out, the passageway eventually widens so that the three-hundred-pound reptile with its four-foot girth can turn both at the entrance and at the end.

The snout of the American crocodile is slender and moderately tapered. Its supposedly bizarre expression is due entirely to the position and size of the long, lower fourth tooth, which is most conspicuous when the mouth is closed. This peculiarly positioned tooth, which some say lends the croc a perpetual grin, fits into a groove on the outside surface of the upper jaw. If the fourth tooth is the most unusual, the fifth tooth is the strongest. When the croc's socketed teeth interlock and his jaws close with a pressure of up to 1,100 pounds, prey have little chance to escape. Yet I have seen small birds hopping happily in and out of a basking crocodile's open jaws, picking his teeth. Had the crocodile been so inclined, the same birds who so graciously tended to the reptile's dental hygiene would have wound up on the dinner menu. The crocodile is able to regenerate teeth that he loses from breakage or from long use.

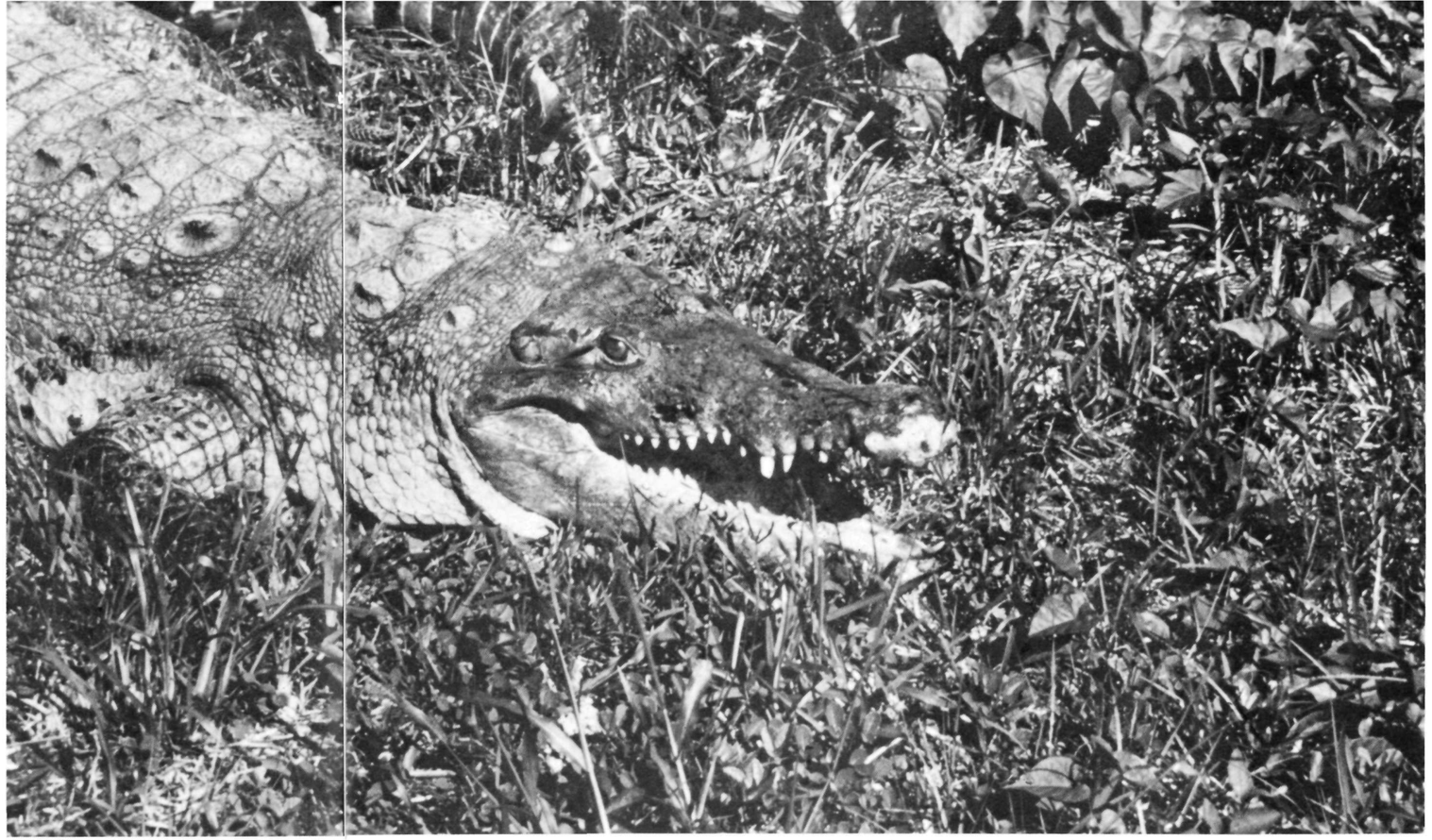
The muscular structure of the crocodile's flat, thick tongue is anchored to the floor of the mouth by its whole surface. This anchorage allows the large tongue to move up and down but not to protrude. Sensitive projections of touch and taste cover its entire surface. A flap at the hind end of the tongue also acts as a valve, allowing underwater feeding but preventing water from entering the croc's lungs.

The male crocodile goes to considerable lengths to find his lady love. After much display and a great deal of thrashing of water, he finally climbs over the body of the female, and copulation takes place under or in the water. Lucky for the crocodile and the perpetuation of the species that he (and she) have valves on their ears and nostrils that close when the animals submerge.

The female lays about forty eggs, which have an incubation period of three and a half months. She buries them in nests in beach sand or under a layer of marl, or mud and vegetation. The female keeps distant watch on the nest during the day, but at night, for reasons that remain obscure, she lies with her snout across the nest. When she hears her young unfolding and emerging, nose first, from the three- to four-inch-long eggs, she digs up the nest and either pushes or carries the young in her jaws to the river's edge where they finish hatching.

Although scientists know that a high percentage of crocodile eggs hatch, the survival rate of hatchlings is still unknown. The diet of newly born crocodiles is generally insects. The growing crocodile gradually progresses from larvae to snails and finally to fish and small animals. The principal food of adults probably is mullet and other fish, which are abundant in Florida Bay.

The American crocodile grows very rapidly during the first few months of life. He subsequently grows at a slower rate of about a foot a year, achieving an average length of eleven feet eight inches. An occasional specimen has been measured to as long as fifteen feet. His tail accounts for almost half his body length. The life span of a crocodile is about thirteen years. Younger crocs have olive brown scutes, or scales, and light yellow bellies that, in old age, change to dark gray.



NATIONAL PARK SERVICE

Everglades National Park provides refuge for the endangered American crocodile.

NO EFFORT is being spared to ensure the survival of the American crocodile. Recently several creeks in Everglades National Park along which crocodiles nest were closed to boat traffic during the nesting season. This seclusion and protection are regarded as the surest means of preserving the species, at least in the United States.

A recent program in Everglades National Park for the artificial incubation of eggs was not entirely a success, possibly because of a lack of proper equipment. The approach toward restocking is now undergoing review. Possibly captive breeding areas can be established where research can be effectively implemented in a natural but controlled situation.

More and more research is now being carried on to learn more about the American crocodile. Dr. James Kushlan and Dr. William Robertson, research scientists at Everglades National Park, have recently embarked on a research program that will gradually increase in scope and intensity during the next four years. In learning more about the crocodile, man can perhaps learn better how to aid in its survival.

The market for crocodile products has been closed and effectively policed for some time in the United States—and similar measures adopted and implemented in other countries would be helpful—but the principal hope of survival is, again, in the critical habitat of Everglades National Park.

One important step that remains to be taken is to extend some kind of official protection to the areas on Key Largo where crocodile nests have been found.

FLORIDA is the northernmost limit of the American crocodile's range, and the animal has lost habitat there to development; but it is the only place in the world that the croc is receiving effective protection. We must continue providing that protection in Everglades National Park. A species that has survived 140 million years of climatic change, geologic upheavals, and other caprices of nature must not be allowed to succumb now because man was careless enough to let it become extinct. ■

Paul Townsend spent seven years in the Caribbean involved in research work. For the past several years in the Florida Everglades he has taken a keen interest in the American crocodile.

Message to Members

You Can Help the Croc

Write to the Secretary of the Interior to urge him to continue with fervor to support protective programs for the American crocodile. Also urge him to work for establishment of a wildlife refuge or crocodile preserve on Key Largo where a small population of crocodiles still exists.

Hon. Cecil D. Andrus
Secretary of the Interior
Department of the Interior
Washington, D.C. 20240

Finally, Floridians can help efforts to protect Everglades National Park and its wildlife by attending public hearings to support the Park Service's protective regulations and by writing the local press to defend and praise these efforts.

Ninety-five percent of the people in rural areas of the Third World depend on firewood for cooking and heating; but indiscriminate tree cutting is disrupting the environment, and collecting the firewood is more difficult as wood becomes scarcer

by ANIL AGARWAL

The Poor Man's Energy Crisis

IN THIRTY YEARS' time, a second India will come into existence as the population of the subcontinent doubles. What stresses and strains will this growth place on the fabric of the nation's life? To try to answer that question, the Indian government initiated in 1974 a series of Second India Studies.

Perhaps the most surprising conclusion of these studies is that although India stands a good chance of being able to grow enough food to feed twice as many people, those people certainly will not have enough firewood to cook it. A poor man's energy crisis, on a massive scale, is emerging.

Mahipal Singh already knew about it. It is one of the reasons that he now lives in Delhi, hundreds of miles from his family. He left his remote Himalayan village years ago because life there had become unsustainable. Today he earns £20 a month, driving a three-wheeled tempo, and sends £3 a month back to his wife. For the first few years he could not return to see his family at all. "To ask for a holiday," he says, "would have cost me my job." Now, he has an employer who allows him a few weeks leave each year to return to his village.

POPULATION GROWTH and the division of land into smaller and smaller plots meant that Mahipal Singh—like a quarter of the population of the Himalayan region of Uttar Pradesh—did not have even the one acre necessary to feed himself and his family.

At the same time the felling of trees—for firewood, for clearing new croplands, and for the timber-hungry industries of India—has disrupted the ecological balance on which the livelihood of the hill people depends. Like 95 percent of the people in the rural areas of all the countries of the Third World, their main source of fuel for cooking and heating is firewood. As wood becomes scarcer—and the daily task of collecting it becomes longer and harder—more and more dried animal dung is used as fuel instead of being returned to the land as fertilizer. In India as a whole, the amount of animal dung now going up in smoke every year is the equivalent of one-third of the subcontinent's fertilizer needs.

Deprived of valuable nutrients, the fertility of the soil begins to fall; and, for people like Mahipal Singh and his family, life becomes even more difficult to sustain. For Mahipal's wife and children, the clearing of the forest has meant an ever-lengthening struggle to provide two of the family's most basic commodities—fuel and water.

"Once the broad-leaved trees on the hills and hill-tops are gone," explains Mahipal, "the humus, which acts like a giant water-sponge, disappears. The perennial stream in each village begins to dry up soon after the monsoons. I have seen this myself in village after village.

"My wife now has to walk five kilometers for the day's firewood. In fact, she is quite fortunate. Some of the women in other villages have to walk much more than five kilometers for wood and water. At least one member of the family has to devote himself every day to the back-breaking job," says Mahipal.

Caught in this pincer movement of land fragmentation and ecological disruption, thousands of people like Mahipal Singh are squeezed out of the hills to join the ranks of domestic servants, the night watchmen, the menial laborers, and the unemployed of Delhi.

IN RECENT TIMES, the hill people have begun to fight for their forests. One of their most successful weapons has been the Chipko Movement led by the popular Gandhian Chandi Prasad Bhatt. Translated literally, Chipko means "to hug the trees," and the slogan is more than metaphoric. When a forest auction is announced, the Chipko supporters move in to stop the destruction by literally hugging the trees. Their most famous victory was won by a group of women who confronted fifty armed men

from a logging company and stopped the destruction of the forest by simply refusing to let go of the trees.

Direct action of this kind eventually won praise from a scientific committee set up by the Uttar Pradesh government. The committee found that felling the forest could cause serious damage to the watershed and ecology of the area.

Mr. Bhatt explains, "We must protect these trees because our entire future is tied up with them. They not only provide us with our livelihood; they also give us our water and food systems. Cut these trees, and our streams will dry up. The climate will change. Soil erosion will increase, and productivity of our lands will fall."

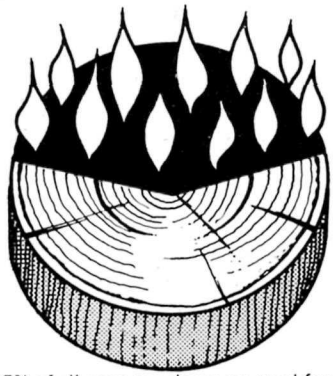
The Chipko leaders argue that the destruction of their forests is also bad for the national economy. The soil erosion caused by felling trees could bring about serious flood and silting problems in major rivers like the Ganga, which passes through some of the most densely populated areas of India.

In some parts, the Uttar Pradesh government has accepted Chipko's demand that no forest should be auctioned for the next five years at least.

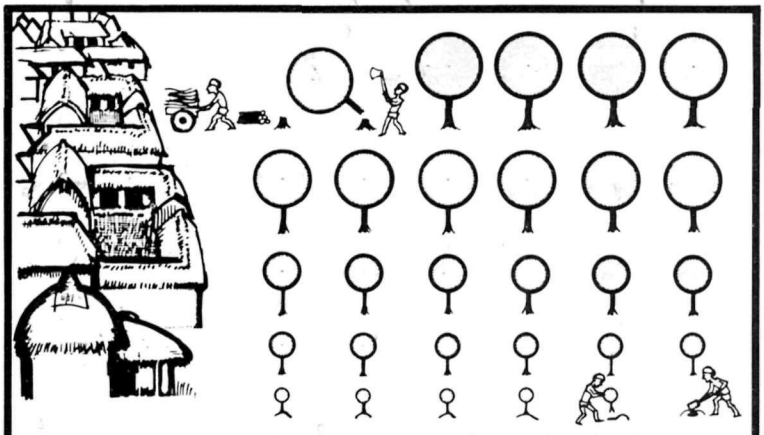
Chandi Prasad Bhatt and his followers are illiterate and semiliterate rural people. But the billboard they have erected in Gobe-

BAKRY TAG EL DIN (EGYPT)

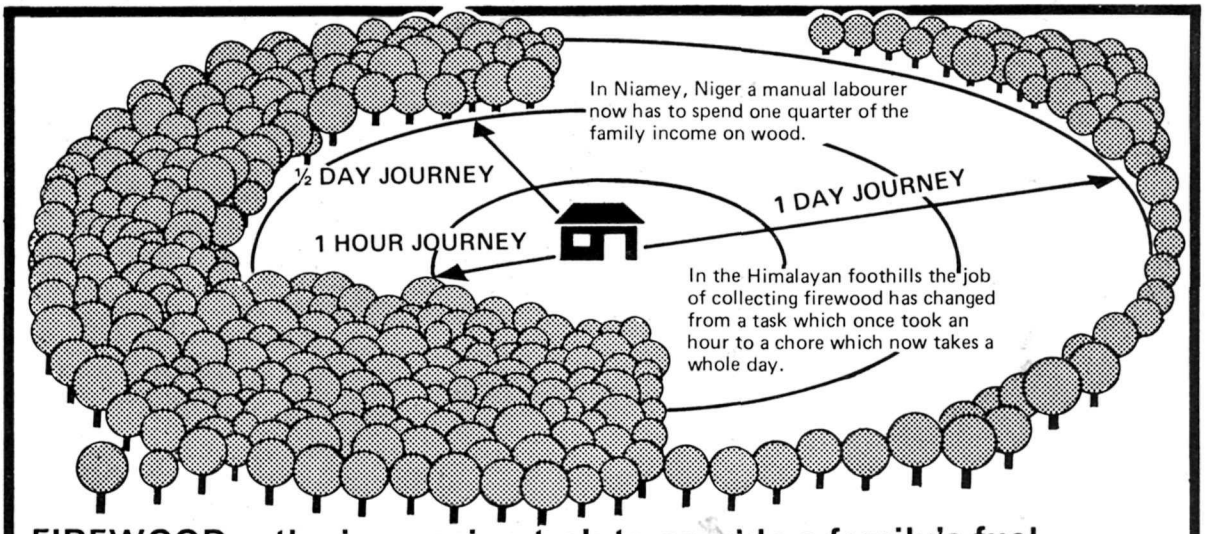
Firewood: The poor man's Energy Crisis



45% of all trees cut down are used for firewood and half the world's people still depend on wood for two of their most basic needs – heating their homes and cooking their food.

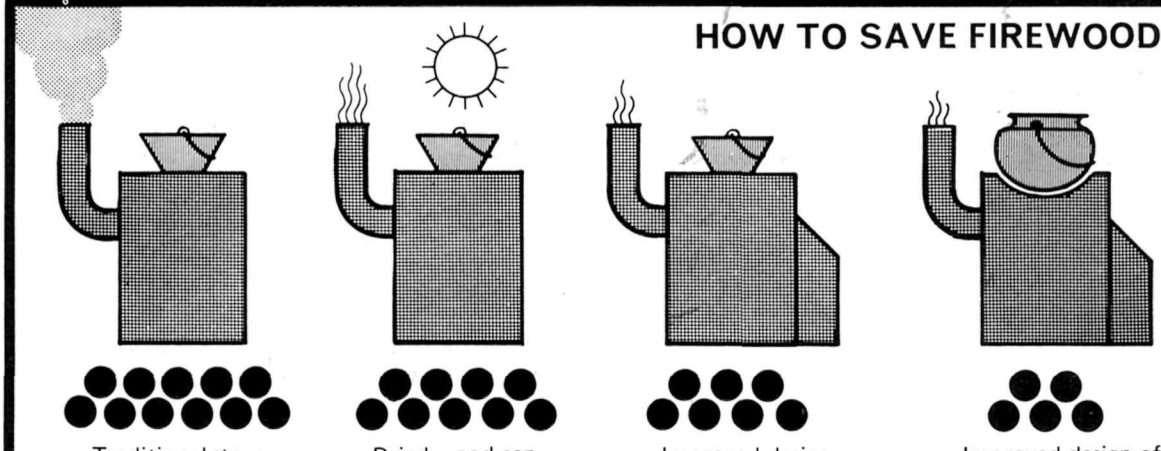


A ten hectare tree plantation could meet the firewood needs of a 1,000-family community in rural India — in a sustainable way. (Assuming a 50 per cent increase in the efficiency of firewood use.)



FIREWOOD — the increasing trek to provide a family's fuel

HOW TO SAVE FIREWOOD



Traditional stove: up to 94% of the wood's heat value wasted

Dried wood can cut waste by 10%

Improved design can cut waste by 20%

Improved design of cooking pot can cut waste by 30%

Peter Sullivan
"Sunday Times"
(LONDON)

PETER SULLIVAN, SUNDAY TIMES [LONDON]

shwar, headquarters of Chipko, is a scientific statement: "One oak tree draws in 400 hundred gallons of water each day from the atmosphere. Cut one oak tree, and the rivers and streams will lose 400 gallons of water. Forests are not merely for beauty; our entire food systems are dependent on them. If ever it becomes necessary to cut a tree, remember three new saplings will have to be planted to make up the damage. Avoid cutting one tree, or else plant three new trees."

The aims of the Chipko Movement go beyond simply preventing the trees from being cut down. "The trees are our only resource base," says Mr. Sundaral Bahuguna, another Gandhian leader in the area. "The state must develop an enlightened forest policy. But to do that, it must first have a well-defined people's policy so that the two can be properly integrated and our area can have economic advance without environmental damage. Either policy in isolation will bring disaster. A farmer who owns less than half an acre is quite understandably going to look upon the forest lands with a hungry eye —and indiscriminately chop them for fodder and firewood."

The Chipko Movement has its own plan to meet this problem. It wants more opportunities for employment outside agriculture—based on appropriate technology, forest farming, food orchards, and small one-to-five-kilowatt systems of electricity generation using the abundant hydropower. They also want small-scale industries based on forest products so that the local people, instead of earning a pittance as lumberjacks, are able to process the timber to at least a semimanufactured stage before they export it to the plains and the cities. They feel that the forest should be auctioned in small lots so that they could afford to bid for them—and that these cooperatives should also be responsible for replanting the area.

In this way, an entire new range of employment opportunities could be opened up and the area could become self-reliant. With the increase in purchasing power from employment in small-scale industry, the hill villagers could afford to invest in cooking and heating systems based on electricity and solar and wind power, reducing their dependence on firewood and so helping to reserve the trees.

But until that happens, says Mr. Bhatt, "appropriate technology should help us to develop small and cheap devices for carrying firewood so that we can reduce the drudgery of our lives. Otherwise who will ever have the time to invest in economically productive activities?" ■

Anil Agarwal is the science correspondent of the "Indian Express" and has written widely on science, technology and rural development in India. This article was released as part of the 1977 State of the World Environment Report, issued by the U.N. Environment Programme in Nairobi, Kenya.

A manual laborer in Niamey, Niger, must spend one-fourth of his income on fuel. But the price is even higher than he realizes, for the cutting of the trees, and the caravans that bring this precious firewood into the towns, are contributing to environmental destruction in a widening band along the desert's edge. The increase of human population, cutting of trees, and overgrazing by animals are contributing to environmental destruction, the spread of deserts, and human hardship worldwide.

NPCA at work

SEQUOIA

Congress Sees How the Land Lies in Mineral King

When it comes to thinking about the value of a wild alpine valley, some people don't seem to want to see any farther than the front of their skis.

That's where some planners with their eyes on Mineral King Valley in California are still looking after three decades of a Forest Service (FS) investigation into the possibility of a huge ski development in the wilderness valley.

This valley is only one-fourth-mile wide and is almost surrounded by Sequoia National Park, which borders it on three sides. Mineral King, however, is presently part of Sequoia National Forest. As in other alpine valleys, the habitat in this remote area is especially vulnerable to disturbance.

Set aside in 1926 as a national game refuge under Forest Service jurisdiction, today Mineral King serves as a preserve for one of the best deer herds in the state. The herd's does fawn on the peaceful valley floor; mountain sheep traverse wind-blown alpine slopes; and Mineral King may still provide sanctuary for endangered and rare species including the wolverine and spotted owl.

But just look at those snow bowls! The Forest Service has long imagined them as the keystone of a resort within the 15,600-acre valley that could attract as many as 8,000 to 20,000 skiers and other vacationers per day. So the agency made plans to provide them with multiple mechanized ski lifts, lodging for thousands, two villages, restaurants, shops, swimming pools, parking lots, gas stations—and an environmental education center.

The only big snag in the plan from the perspective of some of its promoters has been that many people don't seem to agree that it's a good one! Under pressure from conservation organizations in and out of the courts and after the change of Administrations, the Forest Service and its parent agency, the Agriculture Department, are currently reexamining the development plans.

Walt Disney Productions, which was recruited twelve years ago by the agency to develop the valley, has presented FS officials with a scaled-down model for the resort. Meanwhile, at October 27, 1977, hearings NPCA and other environmental organizations supported legislation introduced by Rep. John Krebs (D-Calif.) that would protect the valley under the Interior Department's jurisdiction, where it belongs, considering that it is an integral part of the environment of Sequoia National Park.

The Administration will present its official position when the hearings resume this year. At press time officials from the Agriculture Department and the Interior Department were preparing to meet soon to work out the Administration stance.

Zane Smith, director of recreation for the Forest Service, said that the agency "is looking for something that would be acceptable to all concerned. Whether the environmentalists and Disney can come together is uncertain."

Rep. Krebs has stated in the past that he doubts that any plan that would be economically feasible for Disney Productions could also be environmentally sound.

The economics of the development would seem to dictate a large, expensive resort. Moreover, project backers are counting on public financing—to the tune of about $25 million—of an access road cutting across Sequoia National Park.

An environmental impact statement issued by the Forest Service in 1976 called for the Disney corporation to construct a complex capable of handling

CANYONLANDS

Utah Businessmen Fight Park Service Decision to Halt Road

Virtually unknown by Americans before the 1960s, the fantastically sculptured sandstone country of Utah's Canyonlands National Park is now the focus of a loud battle over park development.

The Park Service recently rekindled a long-smoldering controversy by deciding to abandon plans for a paved road and steel bridge that would lead to an unspoiled area overlooking the confluence of the Colorado and Green rivers. The latter river merges into the Colorado in a deep canyon in the center of the park.

Business leaders in Utah want the Park Service to spend $13 million to complete the road and bridge connecting the eastern edge of the park with the confluence overlook. The roadway has been partially completed. If supplemented by a footbridge and simple trail, this route could take park visitors to within four miles hiking distance from the scenic overlook. Moreover, a four-wheel-drive road to the confluence already exists.

Supported by NPCA and other conservation organizations, the Park Service recently announced in a draft general management plan for the park that the agency was halting further construction of the paved road. NPS says that although the decision represents a change of plans from a 1966 master plan and 1973 environmental impact statement, the reversal is essential to avoid "irreversible environmental damage." The agency plans to connect the finished segment of paved roadway with a four-wheel-drive route and to proceed with other developments in the park.

Nevertheless, business leaders and politicians in Utah cried foul. They contend that failure to construct the 700-foot multimillion-dollar steel bridge over Big Spring Canyon and to lay asphalt right up to the canyon rim would be a deadly blow to the tourist industry.

At present the park, which was established in 1964, is largely undeveloped. The angry businessmen argue that the confluence road is an indispensable part of the development program that they claim was promised the state in return for supporting creation of the park. "The decision flies in the face of con-

Continued on page 22

6,000 visitors a day in summer and 8,000 in winter. (Previously the Forest Service had indicated plans to accommodate up to 20,000 visitors per day.) The complex would support many different types of recreational activities, include eighteen ski lifts, and provide lodging for 4,500 people at a time. More recently Disney Productions reportedly presented a "scaled down" plan in which lodging would be provided for 800 people and fewer ski lifts would be constructed initially.

Even though the Forest Service is re-examining development plans for Mineral King, Krebs notes that "as long as this area is administered under the multiple-use mission of the Forest Service, it is and always will be vulnerable to massive commercialization."

Likewise, at the recent hearings before the House Subcommittee on National Parks and Insular Affairs, NPCA also called for timely protection of Mineral King by adding it to the National Park System. In fact, the only reason Mineral King was excluded from the park when it was established in 1890 was an interest in mining in the valley. Luckily the mining potential of Mineral King proved to be fairly illusory. Mining operations in the valley were terminated more than eighty years ago.

This Association specified that the Park Service should limit recreation in Mineral King to activities such as camping and cross-country skiing that are compatible with natural outdoor conditions.

As an alternative to development of Mineral King as contemplated by the Forest Service, NPCA testimony advocated development of a resort outside the park under a concession contract with the Park Service.

First the Park Service would grant a concession to a consortium of recreational interests situated in the Three Rivers or Hammond areas, southwest of Sequoia National Park.

The keystone of the concession would be an exclusive franchise to operate public transit into Sequoia–Kings Canyon National Park through the southern entrance to the park. Private auto traffic through that entrance eventually would be phased out.

The long-lines transit system serving the resort area outside the park would be self-financing. Within the park visitors could make connections with a free transit system that would provide interpretive services. This internal system would be publicly financed.

Meanwhile, the long-lines concessioner would be required to develop resort accommodations that eventually would be adequate to receive all visitors entering the present park or Mineral King from the south.

These plans would facilitate phased reduction of private auto traffic into the park and the holding of overnight accommodations within Sequoia National Park at their present level with the eventual reduction of such accommodations.

"With facilities developed outside the park, Mineral King can remain in a natural condition as an integral component of Sequoia National Park," NPCA concluded. So far, Rep. Krebs' bill, HR 1771, has the support of twenty-one members of the California delegation and forty-two other members of Congress. (Krebs represents California's Seventeenth Congressional District, within which Mineral King is located.) Sen. Alan Cranston (D-Calif.) has introduced a similar measure, S 88, in the Senate; and the Senate parks subcommittee is planning hearings on his bill sometime soon. ■

The NPS decision to scuttle plans for a multimillion-dollar road and bridge in Canyonlands park has come under fire in Utah. As shown in this artist's conception, the bridge would span Big Spring Canyon in the park, where erosion has carved fantastic formations. At right is a typical scene of unspoiled beauty—Angel Arch along a tributary of Salt Creek.


DOT


USGS

gressional intent," the Moab Chamber of Commerce reportedly wrote NPS Director William Whalen.

Conservationists, however, have countered that not only would construction damage resources in the area of the road and bridge, but providing access to the overlook could have devastating repercussions for the rest of the park.

Jim Martin of the Canyon Country Council, a conservation organization in Moab, Utah, explains that "local economic and special interest groups are making a concerted effort to reject the management plan and push for large-scale development of the park, including the completion of a paved highway to the confluence, and a possible continuation of this highway south to U.S. 95 near Natural Bridges National Monument. If successful, this development could turn Canyonlands into another Yellowstone or Grand Canyon, fraught with problems of overcrowding and environmental degradation."

Along those lines, former NPS Director Gary Everhardt, who made the decision to scuttle the confluence road, explained that he did so to avoid repeating past mistakes that have led to inappropriate development in other parks. The awareness of the need to protect parks from such development has grown much just in the few years since the road was proposed.

NPCA has urged Assistant Interior Secretary Robert L. Herbst to uphold the Park Service's decision, a decision that this Association has sought for some time. The Sierra Club, National Audubon Society, Defenders of Wildlife, Friends of the Earth, and the Wilderness Society joined this Association in the petition to Herbst.

We pointed out that the draft management plan contemplates major visitor facilities elsewhere in the park, as well as a study of the feasibility of a public transportation system within the park. "These proposals should adequately provide necessary visitor use opportunities in the park, without more roads," NPCA contended.

That is, if feasible, such a transportation system would make outstanding features of the park such as the Confluence Overlook or other areas easily accessible to those without four-wheel-drive vehicles. "Funds which are 'saved' by not constructing the bridge and road should be used to provide public transportation into the park on existing roads," the conservationists told Herbst.

In fact, the Park Service draft plan envisions spending $13 million on park development during the next fifteen years. NPS wants to realign a road to improve access to the Island-in-the Sky District of the park—a mesa in the V formed by the converging rivers; stabilize a two-wheel-drive road from Dead Horse State Park to Monument Basin Overlook; and build new parking areas, new employee housing, and new visitor facilities. Conservationists do not agree with all aspects of the plan, but the confluence road was their main point of contention in the past.

The real issue behind the battle over the road is whether Canyonlands will be preserved as a true wilderness park. In a recent issue of *High Country News*, Martin and co-authors Doug Hulmes and Jim Stiles registered a strong plea against the confluence road. They explain that the road would affect the very character of the canyon country. "As it is, several areas on the periphery

U.S. FOREST SERVICE

GREAT SMOKY MOUNTAINS

Pigs in the Parks

A controversial program to eradicate wild boars from Great Smoky Mountains National Park continues to pit the North Carolina Wildlife Resources Commission against the National Park Service, hunters against biologists, and conservationists against humane interests. The controversy resulted in a moratorium on the program, but NPCA is pushing for its resumption.

The boars, estimated at five hundred to two thousand strong and inhabiting three-quarters of the 500,000-acre park, are descendants of Russian boars imported from the Ural Mountains in the early 1900s to stock a North Carolina game preserve.

Some of those boars subsequently escaped the preserve and interbred with native domestic hogs; their progeny readily adapted to the mountainous habitat, produced, multiplied, and eventually were classified as a big game species by the state.

In addition to becoming a much sought-after trophy by hunters, the exotic wild boar has been extremely damaging to the habitat in the Great Smokies. The boar feeds on roots, leaves, nuts, grubs, worms, and small animals; and it forages for part of its diet by plowing the earth with its snout. This rooting causes erosion and damages plants.

Research has shown that in one year the hogs had eliminated most of the beautiful Turk's cap lilies between Clingman's Dome and Siler's Bald. The Gray's lily, never abundant, has not been seen in the park at all in recent years, possibly the victim of the voracious boars. The boar also competes with native species of bear and deer for food, and it fouls streams and springs.

More than one thousand of the boars have been killed within the park during the past eighteen years, but still the population grows.

of the park have paved access roads, electrical hookups, and the like. Another overlook would not only seriously affect the environment but would be redundant." They contrast such a scene with the special charm of the unspoiled, colorful canyonlands: "One can wander for weeks, or for years, through the joints, grabens, meadows, and mesas and never lose that ineffable sense of wonder. The mystery of the place, its quiet immensity, its great age, overwhelm and invite one to stay." Such is the very spirit of the remaining wild Southwest.

You Can Help: The Interior Department is under considerable pressure from Utah politicians to reverse the decision about the controversial road. You can help counter that pressure by writing to support the Park Service in its present stand against construction of the confluence road and bridge in Canyonlands National Park:

Honorable Robert L. Herbst
Assistant Secretary
Fish, Wildlife & Parks
U.S. Department of the Interior
Washington, D.C. 20240 ■

The plan to eradicate the hogs from the national park is part of a larger Park Service policy to remove or eradicate exotic species of animals and plants on public lands under its control. The plan has drawn criticism from many hunters and some humane groups but has received the support of NPCA and many other environmental organizations.

The most vocal group of protesters against the boar eradication program has consisted of local hunters, backed by the State Game Commission. The hunters object to the program itself on the basis that the park should be considered an important breeding ground for the valued game. They claim that the damage the boar does to park habitat is negligible and that the boar has been in the area so long that it should be considered a native species.

The conflict between hunters and

Continued on page 24

CAPE HATTERAS

Laying It On The Line

The Park Service recently gave a go-ahead for construction of a controversial water line through Cape Hatteras National Seashore long sought by a second-home development.

Before NPS approved the water line, however, Director William Whalen personally negotiated an agreement calling for some monitoring of the environmental effects of the line on this Park System unit in North Carolina and NPS participation in land use planning.

NPCA has been opposing the water line for several years because it poses a threat of development of as many as 600 to 800 vacation homes within the national seashore and impairment of the resources of Cape Hatteras, a fragile barrier island.

The line will run from Buxton to Avon, towns that are enclaves in the midst of the NPS unit, and will cross some three miles of seashore land. NPCA is concerned that the connection could facilitate expansion of Hatteras Colony, a second-home development in Avon with a record of environmental abuses such as leveling dunes and filling wetlands.

In Hatteras Colony the development of septic tanks and wells on crowded lots of one-seventh acre each caused pollution of the town's aquifer and water supply. A moratorium was subsequently placed on development. Thus, the Outer Banks town now wants the water line in order to free itself from reliance on wells that draw on the contaminated supply.

In numerous conferences and briefs on this issue, NPCA repeatedly has pointed out that approval of the pipeline and ensuing construction would increase pressure for more roadways, commercial development, and harmful manipulation of the dunes in the seashore region. Furthermore, the water line itself would be constructed in an area used by endangered species such as the leatherback turtle, brown pelican, and peregrine falcon. Cape Hatteras is so vulnerable to hurricane damage that there is a real danger that the pipeline could be breached.

Continued on page 24

Hatteras—Continued from page 23

A 1976 Park Service environmental assessment of the plan confirmed that the water line would facilitate development that could have serious effects on the national seashore itself.

The Park Service had offered the Cape Hatteras Water Association a special use permit for the water line on the condition that it would service present water users only, prohibiting new hookups until a local land use plan was enacted and a suitable sewage treatment plant constructed.

The water association rejected this offer because developers obtained a legal opinion from the state attorney general that NPS approval of the pipeline was not necessary. Meanwhile, NPCA, represented by the Institute for Public Interest Representation, said it was prepared to challenge the developers on that point and to fight the granting of a federal loan to the water association for a project that would endanger the NPS unit.

In the more recent compromise, the Park Service reversed its stand by dropping the requirement for construction of a treatment plant as a stipulation on granting of a special use permit.

Whalen and commissioners of Dare County, North Carolina, now have agreed to cooperate in monitoring groundwater quality in the vicinity of Cape Hatteras National Seashore to ensure that federal, state, and local pollution laws are enforced.

They also have agreed to cooperate in planning for development on lands within and adjoining the NPS unit. At press time no specific procedures had been announced to carry out this agreement, so it seems possible that the plan could prove to be completely ineffective.

NPS apparently believes its recent compromise represents the best way of keeping a hand in a sticky land use planning dilemma while avoiding litigation.

Had the agency refused to grant the special use permit for the water line, the Cape Hatteras Water Authority could have built the line in the highway right-of-way in a manner that could have precluded the Park Service involvement. Or the water authority could have sought funds for construction of a sewage treatment plant in the town of Avon, which would have provided for expansion of the community without giving NPS a role in future land use planning.

Despite NPCA's serious misgivings about the effectiveness of the recent compromise agreement between NPS and the officials in North Carolina, at this point the Park Service may have done as much as possible to protect the interests of the seashore.

The same benefit of the doubt certainly cannot be afforded the Farmers Home Administration (FmHA) of the Agriculture Department, which has decided to provide loan funds for the water line. Throughout NPCA's two-year fight against this proposed project, the FmHA has refused even to acknowledge that the water line could result in secondary growth having direct adverse impacts on the national seashore. The disregard that the FmHA has shown in this instance for the environmental consequences of its action has been demonstrated in other areas of the nation as well.

Smoky Pigs—Continued from page 23

park management came to a head recently over a small-scale experiment that used three professional, out-of-state hunters and their dogs for a two-week period. The hunters were to have taken no more than one hundred boars but managed to kill only one before the program was called to a halt in response to local furor.

(The hunters' lack of success probably stemmed from the fact that they hunted the boars during late August when the animals disperse over a wide area; earlier in the year the boars tend to concentrate in smaller areas at higher elevations.)

Local protesters focused on two aspects of the program. They objected to the use of outsiders and criticized the Park Service's practice of removing certain organs for research and leaving the rest of the carcass for scavengers.

Superintendent Boyd Evison later explained that the Park Service had hired the out-of-state hunters because of their success in a similar program at Cumberland Island National Seashore. He speculated that the relatively insignificant experiment would not have generated such controversy had the park's neighbors realized that it was small in scope and that it might lead to a program in which local hunters might become legal participants as deputies to carry out the eradication program.

Furthermore, Superintendent Evison answered criticism relating to the disposal of the carcasses by pointing out that most of the pigs are killed too deeply within the park to make it practical to carry out the meat.

The Park Service has considered a number of other methods of ridding the park of the boars, among them live trapping. The main problems with this approach are that the pigs are wary animals and that it would be difficult to transport them out of the park once caught. Sterilization or some other form of birth control or the reintroduction of natural predators such as the timber wolf have also been discussed.

Of course, hunting with guns and dogs has been considered, leading to the two-week trial hunt. As evidenced by the sole hog killed, this method too has its drawbacks, most notably because of the wariness of the animal and the precipitous terrain of the boars' habitat.

Challenges to the boar eradication policy on humane grounds have entered the controversy only obliquely. The hogs just don't seem to be able to drum up champions in the style of the popular wild burros in Grand Canyon National Park—also targets of the Park Service's war on exotic species in the National Park System. Basically, the controversy boils down to who will get to kill the hogs and where, with little dispute over the fact that they will be killed.

The boar controversy is notable for several reasons. First, the health of the environment of the Smokies may depend on the successful elimination of the boars. Secondly, what is done at Great Smoky Mountains park may set a precedent for what is done at other

For example, the agency has made a number of grants for sewage treatment developments that have facilitated construction of tract housing projects in prime agricultural lands. The loss of such lands to development can have significant adverse impacts on all forms of farm production and on the farming way of life. NPCA and other conservation organizations believe that these policies must be reversed.

In addition, NPCA has warned FmHA that in this case it has failed to follow a Presidential mandate for protection of coastal barrier islands such as Cape Hatteras. In President Carter's environmental message of May 23, 1977, he placed special emphasis on the need for such protection, noting that many of the coastal barrier islands "are unstable and not suited for development, yet in the past the federal government has subsidized and insured new construction on them. Eventually we can expect heavy economic losses from this shortsighted policy."

NPCA agrees wholeheartedly and will continue to keep a close watch on the developments at Cape Hatteras. ■

national parks. North Carolina's attorney general and the executive director of the North Carolina Wildlife Resources Commission met in October with Interior Department officials to ask them to consider a joint request to Congress for a hunting season within Great Smokies. Hunting is virtually forbidden within the national parks, and NPCA has urged Park Service Director William J. Whalen not to yield to such pressure to make an exception in Great Smoky Mountain National Park. NPCA also reiterated its full support for the wild boar eradication program.

At the October meeting the Interior Department agreed with state officials to make every effort not to kill the boars but to trap and transport them to state areas. Whether the boars can be eliminated from the park in this manner is highly problematic. In the meantime a moratorium on the killing of the boars has been called until the trap-and-transport program is worked out. ■

THE 95TH CONGRESS MIDWAY

When the second session of the 95th Congress opens on January 19, senators and representatives will return to a legislative lineup full of familiar environmental problems, not to mention this year's crop of new challenges. A wrapup on the status of some of the environmental issues covered in this Magazine during 1977 and a summary of the outlook for 1978 follow.

At press time the first session had not formally adjourned. The House and Senate, however, had assembled only intermittently during November in pro forma sessions as the real drama of Capitol Hill moved to the conference committees.

Still absorbed with patching together some kind of national energy plan, the first session of this Congress had left several timely problems of interest to NPCA members unresolved—notably the need to pass bills protecting **Redwood National Park and the Boundary Waters Canoe Area** from logging damage and other threats. Conservationists were hoping that bills for these areas would be a first order of business in January. (See pages 27 and 28.)

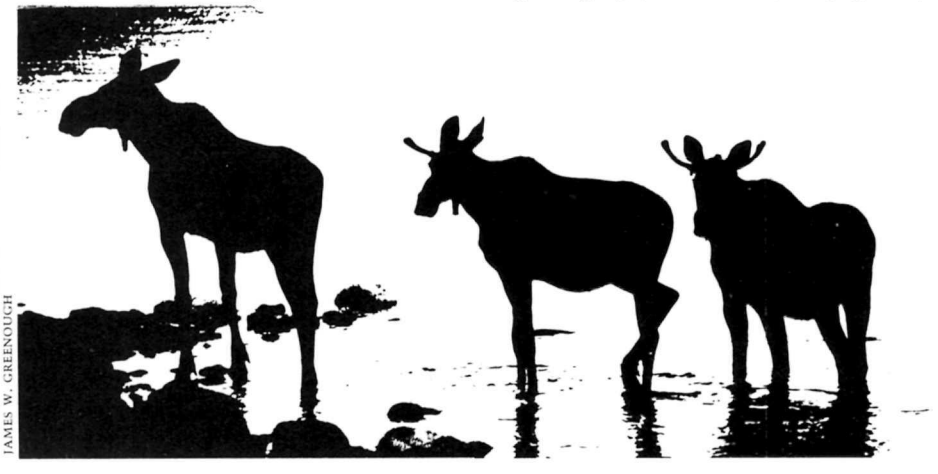
Meanwhile, both Houses planned to hold mini-sessions beginning the week after Thanksgiving, and the **Endangered American Wilderness Act** was expected to squeak through the first session.

The fight over the **Clinch River Breeder Reactor** (*National Parks & Conservation Magazine*, August, p. 16), a proposed project opposed by President Carter, was still up in the air at press time. Although Carter had used his first veto to reject an ERDA authorization bill containing Clinch River funds, the legislative status of the project was still so confused that it could end up in court. Another bill containing funds for the Tennessee reactor project was coming up for a vote after Thanksgiving.

Also scheduled for a final vote at press time was the **clean water act revisions** bill. Conferees working during the unofficial recess hammered out a water bill including significant compromises that came under attack by the environmental community but some strong provisions as well. The public works appropriations bill also brought mixed results for environmentalists in 1977: half of the eighteen **water projects** on President Carter's famous hit list (April, p. 26) were deleted while nine other disastrous projects won funding.

Legislators could point to some big accomplishments during the first session, however, such as passage of a **strip mining law** at last (October, p. 25). New **Clean Air Act amendments** will facilitate protection of national parks

Moose cross the Noatak River, one of the areas in Alaska that are proposed for protection under Alaska public lands legislation. With a 1978 congressional deadline fast approaching, conservationists are gearing up for action. (See page 26.)



JAMES W. GREENOUGH

and national wildernesses (November, p. 21).

Despite a backlog of park and wilderness issues, Congress passed a far-reaching bill that amended the **Land and Water Conservation Fund** to provide an extra $450 million for two years to purchase authorized additions to the Park System and other wild areas (August, p. 28).

Moreover, subcommittees and committees laid some impressive groundwork for bills on tough issues (including the redwoods) that will come to a floor vote this year. Of these issues, **Alaska public lands** legislation will be the major push of 1978.

A report on selected environmental issues that are likely to appear on the docket this year follows.

Deadline for Wild Alaska

Congress now has less than a year to complete a job of epic proportions—the divvying up of prime public lands in vast, wild, beautiful Alaska.

Under Section d-2 of the Alaska Native Claims Settlement Act (ANCSA) of 1971 Congress gave itself until December 1978 to decide which federal lands to preserve in the public interest and which to leave open to development. Thus, the battle on Capitol Hill between conservationists and developers has now reached a critical point as the latter continue to try to stall Alaska national interest lands legislation. The legislation moved more slowly than expected in 1977.

At press time the House Interior Subcommittee on General Oversight and Alaska Lands was scheduled to start markup on revised legislation to withdraw about 102 million acres of land in the state from the federal domain. These lands would be preserved as national parks, wildlife refuges, wild and scenic rivers, and forests.

Subcommittee chairman John Seiberling (D-Ohio) and full Interior Committee chairman Morris Udall (D-Ariz.) had hoped to get the bill to the House floor during the first session. The subcommittee followed thirty days of hearings in cities in the lower forty-eight states and Alaska with exhaustive study. They conducted a thorough review of a conservationist-backed bill introduced by Udall and of proposed changes by the Administration. (See index in December 1977 issue for a listing of previous reports on Alaskan proposals.)

Next Seiberling ushered in a "subcommittee print" of Udall's bill (HR 39). The majority staff of the subcommittee had revised the Udall bill to accommodate some of the Administration's ideas as well as some of the suggestions made at public hearings.

The 102 million acres proposed by Seiberling for protection in the four federal conservation systems represents a compromise between the 116 million acres in the original Udall bill and the 92-million-acre Administration proposal.

Within the 102 million acres proposed in the subcommittee print, approximately 50 million acres would be designated as "instant wilderness" in which development would be curbed. This figure represents a substantial cut from the original HR 39, which would have made all the new areas immediate wilderness. The remaining acres, however, would be studied for a period of ten years for possible inclusion in the wilderness system.

The subcommittee draft bill also would designate 30 million acres of lands already within the federal conservation systems as wilderness. Conservationists were pleased to see that the new proposal included a critical provision to set aside some five million acres of wilderness in the Tongass National Forest in Southeast Alaska, where pristine recreational areas are threatened by clearcut logging.

Although the subcommittee print of HR 39 also corrects several other deficiencies in the Administration bill (November, p. 28), it still deletes the lower part of the Noatak River, thus dividing the largest undeveloped river watershed in North America instead of protecting the whole watershed.

Udall, who has given his blessing to the subcommittee revision of his bill, points out that it includes "major concessions to the people of Alaska." The bill spells out how snowmobiling and other activities may be allowed in some of the new wildernesses in which such uses are now customary even though the activities usually would be prohibited in wilderness areas in the lower forty-eight.

A new provision would benefit development interests by setting up a special procedure for allowing transportation corridors and transmission lines across lands within the four conservation systems.

The subcommittee print also includes a process that allows mining on nonwilderness areas in refuges, preserves, and certain national forests if the President determines that mining in those areas is essential to the national interest and Congress approves the action. Land withdrawn for mining, however, would have to be replaced by adding other federal lands to the refuge or preserve in question.

Despite the painstaking efforts of the majority subcommittee staff to come up with a fair proposal, Rep. Don Young (R-Alaska) led an informal filibuster that has stalled markup. Upon a motion by Udall, subcommittee members finally managed to gain approval of the Seiberling draft as the official markup vehicle on November 4; but Young, who says "there's more to life than just looking at beauty," made it clear that he still will push his plan of excluding all but 37 million acres from protection. Even though the Interior Department already has completed seven years of research on this issue, Young is calling for five years more of study on most proposed additions to the conservation systems.

Before it goes to the House floor, Alaska d-2 lands legislation still must be approved by the subcommittee, the full Interior Committee, and the Merchant Marine and Fisheries Committee, which has jurisdiction over wildlife refuges and has shown an interest in the legislation. Rep. Robert Leggett (D-Calif.), Chairman of the Fisheries and Wildlife Subcommittee, also held hearings in Alaska in 1977. Observers are hoping a strong bill will reach the House floor by February.

Meanwhile, the Senate Energy and Natural Resources Committee has

lagged behind the House side. Early in the session, following public work sessions in Alaska this month led by committee staff, this committee will resume hearings. Sen. Lee Metcalf (D-Mont.), has introduced the Senate counterpart of Udall's bill. Sen. Ted Stevens (R-Alaska) introduced a bill on behalf of the state of Alaska and Rep. Young that would protect only 25 million acres in the conservation systems. An additional 55 million acres would be placed under the jurisdiction of a joint state/federal planning commission, which could open the land to logging and mining.

Forces opposing parks and refuges in Alaska are successfully accelerating their campaign, as shown by some editorials and articles in newspapers. Chambers of commerce and local unions are coming out against what they perceive as an economic threat, and the Conference of Western States has adopted a resolution against HR 39. (On the other hand, the United Autoworkers recently came out in support of the legislation by joining the Alaska Coalition of which NPCA is a member.) Conservationists worry about whether they can reach the House subcommittee, other members of Congress, and the public to combat the influence of massive amounts of money being funneled into a media blitz to undermine the proposed legislation.

Udall stresses that "big, beautiful Alaska is great enough, blessed with the abundant bounties of nature to such a degree that we can have it both ways —we can preserve over 100 million acres of breathtaking splendor and still leave plenty of land to be used for rational and sensible economic growth for the benefit of Alaskans and all other Americans as well."

Boundary Waters Update

Rep. Phillip Burton (D-Calif.), chairman of the House subcommittee on parks, plans to push for early action this session on legislation to protect the Boundary Waters Canoe Area. This national wilderness area in Minnesota is an important wildlife sanctuary and scientific resource that is threatened by logging, mining, and motorized vehicles.

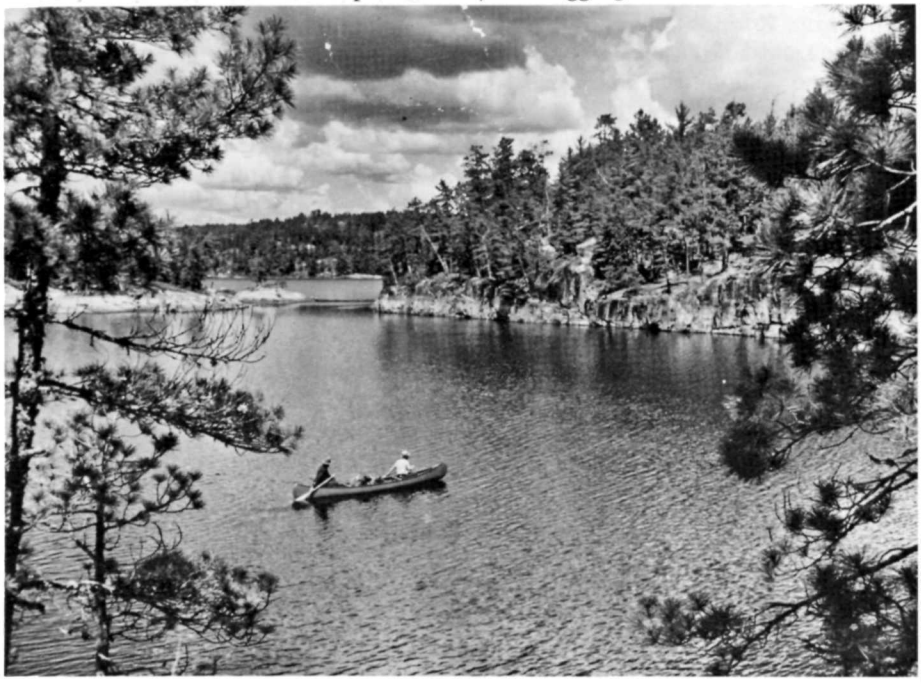
In 1977 Rep. Donald Fraser (D-Minn.) introduced conservationist-backed legislation to give the BWCA full wilderness protection, whereas Rep. James Oberstar (D-Minn.) introduced a bill that would result in a net loss of wilderness by making much of the acreage in question into a recreation area in which logging of nonvirgin timber and use of motorized vehicles would be allowed (October, p. 20).

Later in the year the Administration tried to combine the best of both bills. It pleased conservationists by proposing a strong plan enlarging the present national wilderness area. Despite some important and unfortunate exceptions (November, p. 22), the proposal would ban motorboats from most lakes. It would virtually prohibit snowmobile use and put an end to future logging sales. In addition to the 1,053,000-acre wilderness area, the Administration calls for a 206,640-acre national recreation area of three corridors in which motorized vehicles and logging would be permitted. Those activities also would be intensified in the rest of Superior National Forest, within which the BWCA is located.

At press time Rep. Burton was expected to produce a bill for markup at any time. The Burton bill is likely to be at least as strong as the Administration proposal. Because wilderness opponents are well organized, however, conservationists believe there is some danger of weakening amendments when the bill is considered by the full committee. The main point of contention probably will be whether to allow motorized vehicles and, if so, in what areas. Outside the BWCA in Minnesota fourteen thousand lakes are available for motorized use. The BWCA, conservationists stress, is the nation's only lakeland canoe wilderness. The Fraser bill already calls for measures to mitigate any adverse impacts a motor ban would have on the fifteen resorts that utilize the BWCA. As of October, Sen. Wendell Anderson (D-Minn.), who is the key to Senate action on BWCA legislation, was maintaining that "some snowmobiles and motorboats should be permitted in the BWCA" but did not specify how many and where.

Meanwhile, four logging companies hold contracts for cutting virgin timber in this wilderness. Officials from Boise Cascade Corporation and Potlatch Cor-

The Boundary Waters Canoe Area in Minnesota—our nation's only lakeland canoe wilderness—still needs protection from logging and motorized vehicles.



U.S. FOREST SERVICE

poration said they would not cut on their lease areas pending congressional action. At the request of Rep. Burton and Interior Committee Chairman Morris K. Udall (D-Ariz.), the Forest Service has been attempting to provide two smaller companies with substitute timber to avert their plans for logging this winter.

Redwoods Write-Off?

At the end of the regular session House legislation to expand Redwood National Park was tied up in the Rules Committee and a Senate companion bill had just missed floor action. Meanwhile, redwoods were still being cut on the private lands proposed for addition to the California park.

Moreover, because the loggers are clearcutting on lands that are upstream and upslope from the park, siltation from these operations is endangering the survival of redwoods within the present park. Since 1969 repeated scientific studies have proved this point beyond a reasonable doubt. Nevertheless, Sen. S.I. Hayakawa (R-Calif.) still argues that "what people don't seem to understand is that redwoods are a crop, like cabbages," and Sen. Ted Stevens (R-Alaska) criticizes the bill as "establishing an ecosystem approach" [heaven forbid] for national park management. (Stevens currently opposes creation of large parks and refuges that would protect complete ecosystems in his state.)

As illustrated in the case of the redwoods, failure to protect complete ecosystems can prove costly both ecologically and financially. In fact, if Congress does not pass a strong redwoods protection bill soon, the nation may have to write off the present park, which was intended as a refuge for trees—including the world's tallest tree—that are among the earth's most ancient living beings.

Senate Majority Leader Robert Byrd (D-W.Va.) and the sponsors of redwoods legislation, Rep. Phillip Burton (D-Calif.) and Sen. Alan Cranston (D-Calif.), have appealed to the California Board of Forestry to block clearance of pending harvesting permits in the area proposed for addition to the park. Byrd told the Board, "I will schedule S 1976 for consideration in the Senate at the earliest opportunity in January."

On the House side, back in August the Interior Committee had approved an amended HR 3813, the bill introduced by parks subcommittee chairman Burton. The subcommittee had done an excellent job of developing the legislation in cooperation with the Carter Administration; Burton had agreed to reduce the acreage in his bill and devoted much effort to devising employment provisions. But the bill was held up by referral to the Appropriations Committee because of its legislative taking provisions.

HR 3813 now must go through the Rules Committee and pass by House Speaker Thomas "Tip" O'Neill (D-Mass.) before reaching the floor. The timber giants and union interests opposing the bill are hoping to stall its consideration to win weakening amendments, but Byrd assured the forestry board, "I understand that Speaker O'Neill has indicated his intention to schedule House floor action on [HR 3813] shortly after the Congress reconvenes in January."

Both bills would expand the park by 48,000 acres. Although the Park Service estimates that expansion could cost $359 million, all of that amount would come from existing budgetary authority (the Land and Water Conservation Fund), and none of it would be derived from income tax revenues.

Unlike its Senate companion, the House bill includes a provision that would give the Secretary of the Interior authority to regulate logging operations on lands adjacent to the park's boundaries. The Senate Energy and Natural Resources Committee killed that provision and another provision included in the House bill to help workers displaced from their jobs by park expansion.

The Administration already has pledged up to $40 million from existing federal programs to help diversify the local economy and benefit those workers over the long term. The House bill includes a fallback measure to assure workers income security, health and retirement benefits, job search and training allotments, and relocation funds in the event that other measures are insufficient over the shorter term.

The Interior Department recently estimated that park expansion would cause an immediate loss of between 260 and 921 jobs, depending on the timber companies' response to the legislation. The Department noted, however, that almost an equal number of jobs would be created by the legislation because there would be a need for watershed rehabilitation, increased park staffing, timber salvaging, and other jobs related to park expansion. A professional staff member of the Senate committee explained that an investigation indicated that most workers could get jobs comparable to their present positions so that a majority of committee members voting believed the fallback measure was unnecessary.

More Parks & Wildernesses

President Carter's proposal for a **National Heritage Trust** program might be a major focus of legislative debate in 1978. In his environmental message of 1977, the President called for establishment of a comprehensive Trust program to identify, acquire, and protect America's natural, cultural, and historical resources and to coordinate federal programs (September, p. 23).

In late October a task force charged with the awesome job of recommending ways to carry out Carter's mandate presented him with a proposal for con-

ERRATUM: NPS SEASONAL JOBS

The deadline for receipt of applications for seasonal jobs with the National Park Service is January 15, not February 15 as reported in the November 1977 Magazine.

sideration. At press time congressmen and senators were expecting to receive the President's plan by December.

Conservationists waited to see how the plan might relate to the pending proposal for a **Natural Diversity Preservation Act** (October, p. 28).

Meanwhile, during the last weeks of 1977 House parks subcommittee chairman Burton held hearings on an omnibus bill that would designate seven dditions to the **National Wild and Scenic Rivers System** and authorize study of twenty-one other rivers for possible designation, add areas in twenty-nine NPS units to the **National Wilderness Preservation System,** and call for various boundary adjustments and land acquisition ceiling increases in park system areas. Burton also held field hearings on a separate bill to designate 114 miles of the **upper Delaware River** in New York and New Jersey as a wild and scenic river.

A backlog of proposed park additions has accumulated while congressmen dealt with more pressing issues such as redwoods.

As Congress reconvenes this month, legislation passed by the House in October to protect the **Appalachian Trail** from development (December, p. 22) is likely to see early Senate action. A bill to create a **Chattahoochee River** National Recreation Area in Georgia is on its way to the House floor, and the Senate Subcommittee on Parks and Recreation plans to hold a markup session on a similar measure (December, p. 17).

Other issues on which the subcommittee held hearings in 1977 and will put on its agenda sometime during 1978 include an **Absaroka-Beartooth** (Montana) wilderness bill, the **National Parks Access Act** (August, p. 22), and legislation to enlarge **Manassas** National Battlefield. A Manassas expansion bill passed the House in June (July, p. 28) but has been delayed in the Senate because of opposition from Virginia's two senators, William Scott and Harry Byrd.

As discussed on page 20, hearings soon will continue on legislation to add **Mineral King** Valley in California to Sequoia National Park. Mineral King is one of the areas on a list of **thirteen possible additions to the Park System** that recently was submitted by the Park Service to Congress. (Under terms of legislation passed in 1976, each year the agency must identify *at least* twelve possible additions, ranking them according to their national significance, whether their features already are represented elsewhere in the Park System, whether their resources are threatened, and cost escalation factors.)

The House parks subcommittee currently is studying the list, ranked by the Park Service in descending order of importance as follows: Friendship Hill, Pennsylvania; Guam historical sites and southwest seashore; Prairie Park, Kansas (October, p. 30); Antietam battlefield, Maryland; City of Rocks area, Idaho; Great Basin (Snake Range), Idaho; New River Canyon, West Virginia; San Antonio Missions historical park, Texas; Mineral King Valley, California; Hagerman Valley fossil sites, Idaho; Channel Islands National Park (expansion of national monument), California; Potomac national river, West Virginia, Virginia, and Maryland; and a Valles Caldera addition to Bandelier National Monument, New Mexico.

Bills to protect some of the listed areas already have been introduced; the Senate parks subcommittee held hearings in 1977 on a proposal for a **San Antonio Missions** National Historical Park and plans markup on the bill in coming weeks.

The Senate subcommittee has commitments to hold hearings on several **other proposed additions to the Park System:** Nantucket Sound Island Trust, Massachusetts; Long Island Sound Heritage area; and Jean Lafite National Historical Park, Louisiana. Along with New Jersey's Pine Barrens, areas such as these could be studied for inclusion in a new Greenline Park System, NPCA suggested in recent House testimony (December, p. 18). On November 4 Sen. Harrison Williams (D-N.J.) introduced legislation to establish a **National Reserves System** such as that which NPCA supported.

STEPHEN J. KRASEMANN

Endangered Species Alert

Sen. Howard Baker (R-Tenn.) has indicated that this month he will introduce a bill to amend Section 7 of the Endangered Species Act. Section 7 requires federal agencies to protect critical habitats that may be affected by projects in which the agencies are involved. Baker may push for allowing agencies such as TVA to decide for themselves whether to complete projects like the Tellico Dam, which would destroy the snail darter. That fish is only one of countless species that would bite the dust if such an amendment throws their fate into the marketplace. Senate hearings in 1977 demonstrated that the Tellico case occurred because TVA—not the Act—was inflexible. Out of 4,500 consultations with the Fish and Wildlife Service, only three endangered species cases have been unresolvable through the administrative process. (Now that the Act has been in existence for more than four years, agencies are planning ahead more to eliminate conflicts.) Of the three cases taken to court, only one—Tellico—remains a major conflict.

In October a GAO report attacked cost-accounting methods that TVA used in computing the Tellico project's benefits. GAO said Congress should halt further work on the dam and should not act on legislation to exempt the project from the Act until TVA updates cost-benefit information. The GAO noted that $81 million of the $103 million already spent on the project represents benefits irregardless of whether the dam itself is completed and that alternatives such as natural

river recreation and agriculture may provide as many benefits as the dam (May, p. 10). Some Senate public works committee members, however, reportedly are leaning toward amendments. Specific project exemptions and broad amendments were introduced in 1977 (June, p. 16; August, p. 28).

Other Environmental Issues

This month the House Interior Committee plans markup on a **coal slurry pipeline** bill. Committee chairman Udall dropped his bill providing for updating of the **anachronistic mining law of 1872,** which allows almost unlimited mining of hardrock minerals on public lands. Still in the hopper this year are an Administration proposal paralleling Udall's original bill by providing for a leasing system and environmental protection standards and an industry-backed measure that would modify but retain the claim and patent provisions of the 1872 Act.

The Carter Administration will press for early consideration of environmentally sound legislation to impose new regulations on development of oil and gas on the **Outer Continental Shelf.** A strong OCS bill passed the Senate in July, but the House Rules Committee bottled up the controversial bill at the end of the first session.

Congressional debate will continue on both sides of the Hill on **deep seabed mining** legislation. A bill could reach the floor of the House of Representatives early in 1978.

Continued from page 2

The farm organizations of America, big and small, have a stake in getting a good small-woodlot forestry program going. The farmers could help and be helped by the conservationists; and the labor unions also, for the unions likewise have serious interests at stake. The farm, labor, and environmental organizations should get together and get going.

Stable employment throughout the forest-products industries should be one objective of a well-managed industrial society. That means stable employment in the logging camps and in the forest-products industries. Large-block clearcutting, with its boom-and-bust economics, is inherently in conflict with stable communities, industries, and jobs. There was a time when the labor movement understood this; does it do so now?

Environmentalists in turn must understand that the forests of America cannot all be preserved as untouchable wilderness, important as that is in proper cases, but for the most part only as well managed productive units of the economy. Can the environmental movement grasp that point?

WE ARE TALKING about ecological, socio-ecological, or environmental forestry. The NPCA has defined ecological forestry as involving management methods which protect the soil, ground water, watersheds, water supplies, wildlife, vegetation, microbiology, microclimates, the recreational and scenic resources, and the forests themselves, while providing a sustained yield of forest products for the economic benefit of society.

The NPCA has defined the methods of ecological forestry further as including individual and group selection, shelterwood, and small patch clearcutting. Dr. Minckler has placed emphasis on group selection, by areas of perhaps one-eighth to one-half an acre at a time.

WE ARE TALKING about even-flow forestry, yielding stable economic returns year after year, resulting in stable communities and secure human lives; about mixed stands, not monocultures, in which a variety of species can be relied on to replenish the forests if disease or weather strikes one component; about multiple-aged stands, with the young stock coming up through interstices left by selection.

The NPCA has never taken the position that large-block clearcutting is always objectionable; but only that the preferred and dominant method should in most cases be selective forestry. Nor has the NPCA ever taken the position that the original so-called climax forest must necessarily be preserved or restored in harvesting.

THERE ARE some simple business problems in all of this. Which is more profitable—clearcutting a redwood forest and waiting until it regenerates after 80 or 100 years, or cutting it by selection methods at intervals of perhaps five years, thus gaining a stable flow of income throughout the entire 80 or 100 year period? None of the public agencies knows the answer. None of them has tried to find out. If the companies have the data, they have not made it public. We intend to get the answer.

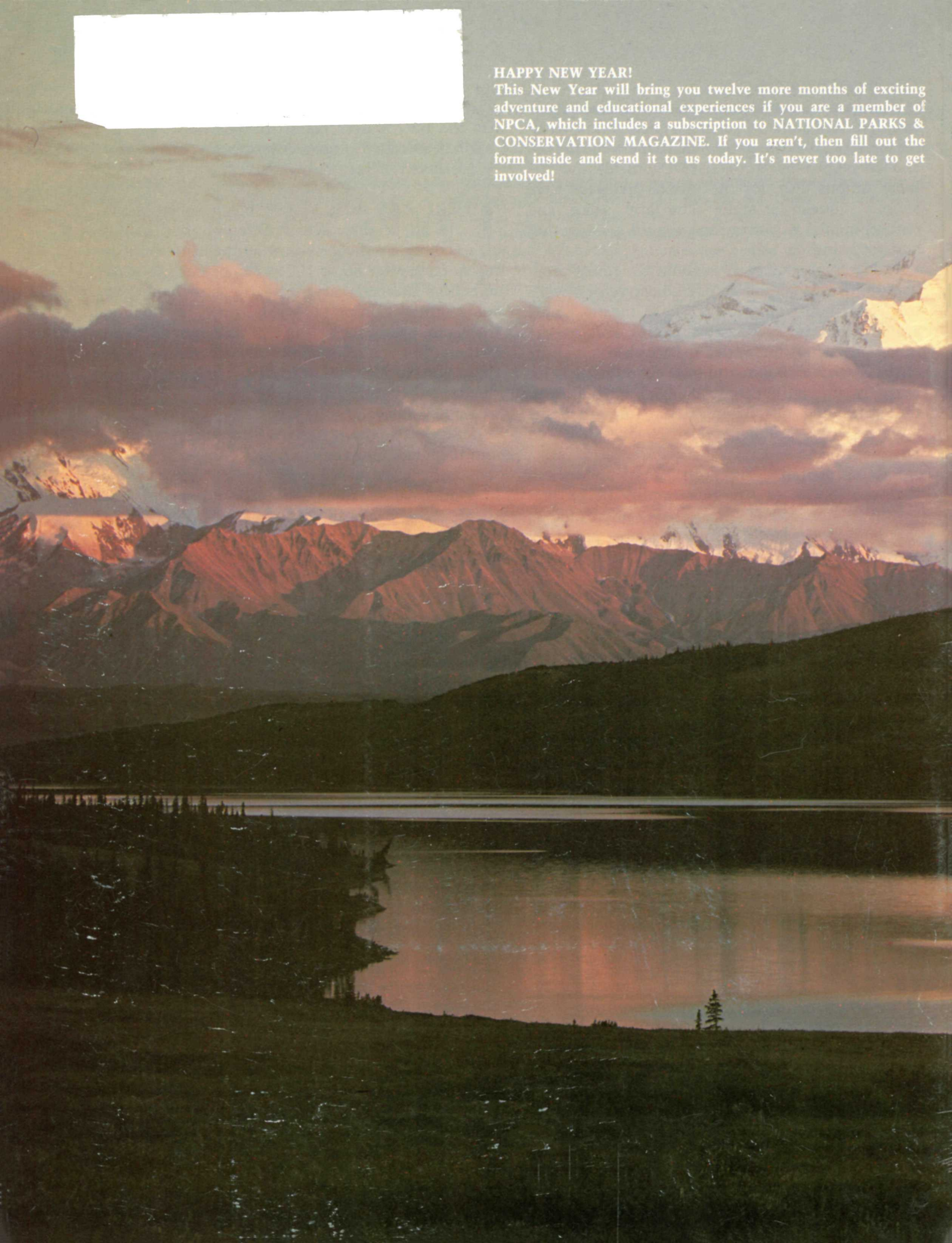
Important as the American issues are, the problem is global. Our transnational corporations and those of the other industrial powers are at work in Indonesia, Brazil, and all around the planet. Clearcutting has been dominant, with violence to tropical soils and vegetation. A shift has occurred in places to high-grading, with the more valuable species cut out beneath a canopy of inferior trees; when ruling personages are taken on helicopter junkets, they see an unbroken forest below them. Disaster awaits the world if these practices continue.

TRANSLATING COMPLAINT into action, we hope that the other environmental organizations will join the NPCA in making it clear to the Chief of the Forest Service, John R. McGuire, that the resumption of clearcutting in the eastern forests is intolerable and that we shall bend every effort to stop it; but further, that we think the Forest Service should be taking the lead in environmental forestry and should not have to be dragged kicking and screaming into the environmental age.

To back up that preliminary step, we hope that the environmentalists, the farm and labor organizations, and the companies that practice environmental forestry may be willing to join with us in a powerful coalition to work for a basic change in forest management methods in America and abroad.

Neither the national parks, nor the supplemental income of the farmers, nor the jobs of the men in the wood-products mills can be saved unless the forests of America can be rescued from destruction. The hour is late, the issue too long deferred; the time has come for action.

—Anthony Wayne Smith



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