National Parks & Conservation Magazine The Environmental Journal March 1975

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Problems in the Parks

THE APPOINTMENT of Gary E. Everhardt as Director of the National Park Service was an encouraging event, and we have extended our congratulations to the new Director with assurances of our support. We are happy with the choice and with the fact of appointment from ranks of career officials of the Service.

There are many signs of an emerging awareness within the National Park Service of the basic importance of the priorities established by the National Park Service Act of 1916. The Service is charged first of all with the protection of natural conditions in the parks, and thereafter with the use and enjoyment of the parks, and only by methods which will leave them unimpaired. The notion that there was a double purpose, with protection to be balanced against use by some kind of magical sleight of hand, has been deeply harmful. We urge the new Director to adhere resolutely to the letter and spirit of the law.

E SHALL BE calling again for planning for park protection and enjoyment within comprehensive regional recreational plans. Vast regions of open country surround most of our scenic national parks; there is plenty of room in these regions for great numbers of people seeking outdoor recreational opportunities. The crowds do not all have to be directed toward the parks. The national forests, the public domain, and, where the Indians desire it, the Indian lands are all available. The wildlife refuges can sometimes be used, and the reservoirs of the Army Engineers and the Bureau of Reclamation. The state forests and parks can be brought into the planning. A responsible interagency reservation and referral operation should be established. But these goals cannot be achieved by a little interagency cooperation; they need coordination at the Presidential or Cabinet level. A Presidential Order could do the job overnight.

THE NPCA has made little progress over the years in pressing for public transit within, into, and out to the parks. The free shuttlebus facilities in Yosemite are the best known. The experiment has proved that people prefer to leave the family car behind and take the shuttlebus. These operations should be extended as rapidly as possible to all the parks. And then we need to get public transit from the surrounding communities into the parks and into the adjacent national forests on the way. And again, in these days of high gasoline prices, thousands of people will be taking the trains to cities near the parks and the surrounding communities, and this trend needs to be encouraged.

THE ENTIRE concessioner system in the parks should be revenued from parks should be revamped from top to bottom. We have commented on this issue in the Magazine recently, and will avoid repeating details. But basically, if the political and legislative power of the concessioners is to be held at bay, an antimonopoly principle must be established to the effect that no company may operate a concession in more than one national park. This is a good rule under any circumstances, to keep human institutions within manageable size, but it is particularly important for the National Park System, with a view to avoiding mechanical and impersonal methods of doing business and guarding against undue influence and corruption. Open competitive contracting and open business records are essential parts of a sound concessioner policy. And the locale of concessioner operations should be shifted: no new internal concessions; external concessions only, meaning awards to consortiums of recreational businesses outside the public lands in the form of public transit franchises into the parks and other public lands.

W E HAVE SOME very special axes to grind with the new Director. One of them has to do with the national interest lands in Alaska. The NPCA has worked hard and long, with the collaboration of other conservation organizations, to develop good plans for the assignment of these lands for management by the various federal agencies. Among the available agencies are the National Park Service, the Fish and Wildlife Service, the U.S. Forect Service, and the Bureau of Land Management. We have urged assignment mainly to the National Park Service and the Fish and Wildlife Service; the U.S. Forest Service will clearcut the forests, and any such decision should at least be long deferred. The *Continued on page 31*

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FRONT COVER Mount Rainier vista, by Ed Cooper BACK COVER Entrance to cave on Rainier's summit, by Keith Gunnar

Mount Rainier in Washington State not only provides breathtaking vistas to national park visitors, but also challenges adventurous and hardy climbers. Scientific investigation of strange caves in the sleeping volcano's ice-filled crater may give clues to its reawakening. (See page 4.)

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Exploring Mount Rainier's Icebound Crater

Mount Rainier's summit ice caves hold valuable clues to the life of this dormant volcano

by EUGENE P. KIVER

N AUGUST 17, 1870, two shivering men huddled over a jet of steam inside an ice-vaulted cave underneath the ice that fills the volcanic craters of Mount Rainier. The steam at the orifice was too hot to bear for more than an instant, but ironically their wet clothes froze when they turned away from the steam jet. The smell of sulphur was nauseating, but this uncomfortable campsite was welcome relief from the screaming wind and storm clouds that enshrouded the top of the 14,410foot-high stratovolcano on the crest of the Cascade Mountains in what is now western Washington State.

These men were Hazard Stevens and P. B. Van Trump, the first men to make a well-documented ascent of the mountain that was destined to become the core of one of our finest national parks. I had followed their descriptions carefully, and now, almost a hundred years later to the day, I stood gazing at a steam vent and smelling the sulphurous fumes where these hardy explorers had spent that historic night. At first it seemed strange that after a hundred years this unique system of the highest known caves in the world, with more than a dozen intriguing entrances leading down to unknown depths, had not been thoroughly explored nor had its scientific secrets been unlocked. A few hardy explorers from nearby Tacoma had briefly explored and reported on parts of the cave system, but its true magnitude, complexity, and scientific importance were yet to be realized.

After reflecting on the hardships of the long grueling climb, and the difficulties of moving supplies to the summit to support an expedition like ours, the lack of a thorough exploration of the summit caves is more understandable. Through small grants from Eastern Washington State College, the Mazamas climbing club, the National Park Service, and the National Geographic Society, summit base camps were established that enabled the caves and other aspects of the mountain to be studied during the summers of 1970 to 1973.

BECAUSE Mount Rainier's fiery existence probably began only a few hundred thousand years ago, it is considered by geologists to be a relatively recent addition to the Cascade Mountain landscape. Hundreds of times in the past, the ground has shaken and the sky has darkened as molten rock and clouds of ash were violently ejected. These were the "growing pains" as the mountain struggled to become one of North America's most imposing volcanic giants. The periods of eruption of Mount Rainier, or of any volcano, are relatively short-lived compared to the much more normal periods of quiescence such as the present.

Careful study and dating of the

rocks and ash deposits around the mountain provide the evidence necessary to reconstruct its geologic history. Deep burial or complete removal of some of the early formed volcanic strata make a precise chronological reconstruction difficult. The more recent activity of the past 10,000 years is better understood thanks to better preserved strata and the work of U.S. Geological Survey geologists Dwight Crandell and Donal Mullineaux.

Volcanic eruptions occurred between 100 to 150, 2,150 to 2,500, 3,600 to 5,800, 5,800 to 6,600, and 8,750 to 11,000 years ago with all but the most recent eruption considered to be major. During the past 10,000 years the longest interval between major eruptions has been approximately 3,000 years. Because the last major eruptions occurred 2,150 to 2,500 years ago, the possibility of another major eruption in the near future is high.

Smaller volcanic events are more frequent and do not always leave a permanent stratigraphic record. For example, between 1820 and 1894 there are fourteen reports of volcanic eruptions, but only one of these produced a recognizable layer of ash. The other events could have been small volcanic outbursts or dust from the frequent avalanches occurring on the erosion-steepened slopes.

The eruptions of 2,150 to 2,500 years ago added another 1,000 feet



GUNNA

of elevation to the mountain and probably formed the modern summit craters. A small eastward shift in the position of the volcanic vent produced a double crater at the summit. The smaller western crater was partly obscured by the growth of its younger eastern counterpart, which is 1,400 feet in diameter.

The fresh-appearing east crater is a textbook example of a volcanic crater but unfortunately is invisible to park visitors at the base or on the flanks of the mountain. Only those who climb to the top or fly over in an airplane can appreciate its geologic recency and foreboding appearance.

OLLOWING the last major eruption, winter storms, then as now, dumped tens of feet of snow each winter onto this arctic island located in North America's temperate zone. Snowfall at the Paradise Ranger Station, which is about four and a half miles away and 8,853 feet lower, averages about fifty feet a year but can be as much as ninety-three feet (world's record snowfall set in 1972). Summit snowfall has never been measured but is estimated to be at least forty feet a year. Fumaroles (volcanic gas jets) struggled and may have temporarily succeeded in melting most of the snow falling into the crater. Indian

legends describing a "fiery lake of steaming water" and a lake warm enough to swim in may have some credence. Saluskin, a Yakima chief, reportedly guided two white men to the base of the mountain about 1855. They told him they had climbed the mountain and that there was "ice all over top, lake in center, and smoke or steam coming out all around like a sweat house."

Reduction of the volcanic heat permitted the snow to overwhelm the fumaroles and eventually fill the crater. With burial, snow quickly recrystallizes to a denser material known as firn ice, and the voids melted in this material by the buried fumaroles are known as







The 14,410-foot-high summit of Mount Rainer is a foreboding sight, with double volcanic craters of geologically recent origin at the summit. The smaller obscure west crater is almost imperceptible at left in the photograph above, but the east crater is a textbook example of a volcanic crater. Columbia Crest, the ridge between them, is the highest point on the mountain.

The diagram below illustrates how heat rises from fractures in the crater floor under the ice and slowly melts

firn caves. The rising warm gases caused many of the voids to enlarge upslope and intersect the surface along the inside perimeter of the crater rim. There are about sixteen of these entrance passages in the east crater and nine in the smaller west crater.

Descriptions of the crater surface and upper entrances of the caves given by Stevens and Van Trump in 1870 closely match present conditions. Presumably the main features of the caves had also developed by this time.

Many fumaroles are located along arcuate fracture zones in the crater floor. Lateral enlargement of voids here produces a relatively horizontal cave passage known as a perimeter passage. The main perimeter passage in the east crater is nearly half a mile long and winds three-fourths of the way around the crater. Many sections of this passage are as wide as seventy feet and passageways through the ice to the surface.

Many of the dark areas along the inside rim of the crater in these photographs are the upper entrances to the caves. Our 1970 base camp was located in the east crater directly below Columbia Crest (above right); the cave openings behind the tent connect to a small stream passage that descends precipitously more than 200 feet below the crater surface. Below right, a party enters a cave.,

as high as thirty feet. The total length of mapped and approximately located passages in both craters is almost $1\frac{1}{2}$ miles.

Another type of cave opening is the large, deep room or grotto that is reached by a small, obscure passage leading from the main perimeter passage in each crater. The Lake Grotto in the west crater measures 170 by 135 feet in area and is twenty-five feet high. The small lake nestling against one wall of this grotto is the highest crater lake in North America. The lake is fed by water melted from the cave roof and walls that drains through the rock rubble covering the crater floor. The water seeps out of the lake bottom and may reappear as steam from fumaroles or as springs under the glaciers on the mountain flank. The 33°F lake was explored for the first time in 1972 by a colleague, William Lokey, who found its maximum

NATIONAL PARKS & CONSERVATION MAGAZINE







Hot gases rising from fumaroles on the bottom of the crater melt scalloped passageways (left) through the ice the highest known caves in North America. The floor of these passages is typically rock and soil, although an unusual segment of the perimeter passage in the east crater has an ice floor.

depth to be 17 feet. A wet suit furnished some protection from the frigid waters during his underwater exploration. It is interesting to speculate whether this lake might be a greatly shrunken remnant of the lakes mentioned in Indian legends.

THE BIRD GROTTO in the east crater is 180 by 120 feet in area and 60 feet high. The air temperature here is 41°F, slightly warmer than the 39°F in the perimeter passage a few hundred feet away. One begins to grasp the immensity of this underground chamber upon discovering the inadequacy of a carbide headlamp to illuminate the opposite wall. Contributing to poor visibility here, as well as in other parts of the firm cave system, are the fumaroleproduced steam clouds.

The floor of the Bird Grotto descends steeply, and in places dangerously, to the bottom of the room. A small passage at the bottom leads another 80 feet downward to the lowest accessible point in the cave system at 340 feet below the crater surface. The crater The small crater lake under the ice in the west crater (above) is the highest crater lake in North America. The lake is 17 feet deep against the ice wall on the far side, and the water temperature is a frigid 33°F.

At right sunlit steam silhouettes a climber at a cave entrance.

floor at the passage terminus slopes at a 32° angle toward deeper unexplored areas. The ice ceiling touches the floor here and prevents further exploration. As cave passages change slightly, or should more heat be released below this point, an opening may someday permit an inquisitive explorer to view still deeper areas that have been in darkness for at least 100 and perhaps as many as 2,000 years.

Deeper penetration here would be particularly significant because the discovery of a crater lake, similar to the one in the west crater, would be of considerable scientific interest. On the southwest side of the east crater just below Columbia Crest, a small meltwater stream, the only one observed in the caves, descends precipitously over the crater floor in the direction of the Bird Grotto. Unfortunately, the ceiling of the passage lowers and the swift stream disappears from view on its journey to the unknown.

The Bird Grotto is named for the partly decomposed remains of a bird discovered there by Martin



Mumma and me in 1970. The bird, tentatively identified as a Greater yellowlegs, may have been blown off course during flight or perhaps killed by predatory birds on the crater surface. The heads of the Bird Grotto specimen and a more recently killed specimen discovered on the crater surface were inexplicably missing. In addition to the enigmatic remains of these shorebirds, a relatively intact specimen of a water-loving Shoveler duck was discovered in 1974!

BJECTS on the crater surface become incorporated in the ice and gradually subside with additional snow cover above and melting of the cave ceilings below. In this way the crater ice is replaced every few decades. In the ceiling ice of the Bird Grotto, we discovered a red woolen glove that must have been dropped by a climber crossing the crater thirty or forty years before. The glove slowly subsided with the surrounding ice and eventually reappeared in the cave 300 feet below. A delicate equilibrium apparently exists in the sleeping volcano between the amount and location of volcanic heat released, the size and location of the cave passages, and the rate at which the ice subsides. Careful, periodic observations of the firn caves should provide an "early warning system" when the volcano once again begins to abandon its resting state and prepares to reenact for modern man the violent scenes that have occurred hundreds of times during the geologic past.

Eugene Kiver began exploring limestone caves in 1958 before entering college to study geomorphology and glacial geology. After receiving his doctorate from the University of Wyoming in 1968, he moved to Washington State to teach geology at Eastern Washington State College, where he soon developed a course in the geology of the national parks. He became interested in Mount Rainier during a summit climb in 1969 and has since organized and led several expeditions to study the summit caves. He expects to return again in 1975 to continue his long-term observations and monitoring of the volcano.

N A SPRING DAY in 1852, Augustus T. Dowd, a hunter from Murphy's Camp in the Sierra foothills, was following a wounded bear. Tracking his quarry into an unfamiliar part of the forest, he found himself in a grove of gigantic trees, taller and bigger around than any he had ever seen. When he told his friends back in town about them, they laughed at him. But Dowd persuaded them to go back into the mountains with him to see for themselves, and when they did, seeing was believing. Word flashed quickly to San Francisco, the eastern seaboard, and Europe; and overnight the "Big Trees" (Sequoia giganteal became one of the marvels of the world.

Unfortunately, exploitation followed as the night the day. A local water company immediately hired five men to fell one of the great trees, and it took them twenty-two days of hard labor with pump augurs and wedges to do the job. They then stripped off the footthick bark for 50 feet, sectioned it, and shipped the sections to San Francisco and thence around Cape Horn to be exhibited in New York. One summer later another giant with a 61-foot circumference was stripped of its bark for 116 feet; this time a dying "San Sebastian of the forest" was left standing. In 1855 an exhibit of the bark of

this second slain giant finally reached London where it was a star attraction at the Crystal Palace for many years. And back in Calaveras County in the Sierra foothills, its stump and fallen trunk had been converted into a pavilion for dancing, theatricals, and bowling. Nearby a newly constructed hotel provided lodging for sixty people.

The Calaveras Grove, with its "Big Stump," attracted an ever-in-creasing number of tourists, but the fact that the rest of the Big Trees were in danger of the same kind of exploitation did not go unheeded. A Californian protested the desecration of such a splendid tree and criticized the "moneymaking-go-ahead community" that had chopped it down and shipped it off for a shilling show. James Russell Lowell, who was to become the editor of The Atlantic

TO SAVE THE BIG TREES

The story of the preservation of the Big Trees will end happily only by restoration of their natural environment and by continued public concern

by DOUGLAS H. STRONG

Monthly, called for the creation of a society to prevent cruelty to trees.

Meanwhile other groves of Big Trees were being discovered. By 1864 growing concern for their safety, and the efforts of Senator John Conness, Frederick Law Olmsted, Israel Ward Raymond, and others moved Congress to grant the Mariposa Big Tree Grove and Yosemite Valley to the state of California for "public use, resort, and recreation" and to be "inalienable" for all time. This grant of land, although a most promising beginning and a precursor of the country's National Park System, actually protected only a single grove of giant sequoias. The extensive groves to the south remained vulnerable.

As early as 1858, Indians of the Potwisha tribe that summered in the southern Sierra invited Hale Tharp, a local rancher, to visit their mountain home. In the hope of finding a summer range for his cattle, and intrigued by the Indians' stories of giant trees, Tharp accepted. Sure enough, on this trip to see the Potwishas, he came across a magnificent stand of sequoias in which he took a proprietary interest ever after; in a hollow log of one of its fallen giants he actually established a summer residence.

It was this same grove that John

Muir was to describe several years later when he was tracing the belt of giant sequoias south from the Mariposa Grove. The "noble forest" he came across between the forks of the Kaweah River (Tharp's "discovery") inspired him to write about it in flowing terms:

"I wandered on, meeting nobler trees where all are noble, subdued in the general calm, as if in some vast hall pervaded by the deepest sanctities and solemnities that swav human souls. At sundown the trees seemed to cease their worship and breathe free."

He named this marvelous grove the "Giant Forest."

Muir was appalled at the destruction he encountered in the timber belt. Fires set by sheepherders swept the woods, killing the young sequoias. Sawmills, operating where timber was accessible, were multiplying at a frightening rate. Although pine and fir trees provided most of the lumber, many giant sequoias also fell, including some of the very largest. The Centennial, the Mark Twain, and the General Noble trees were all cut down and shipped east for exhibition, and many lesser giants became shakes, fence posts, and grape stakes.

The worst was yet to come, however. In 1889 flumes, or inclined troughs, were introduced as a means of transporting logs from rough country previously considered inaccessible. It was this innovation that opened the way for twenty years of the most intensive logging. During the Sanger Lumber Company's operation between 1897 and 1905, the Converse Basin, which is thought by many to have contained the finest stand of giant sequoias in existence, was completely cut over. During their nine years of cutting, the company may have felled more than 8,000 Big Trees. Many of the largest lay vir-

tually untouched where they had fallen, too large or too inconveniently located to handle. About 1903 the loggers found an enormous tree, 112 feet in circum-ference, which they named the Boole Tree after the company's general manager. They left this solitary tree standing among the ruins of the forest. Ironically, the great expense of building and maintaining the flumes, and the extraordinary wastefulness of the whole logging operation, resulted in bankruptcy for its promoters; they didn't make a dime.

CORTUNATELY, most of the groves managed to escape the logger's saw. The huge trees often proved to be unprofitable to cut, for they shattered as they fell and were usually too bulky to handle with-



on the stump of the slain giant (below).



In 1891 the Mark Twain tree (above) was felled and shipped east for exhibition. Upon completion of the felling, a group of men gathered to pose for a picture

out great difficulty. For many years, moreover, their inaccessibility was their best protection. They grew at elevations that averaged six thousand feet, and access roads were few and far between.

Fortunately too, as the loggers extended their roads and railroads ever closer to the finest groves, local residents of the San Joaquin Valley began agitating for stiff penalties for anyone who cut a Big Tree. In 1879, on the national level, Secretary of the Interior Carl Schurz called attention to the destruction of both the coastal and the Sierra redwoods and pointed out that the need for the preservation of these "noblest and oldest" of trees had attracted the attention of leading men of science in both the eastern United States and Europe. In 1881 Congress actually received a bill for the establishment of a very large national park that would have encompassed much of the Sierra Nevada.

But a bill is a far cry from an *act* of Congress, and the wheels were turning too slowly. Under the existing federal and state laws, a number of settlers, loggers, and others were still filing on prime land in several of the groves. For example, before the government could withdraw the Grant Grove from entry for private ownership in 1880, a homesteader claimed, and later patented, 160 acres of it. This land has remained in private hands ever since, the site of a summer home tract in the middle of a national park. But five years later, in 1885, when fifty members of a utopian socialist association, the Kaweah Colony filed on extensive tracts in the Giant Forest, the General Land Office Commissioner withdrew from sale a total of eighteen townships in the southern Sierra where the Giant Forest was located.

The Visalia Delta, led by its editor George W. Stewart, now spearheaded a new and vigorous movement for the creation of a national park to protect the Big Trees. A cogent argument was that such choice stands as the Grant Grove and Giant Forest could revert to the open market at any time and be subject to sale. Fortunately, residents of his own and nearby counties rallied behind Stewart and his newspaper. The campaign was intensified in the summer of 1890 when rumors circulated that the Garfield Grove of Big Trees, the area's last grove over which the government still had uncontested dominion, would be placed on the market. Letters sent to interested groups of people, and to a long list of influential citizens from coast to coast, warned of the danger to the giant sequoias inherent in the existing situation. And local valley farmers, worried about the everpresent threat of serious damage to the Sierra watershed, joined the preservation efforts.

By the end of July 1890, California congressman William Vandever introduced a bill to establish a public park in the township containing the Garfield Grove. Stewart and his friends enlisted powerful support. The governor of California, the California Academy of Sciences, and others all protested the threatened destruction of the giant sequoias and strongly favored the park bill. Success crowned these efforts, and on September 25, 1890, President Benjamin Harrison signed the bill that created Sequoia National Park.

The new park was regrettably small, but Stewart, who wanted to see all the forests of the Sierra preserved, declared in his newspaper that the first important step in a great work had been taken. Believing that the Kings and Kern canyons and other desirable areas could be added later, the park advocates had been willing to support a small park only because the Garfield Grove was in such peril. They felt that any effort to secure a larger park, which would have had to include much privately held land, would be sure to fail without an educational campaign that they had no time to conduct.

But just one week later the president signed a second park bill that was extraordinary to say the least. It established Yosemite National Park (which included the Tuolumne and Merced groves of Big Trees), tripled the size of Sequoia, added the Giant Forest to Sequoia, and set aside the Grant Grove as a third national park in California.

John Muir and Robert Underwood Johnson strongly supported the Yosemite park proposal, and there is considerable evidence that they were aided secretly by the Southern Pacific Railroad, some of whose economic interests the park would serve. The Southern Pacific evidently also helped bring about the enlargement of Sequoia and the creation of General Grant National Park. The company owned extensive tracts of timber in northern California and derived large profits from them by virtue of the long haul to southern California. Threatened by a competitive lumbering enterprise if the Giant Forest and other timbered land should fall into private hands, the railroad stood to benefit by the withdrawal of the forest lands that the Kaweah Colony was planning to log. The railroad also controlled farm land that depended on the Sierra watershed. Finally, the national parks would attract tourists and would thus be a boon to railroad business.

The establishment of the national parks came in the nick of time. The Kaweah colonists were already building cabins on every quarter-section of land in the Giant Forest and were operating a sawmill on government land. Now they were forced off the land by cavalry troops sent in to guard the parks.

Although the trees within the park boundaries were now safe from logging, there were still extensive forestlands in the Sierra, including many a grove of Big Trees, that remained unprotected. Fortunately, George Stewart, John Muir, and others continued their campaign and were now agitating for a large forest reserve in the southern Sierra. The need for prompt action was increasingly obvious. Within a decade the population of the neighboring counties had more than doubled, and the state lacked funds for proper forest-fire control and resource management.



The map shows the major areas of protection for the Big Trees. Other smaller groves are scattered along the 250-mile northsouth range of the giant sequoia, in the Sierra Nevada. Sequoia National Park was enlarged from its original small size to its present size in the years after its establishment in 1890. Calaveras Big Trees State Park was last enlarged in 1967.





In the late 1800s and early 1900s, the Sanger Lumber Company carried on intensive logging in the Converse Basin (above). As logging became financially unfeasible and as the public became concerned with the trees' preservation, land was set aside for protection. Early park visitors gathered around Auto Log (left) in Sequoia National Park, established in 1890 in response to public demand and thanks to the work of dedicated conservationists of the era.

Not surprisingly, Californians looked to the federal government for a solution. A vital step was taken when President Harrison, under authority granted by Congress, signed a proclamation in 1893 that established the Sierra Forest Reserve—a vast area of over four million acres stretching from Yosemite National Park on the north to a point well south of Sequoia National Park.

Within three years most of the land where the Big Trees grew had been set aside. Yet many more years were to pass before either the land or the trees were to receive adequate protection. Because the government failed initially to provide either funds or rules for the administration of the forest reserve, lumbermen and sheepmen continued to treat it as unreserved public domain. Not until after new legislation had been passed by Congress in 1897 and the Forest Service had been created in 1905 were the national forest lands properly managed. Although California's national parks had the good fortune to be protected by cavalry troops between 1891 and 1914, they were not adequately administered until the National Park Service Act was passed in 1916 under the guidance of Stephen Mather, first director of the National Park Service and founder of National Parks Association (now NPCA), and Horace Albright, his able assistant.

Even after this last far-reaching event, one big problem remained unsolved: What was to be done about the giant sequoias that continued to be privately owned? In 1900 owners of an extensive acreage in the middle of the Giant Forest, who had claimed their holdings prior to the claims of the Kaweah Colony, threatened to build a sawmill and cut timber from their land as soon as the government provided a road. Although the government prohibited the use of its road for commercial purposes and thus thwarted this particular threat, the Big Trees were still in danger, and there seemed to be an impasse. Private landowners, aware of the value of their property, repeatedly raised the asking prices for their lands, while Congress steadfastly refused to appropriate funds for their purchase.

Finally, between 1916 and 1921, Mather successfully negotiated the purchase of all the privately owned lands in the Giant Forest, his efforts helped greatly by an unprecedented \$50,000 appropriation by Congress, large donations by the National Geographic Society, generous gifts from private citizens and from Mather himself, and the publicity generated by such organizations as National Parks Association (now NPCA).

As time went on, Sequoia National Park was enlarged, and in 1940 a new national park, Kings Canyon, was created. This new park included the old General Grant National Park and the extensive Redwood Mountain sequoia grove. Meanwhile, in 1931, through the efforts of the Save-the-Redwoods League and the Calaveras Grove Association, the state of California helped the cause along by establishing Calaveras Big Trees State Park. And finally, in 1954, the state acquired the larger, though less well known, South Calaveras Grove. Purchased from its owner, a lumber company, this was the last large grove of giant sequoias in private hands. It was added to Calaveras Big Tree State Park and formally dedicated in 1967.

THIS SHOULD BE the happy ending of a success storythe success of a prodigious effort to save a great many of the world's most spectacular trees for ourselves and all who come after us. But from recent articles in this magazine (March and October 1970; April 1974) we have had to learn that the giant sequoias are still endangered. The enormous increase in tourist travel to the Big Tree groves in recent years has resulted in an impacting of the soil that may seriously damage the shallow-rooted giants. And the expansion of roads, camps, resorts, and other "improvements" is having its usual deleterious effect on the region's ecological balance.

The most alarming news is that the sequoia forest is apparently not regenerating as it should when the old trees succumb to erosion and wind, and that the young sequoias are not competing successfully with other species. Ironically, it appears that some of the preservation policies of man, instituted to save the giant sequoias, may be a significant source of this apparent threat to the trees' survival. The periodic fires, which in the past seem to have provided advantageous conditions for regeneration -by exposing the mineral soil needed for seed germination and by killing the shade-tolerant understory species such as white fir and other competitors-have been successfully eliminated in the last forty to fifty years. As a result, a dense undergrowth is now cutting off the sunlight needed by sequoia seedlings and is furnishing fuel for potentially devastating crown fires or for intense long-lasting ground fires that could penetrate the fireresistant bark of the giant trees. Nevertheless a prescribed burning program designed to protect our giant sequoias has not been properly funded. NPCA has been working on this problem for more than a year.

PRESERVATION of the Big Trees has been a concern of many Americans for well over a hundred years, and during that time much has been accomplished. From the Calaveras groves in the north to the extensive forests of Sequoia National Park in the south, most of the important stands have been saved from the lumberman's axe and saw. But only the continued interest and effort of a concerned public, combined with skillful restoration of the natural environment of the groves we have happily considered "protected," will in fact assure their preservation.

Douglas H. Strong is Professor of History at San Diego State University and the author of *Trees or Timber? The Story of Sequoia and Kings Canyon National Parks,* as well as other books on conservation.



Only 2 inches long, Bufo exsul is heavily mottled with black.

The rare black toad has made unusual

adjustments to survive in a desert environment

. It is here, in the marsh, and Jun

L characterized the Pleistocene Era of Deep Springs Valley, California. Progression in geologic time left only a few springs to support life in the valley. Among the few survivors of the geologic changes is the black toad *(Bufo exsul)*, which is now listed as a rare species and fully protected by the state of California. Today the floor of Deep Springs

USH FORESTED vegetation

Valley consists of low desert bush, but around the toad's home the White and Inyo mountains rise to heights of 8,000 feet and support growths of juniper and piñon pine. Three sources of water-Wyman Creek to the north, Antelope Spring to the west, and Buckhorn Springs to the southeast-remain in the otherwise arid valley, but only the Buckhorn flow is strong. The southerly springs form a marshy area of several acres and then contribute to a shallow alkaline lake of sulphurous waters sometimes one mile or more in diameter. It is here, in the marsh, where most of the toads make their homes. All life depends on water, but for

an amphibian to survive the rigorous desert environment, it must make adjustments. In contrast to nondesert toads, the black toad stavs in or near the water at all times. Therefore, the black toad has developed a peculiar, if not precarious, style of living. Most of the animals we observed during our visit were either in or along the edges of the watercourses. To see a desert toad perform as expertly in the water as a normally aquatic frog was an exciting surprise. These creatures actually hopped into the water and reappeared, froglike, under the vegetation that shelters the banks of the stream!

Aquatic desert toads probably should be, if reason and speculation be employed, nocturnal. However, once again, the black toad abandons the norm and is active during daylight except during May and June when warm temperatures allow it to extend activity into the late evening.

by STEPHEN D. BUSACK

& R. BRUCE BURY

Because of the constant water temperature (20°C or approximately 68°F) of the marsh, hibernation is delayed. In November an investigator found twenty to thirty toads in a burrow, and these toads became active after warming in the hands of the intruder. When winter snows start to disappear, amphibians begin to congregate at breeding ponds. Unlike many of their fellow toads, male black toads do not precede the females, and there is no spring chorus. During March and April adult pairs occupy the shallow marsh in breeding congregations. Eggs hatch in four to five days, and metamorphosis occurs from three to five weeks later. By June there are newly transformed individuals, and sexual maturity is probably reached by the end of the second year. An unusually small toad, the adults reach a length of only about two inches.

The rare black toad makes its home in arid Deep Springs Valley in California, nestled in the White and Inyo mountains (below). The marshy areas of a shallow alkaline lake sometimes one mile in diameter form its primary habitat (right). The lake is privately owned by Cornell University, which will ensure the toad's well-being for the moment. Efforts are being made to make certain that the habitat will be permanently protected.





Both adults and juveniles feed on insects. They seem to prefer beetles, fly larvae, and ants.

This species' distinguishing characteristic is its color: so heavily mottled as to appear almost solid black. There are several hypotheses as to why the toad has dark pigmentation. Black may screen out the excessive ultraviolet light; this area is unsheltered from the desert sun. The coloring also blends in well while the toad is foraging both on the land and in the dark-colored watercourses. Another suggestion is that the color may somehow be derived from the sulphurous nature of the water. Whatever the reason for its dark color, it has enabled this animal to survive in a unique desert situation.

Unknown to science until 1934, the black toad is regarded as a full species by some and as a localized derivative of the western toad (*Bufo boreas*) by others. When first described, it supposedly had the fewest living representatives of any known amphibian; its scientific name *exsul* refers to the exiled nature of its existence. A survey made in 1971 estimated the population at less than 4,000 animals.

This beautiful animal has survived the rigors of life with nature and man over the centuries, and its survival depends on careful maintenance of the isolated waters of Deep Springs Valley. Even in this remote valley the toad is threatened by grazing of livestock and use of the springs for irrigation. It is now up to us to assure that it and hundreds of its relatives survive to enhance the diversity of the living world for our descendants.

Stephen D. Busack works for the Fish and Wildlife Services, Department of the Interior, as museum technician. R. Bruce Bury holds the position of chief of herpetology of the FWS. Their study of the black toad was made during a field trip to California to study the effects of off-road vehicles on reptiles in the Mojave Desert.

Goodbye, Wild Kiawah . . .

Arab oil money threatens to develop South Carolina's last large wild barrier island

by KENT NELSON

HE OCEAN that bright day was boundless as always, but on Kiawah Island it seemed even more vast because for ten miles along the beach there wasn't another soul. Thousands of shorebirds of various sizes swept in and out with the wash of the calm water, and far to the north the beach and the water melted together into a hot haze. I had come down that day a year ago with Philip Troy, a former chief appraiser for the National Park Service, because the 3,800-acre wilderness of Kiawah Island, South Carolina, had just been sold to the Middle Eastern country of Kuwait for \$17.4 million in cash, and it probably would not be long before it was changed forever.

Mr. Troy and I came slowly up the long beach heading north. It was an intriguing world that we came upon: some fifty brown pelicans ceaselessly dive-bombing for fish offshore, a giant loggerhead turtle that had been shot by shrimpers for the sin of becoming entangled in the nets lying on the beach, and—rising in clouds from their resting spots on the sand gulls, terns, and skimmers by the hundreds.

This unspoiled barrier island was to become what South Carolina ex-Governor John C. West declared would be "the finest international resort in the world." And the Kuwaitis had more than enough money to bring it about. Beneficiaries of the recent oil embargo to the tune of an astonishing \$7 to \$8 billion in projected cash surplus in 1974, the Kuwait Investment Company, an arm of the government's Finance Ministry, has been pouring money into American property holdings including feedlots in Idaho, real estate in California, and a gigantic Hilton Hotel complex in Atlanta, Georgia. For the Kiawah development project, the company has hired American Charles E. Fraser's prestigious Sea Pines Company.

Developers have nearly wiped out South Carolina's wild coast, and Kiawah had been their last and most sought-after jewel. In the phrase of the Sea Pines people who have long coveted the island, it is "a developer's dream." They have at their disposal a whole island, not just a tract of land, and Kuwait is not pressed for cash to meet interest payments or costs for roads, sewers, and utilities that developers incur when moving onto a new site. Moreover, the location is superb—only twenty-five miles south of Charleston, which has a developed tourist industry of its own. And because the island is almost totally unoccupied, few planning difficulties will be encountered. The semitropical climate has created a chaos of live oaks, palmettos, and loblolly pines; and the forest is dotted with freshwater ponds immediately adjacent to the beach. Sea Pines considers this the perfect setting for the development of a resort that will include an international convention center. hotel facilities, and vacation homes.

In the past Sea Pines has made a gimmick of catering to the theme of man's presence in harmony with nature. Fraser's corporate objectives maintain that "Sea Pines resorts will help provide the opportunity for an increasingly urban population to savor wind, sea, beach, forests, green grass, and mountain valleys in a visually unpolluted setting." Admitting that mistakes were made in the famous Sea Pines Plantation resort on Hilton Head Island, South Carolina, where marshes were filled and channels dredged for the Harbortown yacht basin and other projects, Mr. Fraser points to the painstaking environmental studies carried out before construction began at the new Amelia Island Plantation near Jacksonville, Florida.

But these efforts must be viewed in light of a further corporate objective: "to generate a 250 percent growth of corporate earnings per share or better over a five-year period, measured by conventional U.S. accounting standards, and to generate a 25 percent annual growth in value of the Company's assets in excess of liabilities. . . ." In the case of Kiawah, Fraser cannot lose. He has already secured a sliding-scale profit-incentive arrangement with the Kuwait Investment Company and has access to Kuwait's seemingly unlimited cash.

Kuwait's problem is simply too much money. Already the country has invested heavily in social and welfare services for its people, and Kuwaitis enjoy free education through the university level, free telephones, free hospital and health care, and no income taxes. Through a program of buying land at high prices from its own citizens, the government has even distributed considerable wealth among its 400,000 nationals. (Another 400,000 residents of Kuwait are foreigners.) Now, as a hedge against inflation, currency devaluations, and eventual depletion of a resource that provides 98 percent of its revenue, the government has begun to make massive worldwide investments.

Because of its rapid rise to prominence in the money field, however, Kuwait is understaffed in management expertise. Caution Freshwater ponds dot Kiawah Island and provide habitat for many wading birds and waterfowl like the hooded merganser duck here. The island also provides badly needed wild habitat for such diminishing and endangered species as the loggerhead turtle, brown pelican, and American alligator (below), as well as for bobcats, squirrels, raccoons, and deer. At right, survey stakes portend loss of home for many of Kiawah's wild creatures. has been its watchword in most cases, although the Columbia, South Carolina, law firm of Boyd, Knowlton, Tate & Finley has helped direct a steadily increasing flow of cash into the Southeast. "What is evolving," says Charles Fraser, "is that we in the United States provide the necessary local knowledge and the Kuwaitis put up the capital and participate in policy reviews."



This situation forces us to consider the possibility that, by virtue of their economic power, foreigners will have a significant voice in determining America's domestic economic directions. Despite the fact that the United States has consistently invested abroad, we have never conceived of ourselves as an "underdeveloped" nationthe object of investment by other richer countries. Now, however, foreigners-particularly the Arabs, Japanese, and Europeans-are finding lucrative land and business investments in the United States. According to Dun's financial journal, Senator Adlai Stevenson III's Subcommittee on International Finance estimates that foreign holdings in this country are now about \$15 billion and may climb to \$35 billion in ten years. The greatest fear, perhaps unfounded, is that there will be a foreign takeover of huge agricultural tracts, cattle ranches, and even crucial industries. It remains to be seen, for example, how actively entities like Kuwait Investment will participate in "policy reviews." At the very least, the foreign capital is driving up already skyrocketing real estate prices. Kiawah's previous owners made 139 times their original investment of \$125,000 when they sold the island to Kuwait.

AFTER TRAVELING several miles along the water, Mr. Troy and I headed inland in his four-wheel-drive vehicle. The old rutted roads, in some places almost nonexistent from lack of use, were clotted with dense grass and overhanging trees. Now and then we came upon a freshwater pond where large alligators sunned their snouts and herons and egrets waded among the reeds. Once a family of wild pigs scattered in front of the car, and we were constantly pointing out deer to one another. To give a concrete idea as to Kiawah's wildness, at one pond we had a glimpse of a rare roseate spoonbill that was shoveling for food among some egrets. Fewer than fifteen sightings of this bird have been reported in South Carolina since 1880.

Continuing north, we reached a creek and marsh that cut us off from Stono Inlet and Folly Island. Mr. Troy pointed out that for fifty miles along the coast to the north, all the islands were either developed, planned for development, or for sale. Two of these, Capers and Dewees islands, had been offered to the state for a mere \$2.5 million, but the state supposedly could not raise the money. Only Bull's Island, far to the north in the Cape Romain National Migratory Waterfowl Refuge, has been protected.

South of Kiawah, too, all the islands are gone. Seabrook and Botany islands have been recently platted and approved for development. On Seabrook a water tower rises garishly above the tree line and already it has a golf clubhouse on the sea. Botany is not so far along, but if you circle the island in a boat, you can read the lot numbers nailed every hundred yards to the trees. And farther south is Hilton Head Island, which long ago was overrun by people and golf carts.

The Kiawah controversy is of utmost importance because it is a key opportunity for a state in the Southeast to rethink the concept of preserving space along the coast. No doubt if there were a hundred islands left, Kiawah's disappearance would go unnoticed. But as each succeeding island has fallen to developers, the remaining islands have become correspondingly more valuable. One would think that, as land diminished in supply, the developers ought to have incurred a greater burden of proof to show the necessity for development. The less open space, the greater would seem the interest of the public in preserving what remained. But so far the only requirement has been the ability of developers to meet the increasingly higher land prices. Kuwait's claim to Kiawah was greater than the American people's simply because they were willing and able to put up more money.

T IS SIMPLE and not entirely incorrect to blame the federal government for the demise of the islands, and of Kiawah in particular. In 1955 the Interior Department's feasibility studies gave Kiawah high priority for inclusion within the National Park



System. But the projected acquisition cost of \$900,000 was deemed too great, and the project was dropped.

Of course, twenty years ago the coastal zone was more intact than it is today. But as wild islands decrease in number, whose function must it be to foresee and guard for the future needs of its citizens? To my mind, only the federal government has the resources to protect its citizens' interests.

In 1973, when the idea of Kiawah's inclusion in the park system was renewed, the government again failed to act. Using the thin, bureaucratic logic that things stay as they are, the Department of the Interior replied that because the price had been too high in 1955, and because land prices in the coastal zone had risen steadily, the project was certainly still too costly.

The notion of protecting open wild space such as Kiawah Island is difficult to focus on precisely because the United States has never incorporated environmental thinking into its economic decisionmaking. The attitude toward land in this country, environmental awareness notwithstanding, has been that a piece of land is worth what someone is willing to pay for it. A highway routing, for example, has traditionally been judged by the cost-benefit principle-minimizing costs through straight-line construction for maximum benefit in terms of money



saved in gasoline to truckers and motorists, regardless of what kind of country the highway passes through. However, we can no longer permit the valuation of open space at zero simply because there is no immediate dollar-generating power in it.

We must also place a value on the human need for open space and on the need to preserve wild habitat, and this value certainly rises as the quantity of land diminishes.

To some extent, the logic of the human need for open space has penetrated in relation to marshlands, which until recently had been considered economically worthless. But once these areas were shown to have economic value to man, their preservation became more acceptable. It has been a matter of demonstrating the economic reality that the marsh and its delicate ecosystems support nearly all the life in the sea. No marsh \rightarrow no ovsters and clams \rightarrow no shellfish industry. No marsh \rightarrow no shrimp and fish \rightarrow no fishing industry.

Over and above these economic considerations, however, the growing environmental movement in this country provides evidence that human beings need open space for their own psychological well-being and that they value wild lands as habitat for other creatures. Not only does Kiawah Island provide refuge for flora and fauna including rare and endangered species such as the osprey, brown pelican, loggerhead turtle, and American alligator, but it represents a chance for our own refreshment and recovery. When will our financial priorities reflect these needs? We have spent billions of dollars to set foot on the moon to satisfy some vague craving, some curiosity about other worlds. Don't we also have a similar curiosity about a remarkable maritime forest environment, which, according to biologist W. Bruce Ezell, has never been adequately studied? Unless we care enough to allocate sufficient money to preserve more wild ecosystems, we will cut ourselves off from our last links with open space and the natural world.

Kiawah is now fenced off from

public scrutiny and exploration, as it has always been. But now the Sea Pines people are planning to "civilize" the island with bulldozers and construction engineers. Whether another luxury resort is needed more than a wild island has never been truthfully asked nor truthfully answered either by appropriate planning studies or by referendum. The notion of profit seems once again to be the only measure of American life. For despite the proliferation of developments on islands neighboring Kiawah, the Sea Pines Company is confident that their wider marketing experience and their reputation for excellence will draw the right kind of wealthy tourists.

HE BRIGHT DAY I spent on Kiawah a spring ago has now blended with other times, other days. But the slow death of an island still makes me wonder whether the priorities of American life are reasonably ordered. Although public sentiment mounts against the development of Kiawah, in January 1975 the Charleston County Council, in an almost apathetic manner, methodically approved the requests of Sea Pines for permits to widen roads and the bridge to Kiawah, as well as other construction in accordance with its present agricultural/general zoning classification. Although the council pointed out that its action was not the approval of a zoning change, it was the first major hurdle for the development. which would now be able to present the council with a fait ac*compli* when the zoning petition is heard.

The Charleston Natural History Association and other citizens' groups will oppose any change in zoning classification. They have retained two full-time lawyers to fight the development.

Environmentalists propose a moratorium on development throughout the coastal zone until some long-range land use priorities are established. And rather than keep Kaiwah completely closed to the public, the groups urge that the island be declared a national seashore. "It's a natural for seashore status," says Richard Porcher, a member of the Charleston Natural History Association conservation committee. "Kiawah has a wide beach, established access, and a close range from tourist facilities. As a national seashore, the unique flora and fauna could be maintained indefinitely."

At this point, the chances of saving Kiawah seem remote. Money and the promise of more to come for investors and for the Charleston County tax coffers will probably seal the fate of Kiawah. South Carolina politicians do not seem inclined to oppose development of the island. In fact, ex-Governor West, who promoted the development, together with other state politicians own a house on Kiawah, and the value of their property is almost certain to appreciate when the island is developed into a playground for the wealthy.

Environmentalists face the almost overwhelming odds of financial and political power in attempting to prevent South Carolina's last large wild barrier island from becoming a more or less esthetic conglomeration of inns, roads, houses, condominiums, and ubiquitous manicured golf fairways. They need all the help they can get.

Kent Nelson, an avid amateur birder and naturalist, resides on Sullivan's Island, South Carolina, near Charleston. A graduate of Yale and Harvard law schools, for the past five years Kent has been free-lance writing and has sold short stories to literary magazines.

Help Save Kiawah

Readers can express their concern about development of Kiawah by writing the Charleston County Council asking them to deny the request for rezoning and to thoroughly explore the alternative of preservation for public enjoyment:

Dr. George G. Durst Chairman Charleston County Council 2 Courthouse Square Charleston, S.C. 29409



Congressional oversight hearings on national park concessions operations began a probe of this controversial issue in the final hours of the 93rd Congress.

The hearings were stimulated by events surrounding the preparation of the Yosemite National Park Master Plan, and by apparent manipulation of National Park Service (NPS) planning efforts by MCA-Universal, the principal owner of concessioner operations in Yosemite. In addition, MCA's use of park facilities and resources in Yosemite for business conventions and the filming of the television series "Sierra" surfaced as major components of the oversight investigation.

The committees involved are the House Government Operations Subcommittee on Conservation and Natural Resources and the Subcommittee on Activities of Regulatory Agencies Relating to Small Business, chaired by Representatives Henry Reuss (D-Wis.) and John Dingell (D-Mich.) respectively.

Witnesses at the hearing included the director and deputy director of the National Park Service and invited representatives of NPCA, the Sierra Club, and the Wilderness Society. The committees are holding additional sessions to receive testimony from MCA and perhaps other concessioners.

The hearing on December 20 was an exhausting, nearly unbroken twelvehour session lasting until ten o'clock in the evening of the last day of the 93rd Congress. Hours were added to the length of the hearing because Ronald H. Walker, NPS director at the time, was in Denver at the start of the hearing and had to be recalled by congressional subpoena. He arrived in the Washington, D.C., hearing room by six o'clock in the evening, fatigued, but willing to answer questions.

The hearings established clearly the degree to which MCA had participated in and influenced the Yosemite planning process. The National Park Service openly considered MCA part of the planning team for Yosemite, yet no such privileges were extended to NPCA or any other members of the public. The latest draft master plan (eight versions of the Yosemite plan have been prepared since 1971) strongly reflects the profit-oriented thinking of MCA's leaders. In many cases, professional NPS planning decisions were deleted in favor of different concepts supplied by the concessioner.

Other issues raised by the committees concerned business connections especially during the peak tourist season—master plan decision-making processes, recreational development, location of concessioner facilities, and the use of NPS rangers for nonpark purposes such as commercial filming. The committee members showed strong tendencies to pursue lines of questioning in the style of trial lawyers, and the Park Service officials were even placed under oath at the request of Representative Paul N. (Pete) Mc-Closkey (R-Calif.).

A full report on the hearing will be compiled for the NPCA Magazine upon completion of the hearing record. Copies of NPCA's full testimony are available to members upon request.

Badlands National Monument in South Dakota is threatened by possible road construction according to some informal reports. In their zeal to improve road conditions between the communities of Scenic and Wall, local road planners apparently are proposing to widen and pave an existing road that not only runs into the north unit of Badlands National Monument, but also runs adjacent to the proposed wilderness area for the monument.

Following one report that Badlands officials actually were considering the proposal, NPCA recently expressed our opposition to any proposal of this type to Mr. Lynn H. Thompson, National Park Service (NPS) Rocky Mountain Regional Director. Not only is there an alternative route outside the monument, NPCA stated, but the road "improvements" run counter to established National Park Service policies.

The NPS road policies preclude roads designed as connecting links between

points outside the park boundaries. In addition, the recent draft revision of NPS administrative policies also contains language prohibiting the use of Park Service lands by primarily nonpark traffic.

NPCA has asked Mr. Thompson to clarify this situation for us by advising us on the present status of the road proposal, alternatives to the proposal, and, if the project is under consideration, how soon an environmental impact statement on the project will be available. We also requested information about who controls the rightof-way now and who would control the right-of-way through the park after construction work.

The questionable safety of available technology for long-lived radioactive waste disposal has prompted NPCA to urge full public disclosure of the situation along with changes in the future direction of energy research and development in the United States.

NPCA President A. W. Smith recently recommended to Robert C. Seamans, Jr., administrator of the new En-



ergy Research and Development Administration (ERDA), that a moratorium be declared on further promotion of nuclear fission as a power source until the waste disposal problem has been solved.

Fission reactors of both the "nonbreeder" and "breeder" types produce dangerous radioactive wastes that must be stored for thousands of years. For instance, plutonium has a "halflife" of 24,000 years, meaning it requires about one million years for complete dissolution.

The Atomic Energy Commission (AEC), which has been absorbed into ERDA, assured the public from time to time that the technology for safe disposal existed. However, NPCA has never seen any evidence to support this contention.

In fact, late in 1974 the AEC issued a draft environmental impact statement proposing alternatives for "interim" storage of commercially generated nuclear wastes. It would seem that the alternate methods and alternate storage sites (Beatty, Nevada; Hanford, Washington; or Idaho Falls, Idaho) are under consideration for "interim" storage because as yet there is no known method for *permanently* storing such incredibly potent materials. In this case the wastes to be stored are high-level transuranium-contaminated radioactive wastes.

NPCA urged the ERDA administrator to make a full disclosure to the American people. In addition, NPCA has repeated to Russell W. Peterson, chairman of the Council on Environmental Quality, our urgent request of last year that the council make an independent appraisal of the available technology for long-lived radioactive waste disposal.

Despite the dangers of radioactive wastes, promotion of fission plants proceeds apace. President Smith told Mr. Seamans that NPCA favors instead a heavy concentration of research and development resources on solar energy. As a second interest, focus should be maintained on nuclear fusion, an approach that does not involve problems from radioactive wastes, although the problem of thermal pollution must be solved. (See "A Bright Future for Solar Energy, by Senator Alan Cranston, October 1974; and "Fusion-Power to the People," by Joseph L. Cecchi, January 1975, for more information on these alternative sources of energy.)

The U.S. Forest Service draft long-term management plan, the "Environmental Program for the Future" (EPFF), should be reoriented to give major consideration to environmental quality factors in deciding how our national forest resources will be used.

NPCA recently stressed this point in a detailed statement concerning the draft document submitted to the Forest Service. Included in the scope of the Service's ten-year plan is management of the 187-million-acre National Forest System, which consists of 155 national forests and 19 national grasslands. In addition, the plan includes a human and community development program to help minority, economically depressed, elderly, handicapped, and youth groups through forestry-related work projects.

NPCA and others consider it fortunate that the plan is not intended to fix rigid targets, budgets, or land allocations; because in its present draft the plan is vague, poorly organized, and unbalanced. NPCA's comments and recommendations included:

• In general the EPFF provides the public with insufficient information for choosing from three given levels of operation that each represent varying amounts of forestry products and activities.

• The draft plan overemphasizes management geared to timber harvesting at the expense of other resource considerations. This emphasis is not in the spirit of the Multiple Use/Sustained Yield Act, which mandates that forestry management decisions should not be made on the basis of the greatest dollar return or the maximum production of a single commodity. Instead, this law requires that fish, wildlife, forage, recreation, wilderness, land and water, and esthetics be afforded the same level of consideration as timber. • A related deficiency in the plan is its overemphasis on research activities solely geared to timber management. Research plans are poorly defined and may even duplicate existing government or private research projects. NPCA stated that priorities must be established for use of public funds in this area.

• "Improved Timber Utilization" should be made a major focus of research because improved methods could effectively increase the national timber supply by 29 billion board feet over a ten-year period. Areas with potential include the use of slash, culls, and thinnings and fiber "waste" at the mill itself, as well as recycling of wood products.

• In regard to timber harvesting and/or silvicultural systems, the EPFF should review more thoroughly relative impact on environmental quality and other forest uses. Alternatives to the destructive clearcutting method must be identified wherever possible, and size limits must be set that are specific to each given forest type or forest environment. • The plan must be reorganized to give separate and more detailed analysis to forest management and research, mining and minerals, land acquisition and exchange, and transportation systems. It also should provide a regional perspective on recreational planning for areas such as national forest lands that abut National Park System units. • The Forest Service must plan in detail for protection and preservation of natural areas including habitats of rare and endangered species of flora and fauna. This particularly involves intergovernmental cooperation, identification of areas for possible designation as "research natural areas," and other resource inventories required by law.

• Forest Service personnel needs are not covered. Manpower levels must be specified in relation to activity levels and resource management systems.

• The document is vague about mechanisms for public involvement in Forest Service policy and program affairs. Such mechanisms are essentially nonexistent at the national level.

A number of NPCA members submitted their own comments on the Environmental Program for the Future following a notice in the November Magazine. Such public involvement is the key to wise management of our nation's forest and range resources. The Forest Service is now revising its plan, hopefully incorporating these and other constructive public comments; final guidelines will be issued before the end of this year.

Will the whales survive man and the IWC? NPCA and other organizations concerned with the plight of the exploited whales continue to press for a ten-year worldwide moratorium on all commercial whaling. We recently met with Dr. William Aron, director of the National Oceanic and Atmospheric Administration's Office of Ecology, to discuss his earlier involvement in the meetings of the International Whaling Commission (IWC) and its Scientific Committee.

Dr. Aron and Dr. Lee M. Talbot, Chief Scientist, Council on Environmental Quality, have been instrumental in the U.S. government's effort to have the International Whaling Convention amended to include the moratorium.

At the most recent IWC meeting, the

Australian delegation offered an amendment to the U.S. proposal that would divide all whale "stocks" into three categories: (1) initial management stock, (2) sustained management stock, and (3) protected species. The IWC approved the amendment 13 to 2, with Japan and Russia casting negative votes. However, the commission has not acted yet on the U.S. moratorium proposal itself. The Scientific Committee seems generally ready to agree to the amendment, with the probable exception of the scientists from Japan.

At the next meeting, in June 1975, IWC nations could act on the complete moratorium, although the commission will apparently defer any final vote until after the conclusion of the United Nations Conference on the Law of the Sea (LOS). This is because the LOS proposal to establish a 100-mile coastal resource zone controlled by the coastal nation would have a significant effect on whale populations. Data show that 50 to 60 percent of whale populations are within 200 miles of the world's coasts and will likely be subject to various national claims.

Under the Australian amendment the blue, gray, humpback, right, and bowhead whales would be placed on the protected list. The population of other species would be determined based on the best available data. Then commercial whaling would be allowed for each species of whale with a population larger than the number that is 10 percent below the "maximum sustainable yield" (MSY) catch level. Those species with populations smaller than the "10 percent below MSY" level would be added to the protected list either in their entirety or by separate regional populations.

The whale stocks that could be commercially harvested would be divided into two categories: the sustained management stock, including populations at levels ranging from 10 percent below MSY up to 20 percent above MSY; and the initial management stock, with population numbers that are more than 20 percent above MSY.

Practically speaking, this amendment would stop all harvesting of fin and sei whales in the North Pacific but would allow a small number of fin (250) and a larger number of sei whales to be taken annually in the southern oceans, principally the Antarctic. Sperm whale harvest would continue unchecked.

Even though the adoption of the Australian amendment is a step in the



right direction, NPCA continues to urge acceptance of the ten-year moratorium. This period not only would allow depleted species to recover somewhat, but would allow time to gather data (now so woefully inadequate) in order to more accurately assess the true population levels of

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various species of whales, and would provide the opportunity for education of the world's peoples as to the essential position of whales in the ocean ecosystem.

NPCA also continues to urge the public to boycott goods imported from Japan and Russia, because the governments of those countries continue to oppose both the Australian amendment and the moratorium as well as to insist that their people will continue to harvest the whales they "need." (Whale products are used to make margarine, lipstick, lubricating oils, and other items—all of which could be derived from sources other than the whale.)

Because destructive forestry practices can seriously impair water quality, the Federal Water Pollution Control Act Amendments of 1972 called for guidelines, procedures, and methods to control pollution resulting from silviculture and related practices.

One example of the need for such measures that is familiar to many NPCA members is the situation in the Redwood Creek watershed of northern California. This watershed includes both private lands and a segment of Redwood National Park. Here both the vegetative and aquatic ecosystems of the park are threatened by accelerated runoff and sedimentation—conditions that result from abusive clearcutting operations on adjacent upper watershed areas.

Other practices in this country that have an impact on water quality include various timber harvesting operations, construction of logging roads, and the use of such chemicals as fertilizers and pesticides.

Although the Environmental Protection Agency (EPA) is the federal administering agent, the 1972 law assigns the respective states the primary responsibility for water pollution control and enforcement.

Perhaps the most practical method for dealing with these water pollution problems is development of model state forest practice guidelines. Such guidelines would provide a policy framework with which to better ensure the protection of stream environments and other hydrologic units such as the Redwood Creek watershed.

At the request of Mr. Jack Churchill,

acting chief of the Diffuse Sources Branch of EPA's Office of Water and Hazardous Materials, NPCA submitted comments on a draft model "Suggested Forest Practices Act," which will eventually be made available to state governments. NPCA considers the model to be an important and necessary first step in helping to restore and maintain the chemical, physical, and biological integrity of the nation's water.

However, NPCA pointed out that, in the course of finalizing the model forest practices proposal, EPA must help ensure that management of forest lands, particularly our public lands, will be oriented toward the *multiple* goods and services that are inherent to or to be derived from forest resources.

NPCA also urged that the model identify silvicultural systems that provide alternatives to practices such as clearcutting, specifying the applicability of each system to a given forest type, forest stand, or species of tree. It is also crucial that the model forest practice guidelines include provisions for identification and protection of unique or critical areas such as habitat or range of rare, endangered, or threatened species of flora and fauna.

In summary, EPA's challenge is to develop a model forestry proposal that will help achieve an acceptable balance between economic and ecological factors in maintaining the quality of the forest lands and waters in our country.

West Virginia's scenic New River Gorge could be designated the first "National White Water Way" if a preliminary recommendation of the Bureau of Outdoor Recreation (BOR) is accepted by the Interior Department and ultimately by the U.S. Congress (see the February 1975 issue).

NPCA recently obtained a copy of BOR's preliminary recommendation for the New River, which was scheduled to be submitted for state and local comments at a series of public meetings in West Virginia during late January. After consideration of citizen input, a final BOR recommendation will be submitted soon to the Secretary of the Interior.

According to BOR's preliminary recommendation, the entire length of the river studied, 66 miles, should be designated a scenic corridor to maintain



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NATIONAL PARKS AND CONSERVATION ASSOCIATION 1701 Eighteenth St., N.W. Washington, D.C. 20009 the natural scenic values of the gorge. This corridor, totaling 50,000 acres, would include the river, its banks, the gorge walls, a 200-foot buffer strip along both rims, and several nodes of parkland further back from the rim primarily using existing and proposed state park areas.

Although it offers three alternatives for management—federal, state, or joint federal and state—the recommendation indicates that local zoning authority should be relied on to maintain the natural setting of the area. Practically, this would mean that 45,-000 acres would be expected to be controlled by zoning authority, and only 5,000 acres would be acquired either by purchase, transfer, or donation (i.e. the state parklands).

Generally speaking, it has been NPCA's experience that in areas proposed for preservation where little land acquisition is contemplated, a reliance on the good intentions of local zoning authorities has not been enough to prevent the intrusion of development that is incompatible with the purposes for which the area was established.

NPCA has conveyed this information to BOR officials, both for the public meetings and through personal contacts, and we will continue to seek assurance of the perpetual preservation of the New River Gorge area.

Army Corps of Engineers' plans for dredging the Delmarva waterway were the focus of recent NPCA meetings with officials of the Corps Baltimore and Philadelphia district offices.

In 1970 Congress authorized construction of a channel 6 feet deep and 100 feet wide along the Atlantic coast from Lewes, Delaware, to Cape Charles, Virginia. However, construction has not started because the money was never appropriated.

The Corps is releasing a new draft environmental impact statement on the project to present economic analysis, proposed changes in design and physical alignment of the channel along the route, and alternatives for spoil dumping sites near the channel. In addition, there is a realization that after the passing of five years, the project should be reexamined.

NPCA and other groups at the meeting expressed reservations about the current need for this waterway, which has an initial pricetag of \$12 million and would serve only a few citizens who own motorized (i.e. gasolineburning) pleasure boats. Although the channel is proposed as a link in the entire intracoastal waterway along the Atlantic and Gulf coasts, the Corps has projected that only about 12 percent of the traffic in the new link would be transient and the rest would be local. Furthermore, the proposed channel would be merely an alternative route to the existing waterway connecting the Delaware Bay with the Chesapeake Bay by means of the C&D Canal.

NPCA is particularly concerned with several environmental impacts of the project. Among these looms the potential danger to shallow, fragile estuarine and marsh areas through which the channel must pass or which are being considered as primary sites for the disposal of a large volume of spoil. As a solution to this disposal problem, the Corps is considering several alternatives including island and marsh "creation," upland disposal, and beach "nourishment."

The latter alternative particularly alarms NPCA because the Corps' first site choice for spoil disposal by this means seems to be the ocean-side beaches on the north end of Assateague National Seashore. The total volume of dredged material would consist of an initial 5,290,000 cubic yards of spoil and an additional 245,000 to 390,000 cubic yards of spoil during each annual maintenance dredging.

Mechanical beach nourishment within a National Park System unit is definitely contrary to NPCA policies and seems to be contrary to recent Park Service administrative trends. The area in question on Assateague is particularly sensitive because it is currently managed as a natural area, is used extensively as a nesting area by terns and other shorebirds, and is accessible only by foot. Beach disposal of spoil would probably require the permanent installation of hydraulic pumps, motors, and pipelines to carry the spoil to the beach front.

Members wishing to order a copy of the environmental impact statement or to express their views should write:

Col. Clyde A. Selleck, Jr. District Engineer U.S. Army Corps of Engineers 2nd and Chestnut Streets Philadelphia, Pa. 19106



The Everglades Coalition, in which the National Parks and Conservation Association participates, and the Environmental Coalition for North America criticized in January the refusal of the Dade County Port Authority and county commissioners to cooperate in relocating a "temporary" training airstrip from Florida's Big Cypress Swamp. The protesting groups are two broad coalitions of environmental and labor organizations.

Several years ago, after a campaign by environmentalists, the federal government decided to deny support to a giant jetport project proposed for the Big Cypress, which adjoins Everglades National Park on the north. A Florida jetport agreement that is now five years old permitted a training airstrip that had already been constructed to be used pending its prompt removal to a different airport.

Stating that five years should have been long enough to locate a new site, the two coalitions each have urged Secretary Claude S. Brinegar of the Department of Transportation and Secretary Rogers C. B. Morton of the Department of the Interior to settle the issue, stressing that the use of the strip in the Big Cypress should now be terminated by the exercise of the powers available to the Civil Aeronautics Board and the Department of Transportation.

Ample opportunity has been given to the Dade County Port Authority and the county commissioners to get the training functions and facilities removed to an ecologically acceptable site satisfactory to them, the groups contend, but the officials in Florida have now declined to avail themselves of ample federal assistance.

Miami International Airport and other airports are capable of immediately receiving the training operations from the strip in the Big Cypress.

Furthermore, the environmentalists say that prompt removal of the training strip is all the more relevant due to the recent addition of Big Cypress lands to the National Park System. Establishment of the Big Cypress National Preserve represented a dedication of the area for the protection of its natural resources. NPCA President A. W. Smith and National Audubon Society President Elvis J. Stahr are co-chairmen of the Everglades Coalition. In his private capacity Mr. Smith serves as chairman of the Environmental Coalition for North America. Both groups have been actively involved in environmental battles related to the Everglades region over the years.

Large-scale ski developments in national forests—such as the recreational complex proposed for the Mineral King valley adjacent to Sequoia National Park in California—could be promoted by a bill that was approved by the House Interior Committee last December.

The controversial measure, if reintroduced and passed by the 94th Congress, probably would result in accelerated leasing of public lands for such developments. It would alter an existing term permit system for private developments by providing lessees with possessing interests, rights of renewal, and an extension of the present thirty-year term of lease to fifty years.

More than a year ago, at the invitation of the Public Lands Subcommittee, the National Parks and Conservation Association (NPCA) strongly resisted this legislative effort, which it claimed was especially geared to facilitating multimillion-dollar recreation developments. Although wary of such massive capital investments that pose a threat to roadless and undeveloped areas of the national forests, NPCA has stated it does not oppose the more prudent development of outdoor recreation facilities and services in other areas of the 187-million-acre National Forest System. Many ski resorts already exist in national forests.

Passage of the leasing legislation probably would affect the proposed development of an all-year recreation complex in the Mineral King valley of California. Mineral King valley lies in Sequoia National Forest and is bordered on three sides by Sequoia National Park. Many consider this alpine valley to be of park quality, it has been managed as a game refuge by USFS.

According to a favorable draft environmental impact statement recently issued by the Forest Service, the Mineral King development, as planned by Walt Disney Productions, would ultimately include eighteen ski lifts, lodging for up to 6,000 people, and campsites for an additional 1,325.

The current eighty-acre limit on term permits for commercial outdoor recreational developments on national forest lands has prompted questions as to whether the Secretary of Agriculture would be exceeding his legal discretion by allotting a larger acreage to the proposed Mineral King development. Requests for supplemental acreage for such large developments have been handled by the Forest Service through supplemental terminable permits issued on an annual basis. In fact, of eighty-six existing permits issued by USFS for winter sports areas, all but four substantially exceed eighty acres. Twenty areas exceed 1.000 acres. thirty-six exceed 640 acres, and three involve more than 6,000 acres of forestland.

Because Congress was concerned about the possibility of developments such as Mineral King that could conflict with other management mandates for use of national forest lands, it instituted the eighty-acre restriction. *Continued on page 28*



Breeding ospreys chose to build their huge nest on top of this old windmill in Suffolk County, New York. Paul Spitzer, graduate student at the State College of Agriculture and Life Sciences, Cornell University, reports that reproduction of these magnificent birds is on the upswing in the Long Island Sound area for the first time in twenty-five years. Spitzer's work helped stem the decline of the ospreys.

Continued from page 27

The recently proposed leasing bill (HR 10491 of the 93rd Congress) originally did not provide for acreage restrictions in commercial outdoor recreation term permits. The House Interior Committee changed the bill to require that leases exceeding 640 acres be approved by the House or the Senate Interior Committee.

Opposing HR 10491 during the December markup session were Representatives Patsy T. Mink of Hawaii and Thomas S. Foley of Washington state.

More Notes . . . A new National Park System unit in Ohio, the Cuyahoga Valley National Recreation Area, will preserve a green swath of up to 20,000 acres of federally acquired land . . . Foresta Institute of Carson City, Nevada, has protested what it calls the Atomic Energy Commission's (AEC) "shotgun scheduling" of a December public hearing in Salt Lake City, Utah. Alternate sites in Nevada, Utah, and Washington are under consideration for storage of potent radioactive nuclear wastes. Citizens from the three states expressed grave doubts about the adequacy of the AEC draft environmental statement and the safety of storage technology. Foresta has requested Senator Edward Kennedy of the Senate Administrative Practices and Procedures Committee to investigate ... A National Park Service team is now finishing up a study in the Flint Hills of Kansas to locate possible sites for a prairie national park area. For more information, write Save the Tallgrass Prairie, Inc., 4101 West 54th Terrace, Shawnee Mission, Kansas 66205 ... South Carolina's Blake's Reserve, 25,000 ecologically vital acres worth an estimated \$20 million, has been donated to the Nature Conservancy by the Santee sportsmen's club . . . The Florida Defenders of the Environment, Inc., has protested a recent drawdown of the Rodman Reservoir on the controversial Cross-Florida Barge Canal. The Corps of Engineers performed the drawdown in January. According to the Florida citizens group, which, for environmental reasons, opposes completion of the canal, the Corps action will invalidate the results of an upcoming environmental impact statement on the canal project. The Corps said the drawdown was designed to control noxious weeds.

Pollution Controls and Your Pocketbook

To refute charges that environmental expenditures are a major cause of this nation's current economic woes, last November the Council on Environmental Quality (CEQ) released a report, *The Economic Impact of En*vironmental Programs.

Generally, the report concludes that pollution control outlays will not be a significant contributing factor to inflation, unemployment, or the Gross National Product growth, nor will these expenditures substantially affect industrial expansion.

These conclusions are based on an assessment of the costs to industry, the consumer, and the federal government of federal legislation requiring environmental controls and the effect of these costs on the economy. Included in the analysis are pollution abatement costs in the areas of air pollution, water pollution, nuclear radiation, solid waste, strip mining reclamation, and noise pollution.

The CEQ forecast is that \$194.8 billion will be spent by all economic sectors to meet pollution control costs during the decade 1973 to 1982. Although this estimate is 28 percent higher than that made last year, most of the increase can be accounted for by inflation.

In four separate studies sponsored by CEQ, analysts determined that pollution costs accounted for approximately $\frac{1}{2}$ of 1 percent of the rise in inflation in 1973–74, while higher fuel and food prices accounted for 51 percent.

Effects of environmental programs on the rate of employment during that period were shown to be insignificant except in the case of plant closures forced by inability to meet pollution standards. Such closures occurred primarily in older, smaller plants; moreover, increased production in other plants reduced net job loss.

The report predicts that during the period from 1973 to 1982 the cost of pollution control investments and operation and maintenance will have no significant effect on the expansion and modernization of production in industry. Pollution controls will account for a maximum of 6 percent of the total investments in any one year, but over a ten-year period the yearly average is expected to be only 3 percent of total plant and equipment investment. Only 2 percent of those firms asked said they would have to defer other plant and equipment improvements in order to invest in pollution control equipment.

CEQ calculates pollution control costs for the estimating period at \$81.4 billion for purchase of pollution equipment (investment). Of that amount \$73 billion, the capital costs, would be passed on to the consumer in the tenyear period, along with \$121.8 billion for operating and maintenance costs. This total could be high, however, considering that from 1973 to 1974, an estimated 23 percent of total pollution control by industry was change in process. Changeover to a less polluting process is generally less expensive than emission and effluent control.

Certain industries will be harder hit by costs of controlling pollution. During the decade, heavily polluting industries will spend 10 to 20 percent of total plant and equipment investment on controlling pollution. These include electric utilities; oil refineries; and industries manufacturing pulp and paper, nonferrous and primary metals, stone, clay, glass and cement, food products, and chemicals. These industries account for 73 percent of all energy consumed by industry and 20 percent of energy used in the nation as well as four-fifths of all pollution control investments made by industries in 1974.

Although their pollution investments are not currently large enough to substantially affect prices or output, these industries are now being caught in a squeeze that could become serious, the report states. If rising energy costs, a tight market limiting supply of investment funds, and depressed profits continue, pollution costs could substantially affect prices and output—but only as one of a series of influencing factors.

conservation docket

As a final wrapup on the actions of the 93rd Congress relating to the environment, the following list contains the public law (PL) numbers and title or description of most of the laws enacted during the 1973 and 1974 sessions of the 93rd Congress that may be of interest to NPCA members:

PL 93-86: Title 10, Section 1009 establishes the Forestry Incentives Program as a part of the Rural Environmental Assistance Program (REAP).

PL 93-119: To implement the 1969 and 1971 amendments to the International Convention for the Prevention of the Pollution of the Sea by Oil, 1954.

PL 93-153: To authorize the Trans-Alaska oil pipeline.

PL 93-188: To provide for participation by the United States in the United Nations Environment Program (UNEP).

PL 93-205: To provide for the conservation of endangered and threatened species of fish, wildlife, and plants.

PL 93-234: The Flood Disaster Protection Act of 1973.

PL 93-251: The Water Resources Development Act of 1974.

PL 93-254: To implement the provisions of the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter.

PL 93-275: To establish the Federal Energy Administration.

PL 93-278: To extend the Environmental Education Act for three more years.

PL 93-279: To designate the Chatooga River (North Carolina, South Carolina, and Georgia) as a component of the National Wild and Scenic Rivers System.

PL 93-319: The Energy Supply and Environmental Coordination Act of 1974.

PL 93-341: To establish the Egmont Key National Wildlife Refuge in Florida.

PL 93-344: The Congressional Budget and Impoundment Control Act of 1974.

PL 93-402: To establish the Great Dismal Swamp National Wildlife Refuge in Virginia.

PL 93-408: To expand and make per-



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manent the Youth Conservation Corps.

PL 93-409: The Solar Heating and Cooling Demonstration Act of 1974.

PL 93-410: The Geothermal Energy Research, Development, and Demonstration Act of 1974.

PL 93-429: To designate 343,850 acres of the Okefenokee National Wildlife Refuge, Georgia, as wilderness.

PL 93-431: To establish the Boston National Historical Park in Massachusetts.

PL 93-438: To establish the Energy Research and Development Administration and the Nuclear Regulatory Commission (thus absorbing the Atomic Energy Commission).

PL 93-439: To establish the Big Thicket National Preserve in Texas.

PL 93-440: To establish the Big Cypress National Preserve in Florida. PL 93-444: To expand the Piscat-



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PL 93-466: To expand the Harpers Ferry National Monument in West Virginia.

PL 93-486: Establishing the Clara Barton National Historic Site (NHS), Maryland; the John Day Fossil Beds National Monument, Oregon; the Knife River Indian Villages NHS, North Dakota; the Springfield Armory NHS, Massachusetts; the Tuskegee Institute NHS, Alabama; the Martin Van Buren NHS, New York; and the Sewall-Belmont House NHS, in Washington, D.C.

PL 93-509: To require payment of fair market values for rights-of-way or other interests granted on units of the National Wildlife Refuge System.

PL 93-523: Safe Drinking Water Act. PL 93-555: To establish the Cuya-



pool, scenic rides to Black Canyon, Grand Mesa, Blue Mesa, horseback riding, ½ day, all day, overnite campouts. Six day packtrip on horseback leaves ranch each Monday from mid-July thru mid-August into the West Elk Wilderness to ride, fish, explore, see deer, elk, bear, coyote, mountain sheep. Camp in comfortable tent camps. Experienced wranglers and cooks with each group. Write for complete details, our brochure and reasonable rate list.

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PL 93-577: The Federal Nonnuclear Energy Research and Development Act of 1974.

PL 93-620: To provide for the expansion of Grand Canyon National Park.

PL 93-621: To add twenty-nine rivers or river segments to the study category for potential designation as components of the National Wild and Scenic Rivers System.

PL 93-622: The Eastern Wilderness Act, designating sixteen eastern areas as components of the National Wilderness Preservation System, and seventeen areas to be studied for potential addition to the System.

PL 93-626: To establish the Canaveral National Seashore in Florida.

PL 93-627: To provide for the location, construction, and operation of deepwater ports in waters off the U.S. coasts.

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BLM will be helpless to accord protection against rapacious development.

BUT DESPITE our preference for manage-ment by the National Bark Corrige ment by the National Park Service, we cannot support recommendations emerging from the Department of the Interior for hunting in the proposed national parks. A policy of this kind established in Alaska would inevitably spread throughout the System; there is no way to prevent it from becoming a prededent. We have had the experience of pressures for hunting in Yellowstone based on the example of Grand Teton, the lone exception at present in the System. If hunting is to be permitted, then the units should be set up as national recreation areas, not national parks. But there is plenty of room for hunting in the rest of Alaska, and no reason why big scenic national parks cannot be established without any hunting in them whatsoever. We would make an exception for genuine subsistence hunting by natives but not for safari or commercial purposes.

WITH RESPECT to urban parks, the NPCA has gone along with the establishment of Golden Gate National Recreation Area at San Francisco and Gateway National Recreation Area in New York. We also supported, on invitation, the enactment of the legislation creating the Cuyahoga National Historical Park and Recreation Area. But the National Park System, designed primarily for the protection of the great scenic parks of America, could be weighted down by the addition of urban units requiring a different managerial perspective. A dozen years or more ago a good system was set up on the basis of state and federal cooperation for creating and protecting state, local, and local regional parks and recreation areas. That system turns around the Land and Water Conservation Fund and grants therefrom by the Bureau of Outdoor Recreation for the implementation of state recreations plans approved by the BOR. This is a matching grant system, and the states and localities are required to contribute their share; a large part of the LWCF is allocated by statute to these purposes. Protection for areas which ought to be preserved unimpaired can be provided pursuant to this system, if the federal standards are set high enough.

The balance of the LWCF is allocated to the

acquisition of land for the national park, national forest, and wildlife refuge systems. It is needed for new units like Big Cypress National Preserve, for the acquisition of inholdings and the like. If it is used for urban park land acquisition, the great scenic national parks may suffer seriously. True, the current difficulties have turned around authorizations, appropriations, and impoundments of money from the LWCF, but that is another story. A measure of flexibility and good sense should be used in these matters; practical judgments must be made on a case by case basis as to whether areas proposed for the System are of sufficient national significance.

THE QUESTION of adequate funding for the operation of the National Park System is another matter. The problem is even larger, extending to funding for the management of the other wildlands of the nation—the forests, wildlife refuges, wilderness, scenic rivers, wetlands, and all the rest. This issue is going to lock down to some fundamental choices by the President and Congress. Some basic evaluations have to be made about what the country will spend its money for. Some of the destructive projects are going to have to give: big dams and roads first of all.

We can wind up with the redwoods. Redwood National Park is getting nowhere. This project was once a brilliant hope as a new unit for the System. But the destruction of the coast redwood forests in the vicinity of the park continues apace. The government has authority to acquire interests in the timberlands around the park, and in watersheds flowing through the park, such as to enable it to require the use of selective cutting methods. These methods conserve the soil, water, watercourses, wildlife, vegetation, and the commercial forests themselves. Because they would protect the timberland owners against the follies of their own destructive procedures, they would cost the owners nothing in the long run, but would indeed return a profit and for that reason should cost the government nothing to acquire.

We think that the new Director has an inescapable responsibility to recommend this course to the Secretary of the Interior, and he in turn to the Attorney General and the President. We intend to keep the attention of all these gentlemen directed toward this target.

-Anthony Wayne Smith



HELP PRÉSERVE YOUR NATIONAL PARKS

NPCA currently is providing direct input into National Park Service policy. Our critique of the new document of systemwide administrative policies contains extensive comments and suggestions that embody our goals to protect the national parks. We are pleased with NPS indication of responsiveness to NPCA ideas, but policy suggestion is not enough. We must take further steps to ensure implementation of these policies by NPS, or we leave our goals half-finished. That is why we must have a strong constituency, and why we need your continued support. If you have not yet renewed your membership, please do so today. If you have friends who would help us, please send us their names. Only with your concern, your support, and your dollars can we complete our task of protecting the parks and the natural environment.

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