

# NATIONAL PARKS *Magazine*



Spring Moves North: A Wake-robin Blooms in Vermont's Green Mountain National Forest

*April 1961*

# The Editorial Page

## Mission 66 Reappraised

THIS APRIL, THE DIRECTOR OF the National Park Service meets with the park superintendents at Grand Canyon National Park to review the accomplishments of *Mission 66* and consider changes in the plans.

Half of the ten-year period assigned for completion of the Mission has passed. Much good has been done but perhaps, as might be expected, mistakes have been made.

This Association has criticized what we consider to be excesses in road building, like Tioga Road in Yosemite Park. It has also criticized what we considered inappropriate architecture, like the tower on Clingman's Dome in Great Smoky Mountains National Park.

We concurred from the beginning on the importance of making reasonable provision for the great increase in the number of visitors expected during the life of *Mission 66*. We have no regrets about this concurrence, but we have nonetheless warned that limits must be set to the number and type of visitor accommodations in the parks, lest the wonders people come to see may be destroyed.

We have been deeply disturbed by reports that park service personnel is inadequate to protect an area like Death Valley Monument from vandalism; protection calls for more rangers and more campgrounds, yet great expenditures are being made elsewhere in the system which may sometimes be ill-advised.

There are dilemmas which can hardly be solved within the park system isolated from its surroundings; at Lassen Volcanic Park, for example, more campgrounds are needed, yet the terrain of the park might be destroyed by more facilities; the only solution seems to lie in using the adjacent national forest.

We think the director and superintendents should have a hard look at the fundamental question: the proportion between outlays in the general park system plans for management, protection, and research, on the one hand, and for construction of new facilities on the other.

Management and protection got \$17 million in the 1960-1961 budget. Construction got \$52 million, and in addition, maintenance and rehabilitation of physical facilities got \$13,500,000.

We think this approach is out of balance. It may well be that the outlay for construction is too high, both absolutely and relatively; many fair-minded people think we could do with fewer and less elaborate visitor accommodations,

and certainly with fewer and simpler roads; but in any event, it is getting to be common knowledge that management, protection and research in the parks is under-staffed.

*Mission 66* was and is a grand idea. It was intended to make the parks accessible but at the same time protect them. The time has arrived this very month to ask the question whether the balance should not be shifted in favor of management and protection, and the necessary supporting research, and against excessive construction. ♦

## Renegotiate Fontana!

GREAT SMOKY MOUNTAINS National Park has had its share of overdevelopment in roads, due in part to the inevitable transmountain traffic between busy urban centers. Against the background of these difficulties it might well have been spared the long-continuing clash over the proposed road around the north shore of Fontana Lake between Bryson City and Fontana, N. C.

This was a bad deal to begin with when the Government contracted with North Carolina and Swain County in 1943 to build the north shore road in exchange for incorporation of 44,000 acres of forest into the park. The land should have been acquired outright at the time without strings, and it could have been had that way, unless we are badly mistaken, almost two decades ago, for a song.

The plan is obnoxious to conservationists because it will do great damage in a timbered region of steep terrain and great natural beauty, some of the priceless remaining primitive country in the East. It is equally obnoxious, we suppose, to residents of Graham County, and particularly communities like Robbinsville, which lie outside the Park south of the reservoir, and which could profit greatly by a modern commercial highway between Bryson City and Fontana around the south shore of the lake.

We suspect that many people in Bryson City and Swain County may already see the advantage of a fast connection to Fontana, instead of a slow road of the kind which would have to be built through the park on a steep mountain-side, and the advantage of protecting the park as a tourist attraction.

The best interest of the people of North Carolina, of all the Fontana region, and of America as a whole will be served not by the proposed invasion of

the park but by building a modern highway in country outside the park.

Much time has elapsed since the ill-conceived contract was signed. Circumstances have changed fundamentally. The time has come for a renegotiation of the agreement by the Government with North Carolina and the local parties to the arrangement. Promoters of the road in Swain County and Bryson City might do well to note that the contract contains a provision that, if the road funds are not approved by Congress, the obligation of the Government lapses.

And indeed, over many long years, no funds have in fact been appropriated, save for a short stretch of road near Bryson City which has its own limited justification. In view of the extortionate cost of the proposed road at this time, (some \$16 million, or about \$365 an acre for 44,000 acres of land worth \$3 an acre in 1943), it seems unlikely that Congress will hurry to advance the funds.

It may soon be too late for North Carolina to renegotiate the agreement and get a good southern road in place of the bad northern proposal. We urge the Secretary of the Interior, the Governor of North Carolina, and the Commissioners of Swain County, in the interests of North Carolina quite as much as all the people of America, to renegotiate the old Fontana contract. ♦

## Richard W. Westwood

THE MONTH OF FEBRUARY took from the conservation world one of its senior workers in the person of Richard W. Westwood, for many years president of the American Nature Association of Washington, D.C., and editor of its national publication, *Nature Magazine*.

The range of Dick Westwood's interests in conservation and preservation was very large. Good forestry practice, soil and water husbandry, humane treatment of animal life, protection of the nation's highway system from the blight of uncontrolled outdoor advertising—these were but a few of his enthusiasms and goals in the conservation world. It would be hard to set a limit to the total good accomplished by his labors, and he will be sorely missed.—*P.M.T.* ♦

## A New Home for SCP

WE ARE HAPPY beyond measure that the National Park Service has agreed to provide a good home for the Student Conservation Program.

The National Parks Association sponsored this worthwhile venture in conservation education and work services in the parks in 1957 as an experiment. We hoped from the beginning that the dem-

(Continued on page 17)

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Paul M. Tilden, Editor

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## ON THE APRIL FRONT COVER

While stubborn remnants of winter snows may still patch the woods of the East and Northeast, the wake-robin, well-loved member of the great and variable family of the lilies, pushes through the duff and dead leaves of the forest floor into a new year of life. It soon unfurls its familiar triads of leaf, calyx, and handsome claret-tinted petal.

A Photograph by Paul M. Tilden

## THE NATIONAL PARKS AND YOU

Few people realize that ever since the first national parks and monuments were established, various commercial interests have been trying to invade them for personal gain. The national parks and monuments were not intended for such purposes. They are established as inviolate nature sanctuaries to preserve permanently outstanding examples of the once primeval continent, with no marring of landscapes except for reasonable access by road and trail, and facilities for visitor comfort. The Association, since its founding in 1919, has worked to create an ever-growing informed public on this matter in defense of the parks.

The Board of Trustees urges you to help protect this magnificent national heritage by joining forces with the Association now. As a member you will be kept informed, through NATIONAL PARKS MAGAZINE, on current threats and other park matters.

Dues are \$5 annual, \$8 supporting, \$15 sustaining, \$25 contributing, \$150 life with no further dues, and \$1000 patron with no further dues. Contributions and bequests are also needed to help carry on this park protection work. Dues in excess of \$5 and contributions are deductible from your federal taxable income, and bequests are deductible for federal estate tax purposes. As an organization receiving such gifts, the Association is precluded by relevant laws and regulations from advocating or opposing legislation to any substantial extent; insofar as our authors may touch on legislation, they write as individuals. Send your check today, or write for further information, to the National Parks Association, 1300 New Hampshire Avenue, N.W., Washington 6, D.C.

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# PAINTED ROCKS

By Sigurd F. Olson

*"The primitive paintings on the cliff faces of the Quetico-Superior Country and all over the world are evidence of man's first reaching out for meaning and expression . . . Wherever they are found, they should be cherished and protected, for they are symbols of eternal striving, shrines for the mind and spirit of man."—The Author*

INDIAN PAINTINGS ARE FOUND ON smooth cliff faces all over the Quetico-Superior area. Reddish-brown in color and seldom large, they adorn the rocks along many major routes of travel as high as a man can reach from a canoe. These strange likenesses of animals and birds, of suns and moons, canoes and figures of symbolic meaning, are found from the Atlantic to the Pacific as well as along the waterways of the Canadian Shield.

No one today knows when they were done, who the artists were, or what they mean. All we know is that

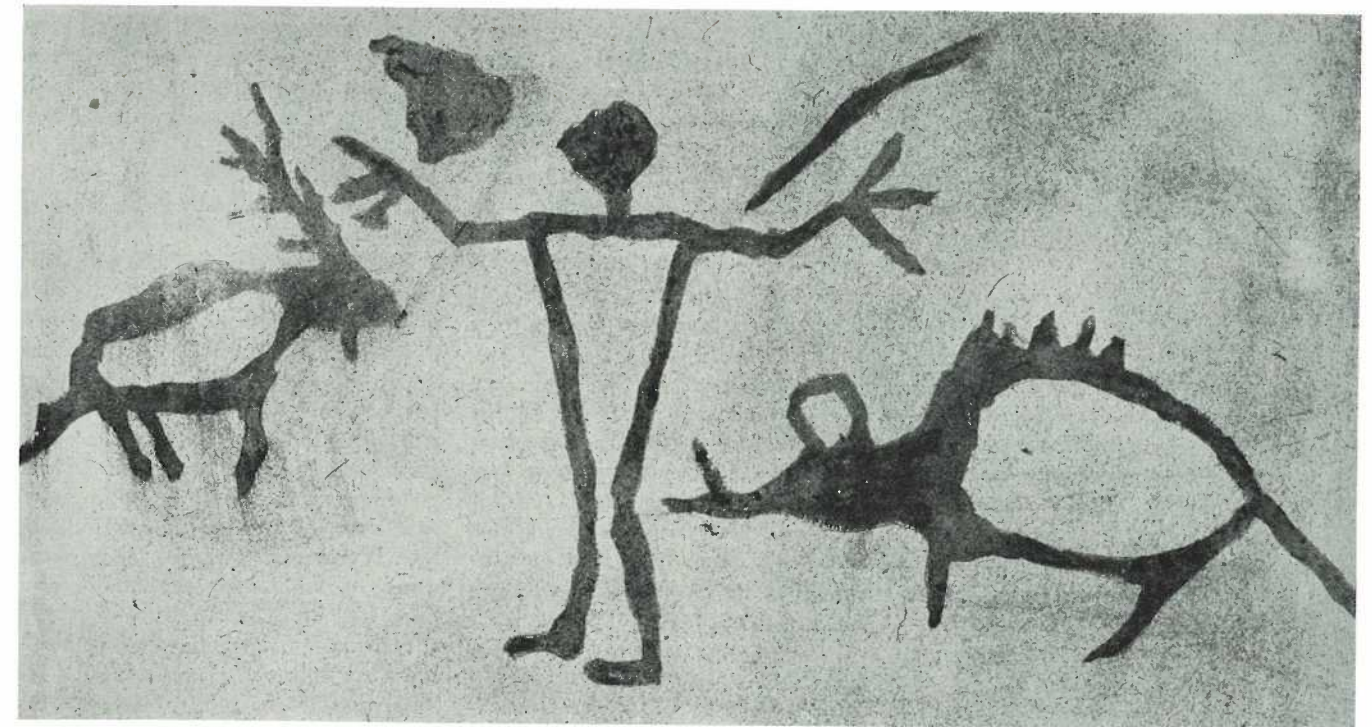
the pigment used was a combination of fish oil or animal fat with one of the iron oxides common to the continent; that they are similar not only to the petroglyphs or rock carvings of our west, but to the prehistoric paintings and carvings in many other countries of the world. We can only wonder as to their meaning, but believe that, whatever they portray and wherever they are, they represent the first

Copyright 1958 by Sigurd F. Olson

groping attempts of Stone Age man for the expression of his creative powers. . . .

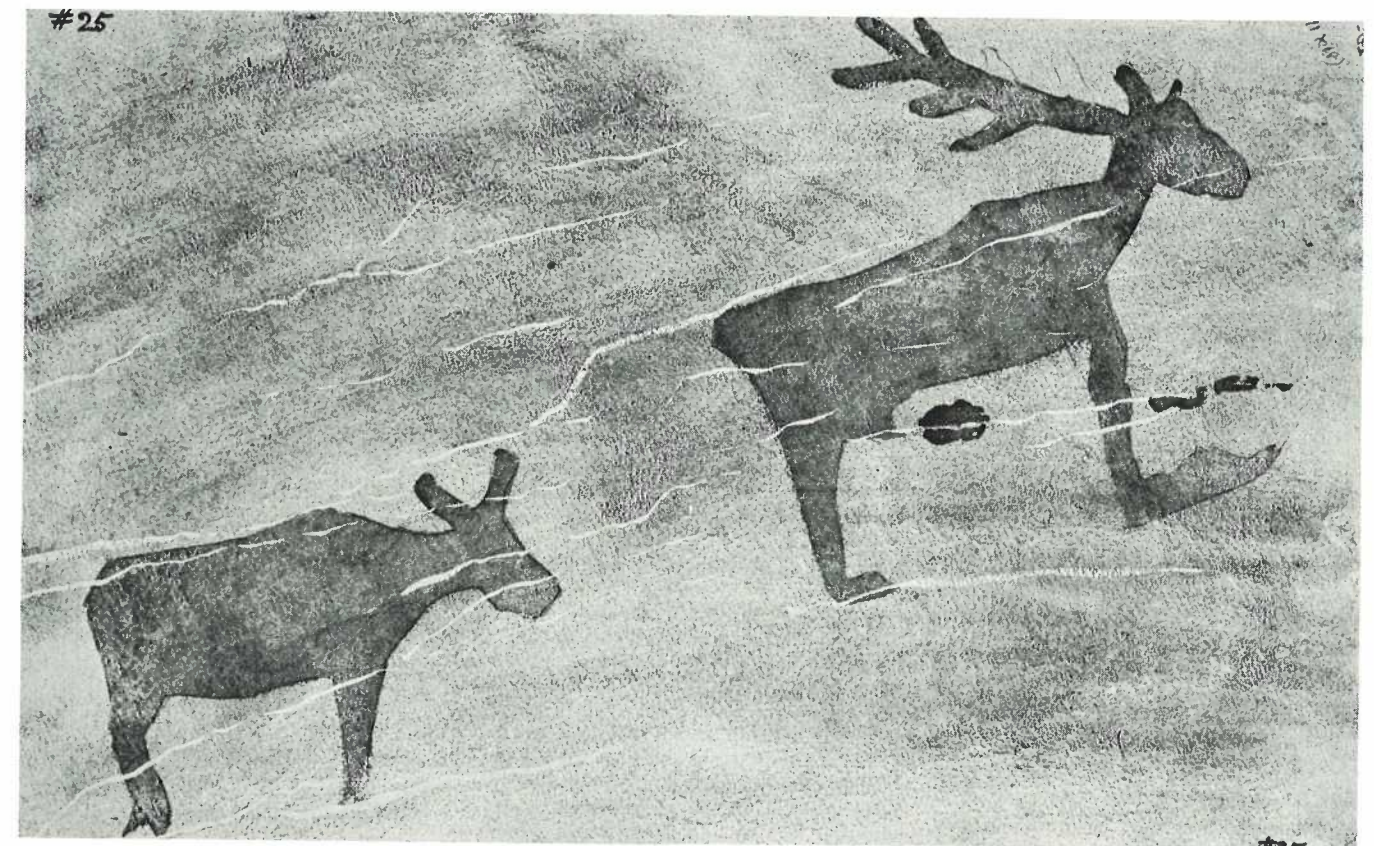
To realize the possibility that some of these pictographs might be close to the Point was exciting. One morning when the water was sparkling and a tail wind holding from the west, we paddled to the place where we had heard they might be found. For years I had wanted to locate them, but had always gone off on longer expeditions to the north.

The shoreline towards the east was rugged, seemed to have few of the



This article is a chapter excerpted from a recent book by Mr. Olson entitled *Listening Point*, published by Alfred A. Knopf, Inc. of New York City. It appears here by kind permission of the author and the publisher, and is illustrated with reproductions of pictograph paintings by Selwyn Dewdney, by courtesy of the Royal Ontario Museum, Canada.

^  
". . . strange likenesses of animals and birds, of suns and moons, canoes and figures of symbolic meaning, are found from the Atlantic to the Pacific . . ."  
v



vertical cliffs of smooth rock faces rising from the water's edge where we had always found them before. Just as we were about to give up our search, we slipped in close to a high bush-covered slope, discovered there an open face of ledge hidden behind a clump of trees. Hopefully we pushed aside the branches, expecting the familiar figures, but all we saw was some iron staining partly obscured by lichen. Though we examined the entire cliff carefully, exploring every possibility, we found nothing even remotely resembling a pictograph. While we sat there in a canoe wondering where the paintings might be, a swift vision of those we had found in other places passed before me.

A month earlier I had been at the famous pictured rocks of Crooked Lake along the border, where the cliffs rise straight and sheer for a hundred feet or more. The rocks themselves are very beautiful there, colored by lichens and stained in long undulating ribbons of color by the iron formations above. The bands are gray and orange and black, with patterns of blues and greens, and when the water ripples, reflections of these ribbons of color extend below in a shimmering liquid curtain as though the cliffs had fanned out onto the surface. But even though the unusual beauty of the cliff itself has stopped travelers for centuries, it is the smooth face protected by an overhanging ledge that is of the most interest today. Here some forgotten race recorded in magic symbols its deeds of prowess and valor. Here are moose, pelicans, war canoes, a loon with a fish inside, a medicine man with horns on his head, a caribou that looks like an ibex from the Asiatic mainland.

\* \* \* \* \*

The area surrounding the Point is rich in such paintings. To the north in a bay of Darkey Lake are some of the finest, so clear and sharp and unfaded they might have been made in recent times. I paddled by them a year ago and was horrified to find a fringe of protecting birch was gone and the paintings fully exposed to the sun for the first time in my memory. Beavers were the vandals, had cut the trees for food and had stored the topmost branches in the water around a newly built lodge near by. These paintings

show a hunting expedition, a moose cow and calf with footprints on either side, a great sea serpent with a horned head surrounded by hunters in canoes.

On Hegman Lake a few miles to the northeast is another splendid group showing a bull moose with wide branching antlers, as well done as though a modern artist had conceived it. A pelican stands to one side and on the other a mountain lion with a long curving tail.

To the north on Lac la Croix are cliffs where men of the past dipped their hands into pigment and pressed them against the wall. Some of the imprints are very large, others child-like in size. Such hand paintings also occur in the caves of the Dordogne in France and in Spain. The privilege of leaving such a mark may have been a reward for valor or a pledge of loyalty. No one will ever know.

Paintings are found on the Kawishwi and Isabella rivers to the south, and no doubt hidden surfaces will be discovered for years to come as the country becomes better known.

#### Jolly Little People

On an expedition down the Churchill River in upper Manitoba and Saskatchewan I found them all along the route of travel. Though a thousand miles or more to the northwest of the Quetico-Superior, in the land of the Woodland Crees, they were identical with the rest. But in addition there was a figure I had seen nowhere else and one whose meanings some of the older Indians still understood. It was of the Mannegishi, who, according to legend, are little people with round heads and no noses who live with only one purpose: to play jokes on travelers. The little creatures have long spidery legs, arms with six-fingered hands, and live between rocks in the rapids. When a canoe comes hurtling

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**Sigurd F. Olson, whose name has for many years been prominent in the conservation world, is a resident of Ely, Minnesota. He has been the author of many articles and several books dealing with nature and the out-of-doors, and has for more than thirty years been a wilderness guide in the Quetico-Superior country about which he has written much. Mr. Olson is a past president of the National Parks Association, and a member of this and many other conservation and scientific organizations.**

down, their greatest delight is to grasp the ends of paddles, and if the craft tips over, their shrieks of joy can be heard above the thunder of the water. If anything strange or unaccountable happens anywhere in the land of the Crees, it is the Mannegishi who are responsible.

Here at last were Indians who knew something of the meaning of the rock-paintings. Though none knew who did them and many scoffed at their authenticity, the story had survived. At one portage, until recent times, Indians still left offerings of food, tobacco, or trinkets at a rock where the Mannegishi were painted, in order to ensure safe passage through the rapids below. If these little figures meant something to the Crees, the others must have had significance as well.

Here again along the far reaches of the Churchill was evidence of the creative impulse in Stone Age man that had produced the pictographs not only on this continent but all over the world.

Though colors might vary, they were generally composed of mixtures of the different oxides of iron with animal fats, yellow from the ocher, black from the manganese, reds and browns from limonites and hematites. Iron-bearing rock is a common mineral, and when powdered and mixed with any fat it becomes a durable pigment that, where protected from the elements, can survive for centuries with little change in brilliance.

#### Histories on Stone

Through such primitive painting it has been possible to trace the development of man's attempt to portray not only the life around him but his dreams and fears. From the first scratchings on the rock walls of caves to rude outlines of forms and the final artistic and colorful figures of animals with which he was familiar is the story of his progress. Even more significant than the beauty and perfection of these ancient paintings of the Ice Age was the emergence thousands of years before the oldest civilizations of the use of line and suggestion to portray the world of magic and spirit and hidden meaning.

According to prehistorians, some thirty thousand years passed before the primitive markings on walls of rock developed into naturalistic paint-

Here and there, prehistoric man left pigmented imprints of his hands; and it has been speculated that the privilege of leaving such prints was a reward for valor, or a pledge of loyalty. The handprints shown with the small mammal, at the right, were found on the north shore of Blindfold Lake, near its outlet to Lake of the Woods, in the Province of Ontario.



ing. Another twenty thousand years later appeared the first attempts at expressionism, and only during the last five thousand the hieroglyphic symbols that preceded the written alphabets of western civilization.

The pictographs I had found along the canoe routes to the north were as important as any in the world. Their actual age did not matter. They may have been done only a few centuries ago or belong to the post-Ice Age. Whatever their final designation in the research of moderns, we know that, together with all the other surviving examples of prehistoric art, they are among the most ancient records of mankind, tell of the eons when man pondered his environment while the awareness slowly came upon him that the dreams, the longings and fears that had haunted his nebulous past could be translated into forms of meaning and permanence.

#### Symbols of Magic

No one will ever know exactly with what meaning primitive man endowed his artistic creations, but to us they are filled with magic and spirit. They may have been symbols from which spells went forth to influence hunting, fertility and success in his various ventures. They might well indicate the first vague glimmerings of the mighty concept of immortality and the dawning of the realization that after death he and his kind would dwell in the vast vault of the unknown. Whatever their interpretation, they marked the period during which Stone Age man

emerged from the dark abyss of his past into the world of mind and soul.

The waves were higher now, still coming out of the west. We were forced to dodge behind islands and points in order to make any headway at all. Once we sought shelter back of a sharp ledge and there found another face of rock, but again no pictographs, only a mass of green and black lichen covering the surface, the *tripe de roche* of the voyageurs. That ledge made me wonder what might eventually be the fate of all the paintings in the north. Far more of a threat than vandals who might chip the pigment off the rocks is the slow and steady encroachment of lichens. Some of the paintings I knew are already becoming vague, and once they are covered, no one will ever find them again.

Across the channel on the way back to the Point, the whitecaps were rolling and spray dashed high against the rocks. We fought them all the way across, rounded the headland at last and dashed into the shelter of the bay.

After beaching the canoe, we started a fire, and as we sat there and listened to the roaring of the gale through the tops of the trees, we wondered where the hidden paintings might be, what secret cliffs along those many miles of shoreline primitive artists might have chosen for their work.

There was much to explore, but we would never rest until we had found them, for these Indian paintings are of tremendous significance. Not only are they evidence of man's growth in mind and spirit, but also of a force that, over the millennia, has resulted in all cultural development, art and music and literature, inventions, science, and the entire fabric of the civilization he has built. From such humble beginnings came all of this. The paintings at the Rock of Arrows, on Lac la Croix and Darkey Lake, and everywhere in the world are symbols of this eternal striving, shrines to the mind of man. Here was something worth finding, a challenge that we could not ignore. ■



An Ehrenford photograph

JOHN D. ROCKEFELLER, JR.  
1874-1960

Some representative generousities of  
a true friend of conservation . . .

## John D. Rockefeller, Jr.

By Horace M. Albright

WHILE STILL A YOUNG MAN, THE late John D. Rockefeller, Jr. established a summer home on a forested height overlooking Seal Harbor, on Mount Desert Island, Maine. When George B. Dorr, the "father" of Acadia National Park, began the acquisition of mountains, forests and open spaces on the island with a view toward preserving them in their natural state, Mr. Rockefeller took a deep interest in the project, and by gifts of lands and funds aided in advancing the objectives of the plan to the point where the Secretary of the Interior could recommend the establishment of the Sieur de Monts National Monument in 1916. Later this area became Acadia National Park.

Here Mr. Rockefeller, with the great landscape architect Frederick Law Olmsted, Jr., planned the motor road through and around the park with broad vistas of the adjacent bays and their islands, and the highway to the summit of Cadillac Mountain, which

in earlier times had been reached by a cog rail line. Much road building was done by Mr. Rockefeller, who enjoyed close personal cooperation with workers in bridge and rock-wall construction, vista-cutting, and roadside and slope replanting and preservation. On his own lands he built a system of horse roads and trails, and then extended them into the park in several directions. In his will, Mr. Rockefeller bequeathed these properties to Acadia Park, with their beautiful roads, trails and bridges. His personal expenditures in and for Acadia Park, aside from this bequest, totalled \$3,600,000.

### A Western Visit

In 1924, Mr. Rockefeller visited several western national parks, including Grand Canyon, Mesa Verde, Yellowstone and Glacier. On this trip he became interested in the National Park Service and its problems and programs. While with Superintendent Jesse L. Nusbaum in Mesa Verde Na-

tional Park, he was impressed with the importance of the museum that was under construction there to house artifacts from the cliff dwellings and other ruins, and in which the story of the early occupancy of the region was to be told. He asked Mr. Nusbaum if he could be permitted to make a contribution toward completion of the building. The generous offer was accepted, and must be regarded as the first of Mr. Rockefeller's many gifts of benefit to the western parks.

On his visit to Yellowstone Park that year, he was disturbed to note the roadsides on the Grand Loop Highway connecting the principal nature features of the park. In the forested areas, the timber cut from the right-of-way of highways had been piled on one or both sides and had been rotting for years. Telephone lines further desecrated the landscape. When told, in answer to his questions, that Congress had refused appropriations for clean-up operations, Mr. Rockefeller

offered to do the work. Before the Yellowstone roadside work was done, clean-up had been adopted as an essential item in road improvement almost everywhere in the country.

In 1926, Mr. and Mrs. Rockefeller visited many of the national parks. On a second visit to Yellowstone, Mr. Rockefeller became interested in the Teton Mountains and the northern part of Jackson Hole, where a national park officer and a group of local citizens had worked on a plan to acquire large tracts of private lands to make possible the restoration of one of the most beautiful mountain regions of the world.

The next year he undertook to carry out this program, and in the next few years purchased nearly 35,000 acres of lands at a cost of upwards of \$1,500,000. In 1950, after many years of political interference and obstruction, Grand Teton National Park (originally created in 1929 to embrace only a high mountain area and some lakes) was extended across Jackson Hole, and the Rockefeller lands were deeded to the United States for park purposes. In recent years, Mr. Rockefeller granted funds to erect the Jackson Hole Lodge and to provide fine tourist facilities at Jenny Lake and Coulter Bay in this national park. Well over \$10,000,000 was made available for land purchase and construction of facilities for visitors.

It was during his 1926 trip to the West that Mr. Rockefeller visited the

Director of the National Park Service from 1929 to 1933, Horace M. Albright also served for thirty-five years as an advisor to John D. Rockefeller, Jr. in the conservation and preservation fields.

redwood belt in northern California. At that time he authorized the acquisition—through the Save-the-Redwoods League—of the Bull Creek Grove of coast redwoods, one of the finest stands of trees in the world. Some twenty-five years later, he reluctantly gave his consent to a proposal of the California Park Commission to name this State park the Rockefeller Redwood Forest.

### Yosemite Pines Saved

In 1928, after reading a New York Times editorial deploring the cutting of sugar- and yellow-pine forests within Yosemite National Park on private lands, Mr. Rockefeller proposed to provide one-half the funds to buy these timber holdings if the Government would make available an equal amount. Thus there were acquired, in 1931, nearly 16,000 acres of superb timber for Yosemite at a cost of \$3,300,000, one-half of which was Mr. Rockefeller's gift.

A few years ago, the South Calaveras Grove of Big Trees—the mountain redwoods, *Sequoia gigantea*—were threatened with destruction, along with another outstanding area of sugar-pine forest. To save these priceless

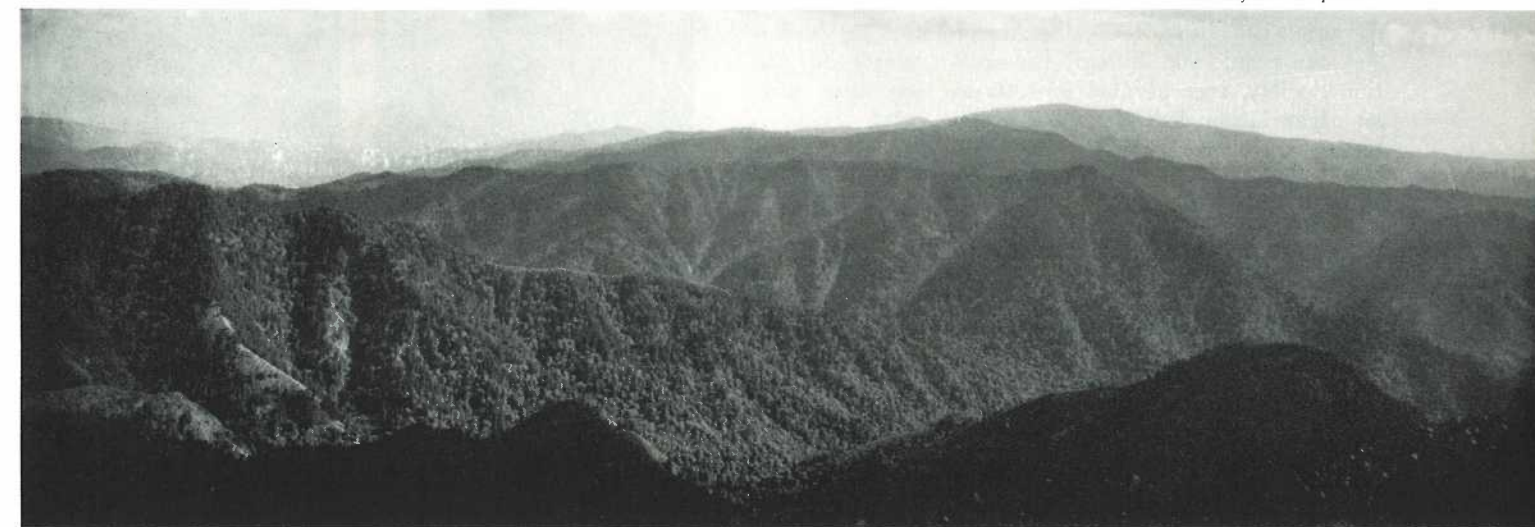
forests, \$2,800,000 of State funds was needed. Mr. Rockefeller made the contribution of \$1,000,000 that completed this fund. The Calaveras Groves—north and south—are now in a State park.

In 1925, a movement to establish national parks in the east received official recognition, and a Federal commission was appointed to recommend areas for possible national park status. Two outstanding mountain regions were selected after extensive studies. These were in the Great Smoky Mountains, on the boundary line between Tennessee and North Carolina, and in the Blue Ridge Mountains of Virginia. Congress authorized the parks but provided that all lands for them had to be acquired by the States in which the designated potential parks lay. The Great Smoky Mountain project involved an outlay of \$10,000,000, which the States could not afford at the time. Mr. Rockefeller offered to make \$5,000,000 available from the Laura Spelman Rockefeller Memorial Fund, provided the States of Tennessee and North Carolina would match this grant dollar for dollar, the grant to be in memory of his mother. The lands were acquired and the park established.

In the case of the Blue Ridge area, Mr. Rockefeller contributed \$164,000 toward the acquisition of lands for Shenandoah National Park, embracing nearly 200,000 acres and stretching ninety miles along the summit of the mountains.

The panoramic scene below, reproduced from a photograph marked "Proposed Great Smoky Mountains National Park," shows *Clingman's Dome* (right of center on skyline) dominating the hazy ridges of the Great Smokies. A Rockefeller gift was instrumental in establishing area as a park.

Courtesy of Thompsons





Metropolitan Museum of Art

The Cloisters, a branch of New York City's Metropolitan Museum of Art, is located in Fort Tryon Park. Both the building and the park were contributions of Mr. Rockefeller.

The Park Service is completing the Blue Ridge Parkway, 477 miles in length, connecting these two great national parks. In North Carolina, in the Grandfather Mountain region, the beautiful Linville Gorge and Falls adjacent to the Parkway were threatened with destruction. Mr. Rockefeller again stepped in, and at a cost of nearly \$100,000 bought the threatened territory and gave it to the Government.

This is only a brief recital of some of the outstanding contributions by Mr. Rockefeller toward preserving our native landscape, in creating new national and State parks, and by his ex-

ample encouraging others to undertake important resource conservation projects. I have not touched on the large grants for museums in Yellowstone, Yosemite and Grand Canyon, and for interpretative studies which ran to a total of a quarter of a million dollars.

#### Colonial Williamsburg Restored

In the field of restoration of historic sites and structures, Mr. Rockefeller's greatest work has been at Williamsburg, Virginia, where since 1926 he had extensive archeological studies undertaken. He also instigated long research in the architectural and landscape features of the program, and restoration of the public buildings and most of the business and residential structures of the old city. The cost of this extraordinary program thus far has been \$68,500,000. Mr. Rockefeller maintained a home in Williamsburg—Bassett Hall—and spent two months a year there, actively participating in the solution of problems arising out of the restoration program.

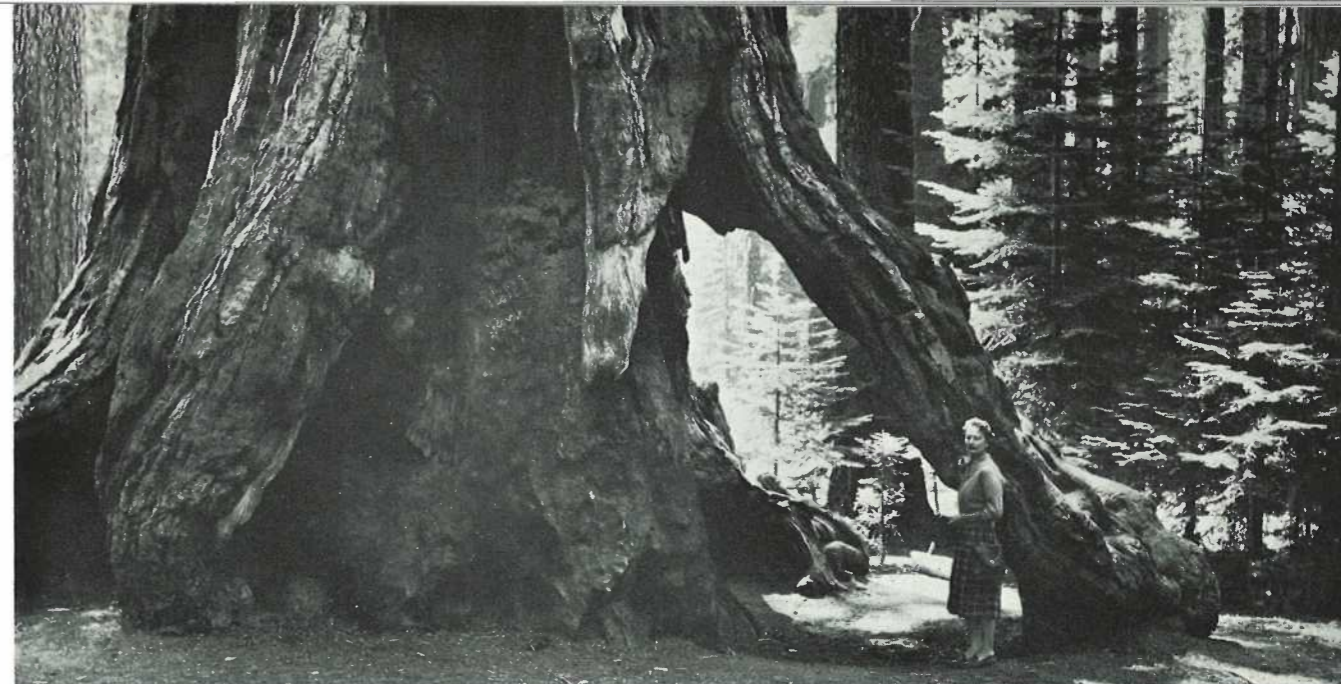
He also acquired more than 250 acres of the farm, Wakefield, where George Washington was born, and gave the tract to the government. It is now a part of the George Washington Birthplace National Monument.

Along the Hudson River, Mr. Rockefeller acquired and restored the Van Cortlandt House near the mouth of the

Croton River, a fine colonial structure of the late 1600's; the Philipse property, just north of Tarrytown in the Sleepy Hollow section; and Washington Irving's home south of Tarrytown. These three projects have cost several million dollars, and, except for the Van Cortlandt House, are not yet completed, although the Irving House (Sunnyside) can and should be visited by all National Parks Association members who find themselves near it.

On the opposite shore of the Hudson River is the Palisades Interstate Park. At the turn of the century, the face of the Palisades and the land at their base along the river were acquired by New York philanthropists; but Mr. Rockefeller, over a long period of years, patiently and at a cost of \$19,868,000, bought most of the land on top of the Palisades and presented it to the States of New York and New Jersey. This handsome grant made possible the construction of the superb Interstate Parkway that has been extended to Bear Mountain.

And finally, there is Fort Tryon Park and the Cloisters in New York City, near the east end of the George Washington Bridge, two more of Mr. Rockefeller's contributions that are deeply appreciated by all who see them. The Cloisters are administered as a branch of the Metropolitan Museum of Art. ■



The Big Tree, *Sequoia gigantea*—certainly the largest and possibly the oldest of living things—has survived every hazard of nature for perhaps four thousand years; but its future in a new, man-created environment is a matter for serious study.

A man of science probes the relationship between

## The Big Trees and Fire

By H. H. Biswell

### Horace Marden Albright Medal Awarded Justice Douglas

EACH YEAR SINCE 1929, the American Scenic and Historic Preservation Society, incorporated in 1895 as an organization dedicated to the protection of natural scenery, preservation of historic landmarks, and city improvement, has made a number of awards to individuals particularly distinguishing themselves in various fields of conservation and preservation.

Among the recipients of the Society's thirty-second annual awards, presented at the organization's headquarters in New York City, January 18, 1961, was the Honorable William O. Douglas, associate justice of the Supreme Court of the United States, in-



The Horace Marden Albright Scenic Preservation Medal.

ternationally known conservationist, and a member of the board of trustees of the National Parks Association.

For his great achievements in mobilizing public opinion in behalf of conservation and toward the need for the preservation of wilderness and its values, Justice Douglas was presented with the Horace Marden Albright

Scenic Preservation Medal, handsomely executed by the noted sculptor Paul Manship.

Accepting the medal in behalf of Justice Douglas, whose Supreme Court duties precluded his attendance at the ceremony, was Mr. Anthony Wayne Smith, executive secretary of the National Parks Association. ♦

THE BIG TREES, *Sequoia gigantea*, grow only on the western slope of California's Sierra Nevada. They are grouped in more than seventy groves, at elevations roughly between 4000 and 8500 feet, for about 250 miles from north to south, and are surrounded by vast forests of other conifers and brush fields. The climate is Mediterranean-like. Summers are long, hot and dry, with occasional thunderstorms and severe lightning. This landscape is so susceptible to fire that it must be considered a natural and characteristic feature of the environment. Before the Big Trees were discovered by the white man about 1850, fires in the Sierra Nevada were widespread and frequent, many being set by lightning, others by Indians.

Fires are of great biological importance in a forest. John Muir, dean of the Sierra and its forests, referred to fire as the master controller of the distribution of trees. The frequent fires of aboriginal times kept the forests clean, open, and park-like, with the mature trees rather far apart. After intensive studies of fire history in the Sierra Nevada, Richard Reynolds, a student of geography, concluded that the forests in which the Indians lived were in dynamic relation to the periodic fires which ran through them.

Dr. Biswell, a professor of forestry at the Agricultural Experiment Station of the University of California, has made a study of the part played by fire in the *Sequoia* groves of the Sierra Nevada.

Frequent fires permitted little opportunity for undergrowth of trees, brush, litter, or dry grass to accumulate before another fire would consume them. As a result, the fires were light and "friendly," and the trees' green canopy above was seldom burned.

Very few statements can be found describing the actual behavior of fires in early times. However, John Muir saw a fire enter a forest of Big Trees from a brush field, and wrote a detailed account. The fire was in the forest between the middle and east forks of the Kaweah River, in early September, the driest season of the year. "The fire came racing up the steep chaparral-covered slopes of the East Fork canyon with passionate enthusiasm in a broad cataract of flames. . . . But as soon as the deep forest was



The General Grant Big Tree in Kings Canyon National Park, above, shows a fire scar that attests to its long struggle with natural forces.

reached the ungovernable flood became calm like a torrent entering a lake, creeping and spreading beneath the trees . . . There was no danger of being chased and hemmed in, for in the main forest belt of the Sierra, even when swift winds are blowing, fires seldom or never sweep over the trees in broad all-embracing sheets as they do in the dense Rocky Mountain woods and in those of the Cascade Mountains of Oregon and Washington. Here they creep from tree to tree with tranquil deliberation, allowing close observation. . .

"A grand and interesting sight are the fires on the tops of the largest living trees flaming above the green branches at a height of perhaps two hundred feet, entirely cut off from the ground-fires, and looking like signal beacons on watch towers. From one standpoint I sometimes saw a dozen or more, those in the distance looking like great stars above the forest roof. At first I could not imagine how these

Sequoia lamps were lighted, but the very first night, strolling about waiting, I saw the thing done again and again. The thick, fibrous bark of old trees is divided by deep, nearly continuous furrows, the sides of which are bearded with the bristling ends of fibers broken by the growth swelling of the trunk, and when the fire comes creeping around the feet of the trees, it runs up these bristly furrows in lovely pale blue quivering, bickering rills of flame with a low, earnest whispering sound to the lightning-shattered top of the trunk, which, in the dry Indian summer, with perhaps leaves and twigs and squirrel-gnawed conescales and seed-wings lodged in it, is readily ignited. These lamp-lighting rills, the most beautiful fire streams I ever saw, last only a minute or two, but the big lamps burn with varying brightness for days and weeks, throwing off sparks like the spray of a fountain, while ever and anon a shower of red coals comes sifting down through the branches, followed at times with stratling effect by a big burned-off chunk weighing perhaps half a ton."

#### Bark Is Fire-Resistant

The Big Trees, with their asbestos-like bark, are very resistant to fire; nevertheless, nearly all of the older ones show fire scars. Some of the stumps of trees sawed down years ago show scars that have been healed over for 2000 years or more. By studying fire scars, plant ecologists have been able to tell a great deal about the fires that burned hundreds of years ago. In the process of healing, the edges of fire wounds become covered with a layer of woody growth which serves as a permanent record of a fire that once covered an area. Even centuries later, it has been possible to date the fire injuries. Using this method, fires have been dated in the Mariposa Grove of Big Trees in Yosemite Park back to 450 A.D. Other fires in this grove were in 1622, 1652, 1690, 1710, 1734, 1742, 1752, 1760, 1775, 1803, 1807, 1809, 1842, and 1862.

Throughout the Sierra Nevada, fires were frequent in aboriginal times. About thirty-five years ago, thousands of trees of incense cedar were cut down and their fire scars dated. They served as a basis for reconstructing the fire history; but not, of course, beyond the age of the incense cedars. The evi-

dence showed that fires were particularly severe throughout the entire Sierra Nevada about every eight years on the average. A more detailed study on seventy-four acres of the Stanislaus National Forest showed 221 distinct fires there between 1454 and 1912, or an average of one every two years.

#### Lightning Starts Fires

A Big Tree which towers above the forest canopy in the Sierra Nevada for thousands of years must eventually be struck by lightning; probably no mature Big Tree has escaped. It is logical to conclude, therefore, that many of the fires in aboriginal times were started by nature's lightning strikes.

In view of this evidence, I decided to check the number and distribution of lightning fires occurring today in the Sierra Nevada. It seemed reasonable to assume that the pattern would be somewhat similar to that of very early times, the main difference being that lightning fires now are, of course, quickly suppressed. For the study, I selected a township at the Tuolumne Grove of Big Trees and another near the Mariposa Grove, both in Yosemite National Park. In the township at Tuolumne, thirty-nine lightning fires had been suppressed in the past nine years; for the Mariposa Grove, the number was thirty-six. Similar data were obtained for a township at Sloat, and another at Pinecrest where some of the fire-scar data on incense cedar were taken. During the past nine years, twenty-four fires were suppressed at Sloat, and eighteen at Pinecrest. Lightning fires were recorded for all townships in every year except 1954, when fires were few.

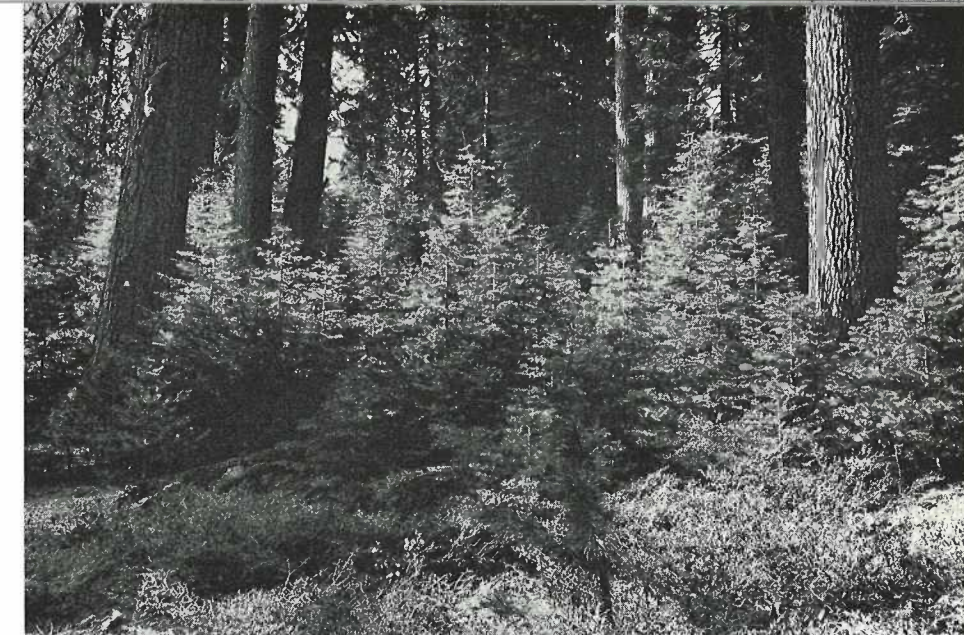
Similar results were obtained for the Plumas, Stanislaus, Sierra, and Sequoia National Forests in the Sierra Nevada. These data lead to only one conclusion: during aboriginal times, fires must have been widespread in the Sierra Nevada every year, not every other year or every eight years as indicated by the fire-scar data. This does not mean that every spot burned every year. The fuel under Big Trees will not permit fires to carry yearly, while that under pines will.

In addition to fires started by lightning, others were set by Indians during aboriginal times. This is borne out by various explorers and naturalists who observed the results at first hand.

The photograph at right, taken in the forest surrounding the Tuolumne Grove of Big Trees, in Yosemite, shows the invasion of the area by white fir and the development of an extreme fire hazard in the understory of sugar pine. Below: white firs, crowding into the Big Tree groves, blot out views and rob Sequoias of soil moisture and nutrients.



Among them was Galen Clark, for many years guardian of the Yosemite Valley. In 1894 he wrote to the Board of Commissioners of Yosemite Valley and the Mariposa Big Tree Grove: "My first visit to Yosemite was in the summer of 1855. At that time there was no undergrowth of young trees to obstruct clear, open views in any part of the valley from one side of the Merced River across to the base of the opposite wall. The area of clear open ground, with abundance of luxuriant native grasses and flowering plants, was at least four times as large as at the present time. Probably for many centuries the valley had been exclusively under the care and the management of the Indians. Their policy of management for their own protection and self-interest, as told by some of the survivors who were boys when the Valley was first visited by whites in 1851, was to annually start fires in the dry season of the year and let them spread over the whole Valley to kill young trees just sprouted and keep



the forest groves open and clear of all underbrush, so as to have no obscure thickets for a hiding place, or an ambush for any invading hostile foes, and to have clear grounds for hunting and gathering acorns."

#### Indians True Foresters

Others who noted the Indians' use of fire were M. C. Briggs, in a report to the State Commission of Yosemite Valley and Mariposa Big Trees Grove (1882); Dr. L. H. Bunnell, a member of the 1851 Yosemite discovery party; and Joaquin Miller, who wrote, in 1887: "In the spring . . . the old squaws began to look about for the little dry spots of headland or sunny valley and as fast as dry spots appeared they would be burned. In this way the fire was always under control. In this way the fire was always the servant, never the master . . . By this means the Indians always kept their forests open, pure and fruitful and conflagrations were unknown."

In the past sixty years the custom has been to suppress forest fires as quickly as possible. All good conservationists know that this is essential. Without protection against wildfires the Sierra Nevada with its Big Trees could not very well be managed for landscape and recreation, water production, timber growing, and other uses. But as a result of protection, fire hazards have become enormous in many places, and wildfires are now the greatest "enemy" destroying California's forests.

In the past few years they have destroyed a wealth of vital resources.

For example, in the early fall of 1959, in one thirty-six-hour period, 50,000 acres were charred in the Sierra Nevada, with final estimates of damage running as high as \$66,000,000 in timber and watershed alone. Wildfires of this sort are a major disaster. But as the population and wealth of California increase, the costs and damage from wildfires will become even greater, unless improved methods of hazard reduction are developed. The contrast of affairs at present with those in aboriginal times points up the dilemma facing those concerned with managing our wildland resources. Fortunately, wildfires have not been bad in the Big Trees; but the groves are in constant danger as fuels build up in the surrounding forests.

#### Two Changes Noted

Two great changes have taken place as a result of fire protection, leading to the extreme and difficult fire hazard conditions. First, the more shade-tolerant white fir and incense cedar have developed in dense thickets in the understory of many Big Trees and pines. They greatly add to the fire hazard. Many people view this change as natural, undisturbed succession leading toward climax vegetation. In this reasoning, however, they fail to recognize that fire, too, was a natural and characteristic feature of the environment in earlier times.

Some people are quite concerned about the increase in white fir in the Big Tree groves of our national parks. It has been pointed out that the parks were in a natural condition when the

stands of trees were discovered. But because of the suppression of nature's fires the whole forest prospect is gradually being altered. White firs are crowding in among the Big Trees, and are closing out the views. Furthermore, they are competing with the Big Trees for soil moisture and nutrients. No one knows what the final result will be. But one thing is sure, this is something to be concerned about and is a problem that needs immediate



Shown in the photograph above is a southwest-facing exposure close to the Big Tree Stump entrance to Sequoia National Park. Wildfires originating in such places could very easily carry over into the groves of great Sequoias.

as well as the most careful attention.

The second change of great importance in the Sierra Nevada forests is the large increase in debris on the forest floor. Many forests that were relatively clean, open, and park-like in earlier times, and could be easily traveled through, are now so full of dead material and young trees and brush as to be nearly impassable; thus great fire hazards have developed in many places. The primeval forest so frequently burned by the "friendly" fires of nature consisted of two fuel layers—the green canopy above, and the herbs, needles, and leaves on the

ground. But exclusion of fire has encouraged the development of a solid fuel layer in many places from the tops of the tallest trees to the young saplings and brush and litter on the ground. Is it any wonder that the wildfires in such situations are so devastating and difficult to control?

#### Crown Fires Are New

Some Big Tree groves are fairly free of this debris, but even here the surrounding forests are threatening, with their accumulations of fuel. Wildfires originating miles away could easily carry into the Big Trees. The crown fires as we know them today apparently did not exist in aboriginal times. John Muir said: "... for in the main forest belt of the Sierra, even when swift winds are blowing, fires seldom or never sweep over the trees in all-embracing sheets. . ."

What is the answer? In writing on the subject "Do we want sugar pine?" Professor Mason of the University of California Department of Botany suggested: "In the long run the cheapest method will be to maintain a forest in low-fire-hazard condition through controlled burning at intervals that will prevent the fire hazard from building up . . . Nature before us successfully managed the forest with her own system of controlled burning. As fire seems inevitable in our arid climate, would not the wisest course be to see that fire occurs only at such times and in such places as we choose? Under such circumstances wildfires would no longer present a threat to our forests."

After studying the contemporary wildfire situation, it became obvious that new ways must be sought to avert the mounting danger of great fires and the destruction of our vital resources. Accordingly, in the spring of 1951 some burning experiments were started in two places to determine if light fires could be used to reduce wildfire hazards and maintain low-fire-hazard conditions. These particular studies are in ponderosa pine, and are being carried out in two steps: broadcast burning, followed by cleanup burning. Broadcast burning is being done by raking a trail and lighting the pine needles on the edge.

#### Rainy Season Work

This operation is being carried out only in the wet season after enough

rain has fallen to wet the duff to the mineral soil. Such burning is stopped in the spring when the soil becomes dry. After rain, the top needles dry in a day or two and burn readily, but the lower ones dry slowly. This allows for many days when broadcast burning is possible. Such fire removes much of the flash fuel, old logs, and stumps on the ground, and greatly reduces the fire hazard.

The cleanup burning consists of piling and burning dead brush, slash, dead fallen trees, and of prunings after an area has had a broadcast burn. A fire is started, and dead material is gradually piled up as it burns. After an area has been both broadcast burned and cleaned, the falling pine needles can then drop on the ground rather than drape themselves over the dead brush; consequently the fire hazard builds back slowly.

Research in both experimental areas shows clearly that deliberate burning under selected conditions reduces the danger of wildfires in summer. Furthermore, when summer fires break out they can be more quickly controlled, and will do much less damage. These results are similar to those reported by Harold Weaver, working in Arizona and in the State of Washington, who found fuels to be reduced fifty percent by a single broadcast burn, and the damage done by wildfires to be reduced by ninety percent.

From this research, it may be concluded that prescribed burning is simulating the most important element that had functioned in aboriginal times to develop a stable "fire type" climax forest in the Sierra Nevada—frequent light fires.

Would it not be worthwhile to select at least two groves of Big Trees—a dozen would be better—with their surrounding forests for some distance back, and manage them with light fires as a part of the environment, somewhat as they were managed by nature and the aborigines through thousands of years in the past? To begin with, the fires would have to be handled with great care, because of the extreme fire hazards that now exist. But the fire hazards can be quickly reduced, after which the danger will not be great. Soon it will become evident that a forest fire can be a "friend," as it was in aboriginal times, and not our worst "enemy" as it is today. ■

## Your National Parks Association at Work

### Conservation Leaders Discuss Problems with Secretary

Conservation leaders associated with nearly all the major conservation organizations of the country met with Interior Secretary Stewart L. Udall February 15, 1961, on the initiative of Executive Secretary Anthony Wayne Smith of the National Parks Association, who acted as principal spokesman, to express their unanimous opinion that the waters of Lake Powell, to be formed behind Glen Canyon Dam on the Colorado River, must not be allowed to rise into Rainbow Bridge National Monument.

They recognized that there were differences of opinion among conservationists as to whether the monument should be protected by holding the level of the reservoir down or by dams at different sites, but they were completely agreed on the necessity of protection by one method or another. They felt that the declaration of intention by Congress in the Colorado River Storage Act, that there shall be no dam or reservoir in any national park or monument, must be respected. The Secretary stated that an item of \$10 million would be included in the Interior Department budget for starting construction on protective works.

In a conference with Agriculture Secretary Orville Freeman on February 21, 1961, conservation leaders associated with a number of national conservation organizations recommended the withdrawal of agriculture subsidies for the drainage of waterfowl-producing potholes in the northern Lake States; an expanded land retirement program, including wetlands for purposes of wildlife production; commented on the great danger of reckless use of pesticides, and the desirability of intensified research; recommended Departmental support for the Wilderness Bill; recommended cooperation between the Departments of Agriculture and Interior in regard to possible new national parks in areas now within national forests; and noted the importance of speeding up wildlife production aspects of the outdoor recreation program of the Forest Service. Executive Secretary Smith of the NPA presented the views of the group on parks.

### Violations and Damage in Death Valley N.M.

A recent letter from a California member of the National Parks Association to Dr. Clarence Cottam, Association presi-

dent, complains of violations of Death Valley National Monument regulations and damage to its scenery.

Taking note of the widespread misuse of jeeps and other vehicles in Death Valley by campers and by prospectors and miners, and the use of the picturesque dead mesquite snags of the dunes as firewood, Joe W. Ruess, landscape architect of Grass Valley, California, declared that the famous dunes of the monument were being destroyed for photographers, nature enthusiasts, and other visitors.

An inquiry by the Association has yielded a reply by the National Park Service that, while the Service is seriously concerned over the situation, its Death Valley staff is wholly inadequate for the proper policing of the area. The Service pointed out that there are some 6000 mining claims already on file in the monument, that others are being filed daily, and that many of the miners use trucks, jeeps and other mechanized equipment in their operations. It was also pointed out that, under present staffing, each park ranger must protect approximately 600 square miles of terrain. [An area half the size of Rhode Island—*Ed.*] The Park Service noted that, in 1960, there was one developed campground with 75 campsites for the 100,000 people who wished to camp in the monument.

Development and staffing plans under *Mission 66*, the Park Service believes, will when completed help alleviate the present difficulties in Death Valley.

The National Parks Association feels that this situation points up the need for more campgrounds and rangers in areas like Death Valley National Monument, as distinguished from more costly high-speed roads and elaborate buildings.

### How Members May Assist Their Association

One of the valuable functions that may be performed by members of the National Parks Association—and especially by those who live near parks or monuments far removed from its Washington headquarters—is to keep in constant touch with their Association concerning current developments in the areas they may chance to visit.

A case in point is the prospective construction, by the National Park Service, of a 3½-mile road designed to by-pass the headquarters area of the Kilauea-Mauna Loa section of Hawaii National

Park. The proposed by-pass, which the Park Service says is necessary to eliminate commercial traffic and a substantial traffic hazard from the headquarters area and the park road system, will cut through an untouched *lehua* forest in a section of great botanical, ornithological and geological interest.

The National Parks Association would appreciate hearing from such of its members in the State of Hawaii as may be familiar with this threatened area, with a view toward ascertaining whether the new road construction will, on balance, fulfill a vital need even at the sacrifice of an unspoiled and representative tract of national property.

### YOU CAN HELP!

#### Help Save Great Smokies Park!

Write to the Honorable Stewart L. Udall, Secretary of the Interior, Washington, D.C., and pledge your support for the renegotiation of the Fontana Road contract as urged in our editorial on page 2.

Write to the Honorable Terry Sanford, Governor of North Carolina, and ask him to agree to a road outside the park instead of inside the park.

Talk with your friends and get them to follow suit.

### Association Testifies at Wilderness Bill Hearings

In testimony at hearings of the Senate Interior and Insular Affairs Committee in Washington, D.C., February 27 and 28, the National Parks Association went on record as supporting the basic purpose of the Wilderness Bill, *S. 174*, as sponsored in the 87th Congress by Senator Clinton P. Anderson of New Mexico. Senator Anderson's bill would, in essence, require Congressional approval before national forest areas classified as "wilderness" could be abolished; such areas presently may be abolished by administrative order.

In response to Senator Anderson's invitation to testify before the committee, the Association, through Executive Secretary Anthony Wayne Smith, declared that portions of our national parks and national forests most suitable for preser-

(Continued on page 17)





## Conservation News Briefs

### Merger of Conservation Organizations Contemplated

A recent news release from the National Audubon Society's New York City headquarters announces the merger, subject to approval of the memberships of both organizations, of Nature Centers for Young America, Inc., with the Society. Nature Centers for Young America, whose offices are in New York City, was organized "to aid American communities in setting aside areas of natural land, establishing living museums, exhibits and natural science workshops, and developing dynamic outdoor educational programs for the youth of America, their families, and the generations to come."

Merger of the two national non-profit organizations will permit intensification of a campaign to insure America's city children and their parents places in which to study conservation and experience the world of nature, according to the report. Since its formation in 1959, the NYCA has participated in establishing a number of nature centers and junior museums, and has provided promotional assistance and technical guidance to groups throughout the country interested in starting nature centers.

Carl W. Buchheister, president of the National Audubon Society, stated that the staff and program of the NYCA would be operated as a division and coordinated with the Society's other conservation education activities. The Society maintains a chain of sanctuaries for the protection of rare or endangered species of wildlife, operates teacher training camps in conservation education, and stresses public education in conservation matters.

### Summer Job Directory

A directory listing some 14,000 1961 summer earning opportunities for college students, teachers, professors and librarians—and high school seniors where indicated—is now available from The Advancement and Placement Institute, Box 99P, Station G, Brooklyn 22, New York.

Included among the American and foreign opportunities listed are such diverse entries as Greek archeology study scholarships, theatrical apprenticeships in summer playhouses, summer newspaper fellowships for journalism teachers, secretarial work at the United Nations, and internships in social agencies and hospitals. Also listed are special student training programs of, and permanent openings with, many large American business firms, as well as government opportunities in Washington, D.C. and elsewhere. Cost of the directory is three dollars.

### Crisis at Our National Zoo

A small, non-profit organization with two consultants and a master plan have focused public attention on the deficiencies of the National Zoological Park in Washington, D.C. In a stimulating document entitled *The Crisis at Our National Zoo*, the organization describes the fine quality of the animal collection, the matchless natural setting of Rock Creek Park, and the apparent lack of maintenance of grounds and animals.

Part of the Zoo problem springs from the Zoo's financial dependency upon the budget of the District of Columbia. It is financed as a municipal zoo but operated for visitors from all over the world. As a result, the zoo budget has been taxed far beyond its capacity to maintain the national exhibit. Friends of the Zoo call for a revision of the operating plan in order to save the conservation, research and recreational functions of the zoo.

More information about the crisis at the zoo may be obtained by writing to The Friends of the National Zoo, 1725 N Street N.W., Washington 6, D.C.

### Plans for Rhode Island Sea Museum Announced

The Rhode Island Oceanarium, Inc., a non-profit organization recently formed by a group of Rhode Island citizens, has announced plans for construction of an aquarium, marineland and sea museum on some eighty acres thirty miles south of Providence, near the Narragansett

### DATES and PLACES

**April 2** Easter Sunrise Services, Grand Canyon National Park, Canyon de Chelly National Monument, Arizona; Zion National Park, Utah; Cabrillo National Monument, California; Colorado National Monument, Colorado.

**April 6** Federal Power Commission hearings on Bridge Canyon Dam license applications of Arizona Power Authority and City of Los Angeles, Washington, D.C.

**April 6-8** American Camping Association Convention, Region III, Whittier Hotel, Detroit, Michigan.

**April 7-8** Seventh Biennial Wilderness Conference sponsored by the Sierra Club. Sheraton-Palace Hotel, San Francisco, California.

**April 10** Federal Power Commission hearings on Nez Perce and High Mountain Sheep Dams license applications of Pacific Northwest Power Co. and Washington Public Power Supply System, Washington, D.C.

**April 17-19** 8th National Watershed Congress, Ramada Inn, Tucson, Arizona. Theme: Countdown on Water.

**April 30-May 6** National Youth Fitness Week.

**May 12** Chicago Area National Parks Association Membership Meeting, 7-10.30 p.m., Henry Horner Park Field House, Chicago.

Marine Laboratory. Here the public will be able to see sharks, sea turtles, rays, porpoises, and other large marine animals during summer months, as well as an all-year-around exhibit of exotic fishes, shellfishes, amphibians, reptiles and aquatic plants. A number of visitor accommodations are planned, and the entire project, it is estimated, will cost more than half a million dollars. It will also serve as a site for student and marine biologist research work, and it is hoped that the project will be self-supporting through admission fees, contributions and memberships.

### Your NPA at Work

(Continued from page 15)

vation in their original natural condition should be given protection by every reasonable method. The Association pointed out that our national park system is today under very heavy pressure from overcrowding, and that, if sufficiently large and protected wilderness areas can be retained in our national forests, pressure on our parks and monuments will be correspondingly eased.

The Association expressed approval of the purpose of the section of S.174 dealing with national park system areas, which provide for the incorporation, within a specified time, of certain qualified tracts into the proposed wilderness system without affecting their relationships to the park system.

In addition, the Association noted that Senator Anderson's bill is the result of much consultation and thought by many responsible people, and that this version of the Wilderness bill should be carefully considered in the current session of the Congress.

### Surplus Land Transferred to Bandelier Monument

During the past January, former President Dwight Eisenhower signed a proclamation transferring some 3600 acres of unneeded Atomic Energy Commission lands, containing important unexcavated ruins of Pueblo Indian culture, to Bandelier National Monument in northwestern New Mexico. The additional acreage, contiguous to the north boundary of the monument, will not only furnish a locality for important additional archeological study but will provide for planned enlargement of visitor facilities at Bandelier, according to NPS Director Conrad L. Wirth. Mr. Wirth has pointed out that the land addition contains an important access road and entrance station, formerly located outside the monument's boundaries.

### Fire Fountain Plays in Kilauea Crater

An eruption involving several fire fountains in the Halemaumau Fire Pit of Kilauea Crater, Hawaii National Park, commenced on the morning of February 24, according to recent information from the United States Geological Survey. The Survey maintains its Hawaiian Volcano Observatory on the brink of Kilauea Crater.

The eruption filled a 400-foot diameter

### The Editorial Page

(Continued from page 2)

onstration would lead to Service acceptance of the program as a part of its official operation, and this blessed event has now come to pass.

During the years of NPA sponsorship some two hundred high school and college boys and girls have contributed their services in the parks during the summertime without compensation, their expenses being covered by generous contributions advanced through NPA, the program being managed by NPA. The program would have been financially unworkable as a permanent venture unless the Service had decided to take over a large share of the responsibility and make it official, albeit with continuing private cooperation, as is proper.

The NPA has been urging the Service to take this course, and we are delighted by the outcome. We pledge our full cooperation and assistance in keeping the program alive and expanding its place in the protection and interpretation of the national parks.—A.W.S.

collapse pit in Halemaumau with 110 feet of lava, part of which drained away down a nearby vent. Activity had largely died down by the end of the day, with one vent in Halemaumau continuing to emit blue flame. Harmonic earth tremors, indicative of eruptive conditions, were continuing on a reduced scale at the time this item was written.

Unusual meteorological activity also occurred in the Hawaii park when a blanket of snow fell on the upper part of Haleakala. The rare fall was the first snow in the lives of many of the residents who flocked up the mountain to build snowmen and throw snowballs.

### Joshua Tree Association Formed

The Joshua Tree Natural History Association has been formed to serve visitors to Joshua Tree National Monument. The new association will assist the National Park Service in its scientific, historical and interpretive activities. It will also prepare and publish books, pamphlets, folders, maps and other material about the Monument not normally available from other sources. An adequate library for visitors and staff will be among its projects.

Inquiries concerning membership should be addressed to the Executive Secretary, Joshua Tree Natural History Association, P.O. Box 875, Twentynine Palms, California.



A new book by  
**SIGURD F.  
OLSON**  
former president,  
National Parks Association

## The Lonely Land

The author of *The Singing Wilderness* and *Listening Point* begins this grand adventure: "There are few places left on the North American continent where men can still see the country as it was before Europeans came and know some of the challenges and freedoms of those who saw it first, but in the Canadian Northwest it can still be done. A thousand miles northwest of Lake Superior are great free rivers, lakes whose horizons disappear, countless unnamed waterways, and ridges and forested valleys still largely unknown."

Into this land of Creeks, Chippewyans, Yellow Knives, and Dog Rib Indians had once come the *voyageur*, the Hudson Bay trader, and a succession of adventurers—gentlemen and otherwise—who used the mighty Churchill River as a major waterway from Hudson Bay to the Mackenzie.

"It was the trail of these voyageurs we followed," says the author. The members of Mr. Olson's party were: Dr. Anthony J. Lovink, then Netherland's Ambassador to Canada; Major General Elliot Rodger of the Canadian Army; Eric Morse, executive director of the Associated Clubs of Canada; Dr. Omond Solandt, chairman of the Defence Research Board of Canada; and Denis Coolican, president of the Canadian Bank Note Company, Ltd.

Mr. Olson has illuminated his own cruise with quotations from journals and diaries of such men as George Simpson, David Thompson, Alexander Henry, and Alexander Mackenzie—as well as a host of other explorer-traders whose voices speak from the old Moose Fort Journals of the Hudson's Bay Company.

Mr. Olson combines his inimitable ability to evoke the beauties and wonders of the wilderness—its animals, birds, and its very spirit—with a dramatic talent for taking the reader along the route of the men who pioneered that wilderness.

Francis Lee Jaques, whose genius to evoke the wilderness in pen and ink is unchallenged, has illuminated this book by his drawings, as he did *The Singing Wilderness* and *Listening Point*.

\$4.50 at better bookstores everywhere

ALFRED A. KNOPF, Publisher

## The Editor's



## Bookshelf

**WORDS OF THE EARTH.** By Cedric Wright. Edited by Nancy Newhall, foreword by Ansel Adams. Sierra Club, 1050 Mills Tower, San Francisco, California, 1960. 96 pages, 53 black and white photographs. \$12.50.

If, as the saying goes, one picture is worth a thousand words, then priceless is the *mot juste* for the combination of Cedric Wright's photographs and poetic writing which the Sierra Club presents in *Words of the Earth*.

Mr. Wright's photographs are superb. They speak eloquently even to so insensitive a person as the one who remarked that when you've seen one mountain you've seen them all. But it must be noted that his interpretive prose lifts the whole into the stratosphere; the book speaks with the tongues of angels: America is beautiful, let's keep it that way.

Picture-taking today is widespread, and the picture album (or the shoebox in which the lazier of us deposit the fruits of our picture-taking) is practically standard equipment in our homes. But there is a vast difference between the generality of pictures—charming as they are to us whose memories and experiences they reflect—and the art that Mr. Wright's camera produced. His preoccupation with the things that we mean when we say *conservation* makes of his photographs the social document that the lovely prose-poetry highlights. He writes opposite one of his dazzling photographs: "From these mountains . . . A larger love flows into living, from which vast and subtle change shall descend upon the nations, bringing healing."

The Sierra Club has hit upon an effective format in bookmaking. *Words of the Earth* is beautiful, easy to read, one may be proud to own it, and it is effective testimony for the conservationist's thesis that parts of the country shall be preserved in the natural state for the solace of man's spirit. The foreword by Ansel Adams—the preeminent photographer-artist whose own photographs have been published in *This Is the American Earth*—speaks with authority of the technical excellence of Mr. Wright's work and "its strange and compelling beauty." It is,

indeed. One doesn't need to be a partisan conservationist to realize that a preoccupation with the plain facts of conservation can produce genius.—*Anya F. Smith.*

**MANUAL FOR PARK AND RECREATION BOARDS AND COMMISSIONS.** By Edward A. Connell. The American Institute of Park Executives, Inc., Ogelbay Park, Wheeling, West Virginia, 1960. Single copies, \$1.00 (members), \$2.00 (non-members). Discount on larger quantities. 40 pages in paper cover.

Although of a somewhat formidable title, this little volume covers in very readable fashion many matters of interest to public park administrators. It deals with such topics as the composition of park and recreation boards, meetings, relationships between various officers and between such officers and the public, and jurisdictional questions; it is, in the publisher's words, designed "to aid administrators and commissioners in raising the level and prestige of public park and recreation departments." Edward A. Connell, the author, is Superintendent of Parks and Trees in Stamford, Connecticut.—*P.M.T.*

### A Quick Glance at . . .

**NATIONAL PARK AND MONUMENT MAPS.** U. S. Geological Survey, Department of the Interior, Washington 25, D.C.—New shaded relief map of Craters of the Moon National Monument, Idaho, includes discussion of physiographic and geologic phenomena of the area. Price, 50¢. Eight-color topographic map of Maine, \$2.00. Shaded relief map of Acadia National Park, Maine, \$1.50. Information folder describing topographic maps, map symbol sheet, and list of maps of national parks and monuments available free upon request.

**THINGS TO DO IN SCIENCE AND CONSERVATION.** By Byron Ashbaugh and Muriel Beuschlein. Interstate Printers and Publishers, 1927 North Jackson Street, Danville, Illinois, 1960. 180 pp. Illus. \$2.50.—The demonstrations and projects in this book are aimed toward teaching facts or concepts about natural resources and their wise use. Each chapter, after stating the concept about the resource under consideration (water, space, soil, etc.) demonstrates the concept, then expands into projects, questions, and suggestions for further reading in order to encourage the student's application of the initial concept to conservation in general. Equipment and techniques used in the demonstrations are common to most science curriculums.

**MADISON RIVER CANYON EARTHQUAKE AREA.** U. S. Forest Service, Northern Region, Missoula, Montana. Free of charge.—A twenty-page pamphlet, illustrated with some fine earthquake-effect photographs. Relates the history and effects of the tremendous 'quake that rocked the Madison River Canyon-Yellowstone country on August 17, 1959, and details the facilities available to those who might wish to pay a visit there.

### CLASSIFIED ADVERTISING

20¢ per word—minimum \$3. Payment must be enclosed with all orders.

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NATIONAL PARKS MAGAZINE

# THE CONSERVATION DOCKET

The purpose of *The Conservation Docket* is to inform our readers on the multitude of governmental activities pertaining to conservation and preservation of national parks, wilderness, recreation areas, and natural resources. Washington, of course, is the center of such activity; but we will occasionally report on events in other parts of the country which affect governmental decisions. We urge our readers to acquaint themselves with the administration of natural areas and resources by the federal government. We also urge our readers to make their opinions known to the administrators, for only in this way can our government be truly representative. Departments, bureaus, commissions, and other federal offices may be simply addressed: Washington 25, D. C.

**Appropriations.** The complicated business of authorizing appropriations to agencies and departments of the federal government for fiscal year 1962 is under way. Following the presentation of the Eisenhower budget to Congress in January, the Appropriations Committee of the House of Representatives commenced hearings to determine the acceptability of the estimates presented by departments.

This year the Bureau of Reclamation, Department of the Interior, will present an estimate of ten million dollars for construction of a barrier dam above, and a diversion dam below, Rainbow Bridge National Monument in order to prevent the waters of Lake Powell from encroaching upon the monument. The Bureau will seek to reestablish this item in spite of the fact that Congress deleted last year's estimate for protective works for the monument.

**C & O Canal National Historical Park.** S.77 (Beall), H.R.2047 and H.R.4684 (Mathias). Mathias has supplanted his first bill with H.R.4684 which, like S.77 and H.R.2047, calls for the establishment of a national historical park in what was recently proclaimed as the C & O Canal National Monument in Maryland. The new bill eliminates the original provision for a scenic parkway, which also appeared in earlier Beall bills. The Mathias bill now differs from the Beall bill only in the authorization to acquire lands in addition to the 4008 acres in federal ownership. It seems likely that the Senate bill will meet little opposition; it is identical to last year's bill, which got as far as the House. Hearings on the House bill may be scheduled this month. Interior and Insular Affairs Committees.

**Cape Cod National Seashore.** S.857 (Saltonstall and Smith), H.R.989 (Keith). To establish Cape Cod National Seashore Park in Massachusetts. The Senate bill has defined park boundaries eliminating some 1500 acres originally recommended for inclusion by the National Park Service. This is in line with pressure from Cape Cod residents to allow land for expansion of towns before a park is established, though less than the acreage they requested. The Keith bill does not make this provision, but retains the stipulation that ten percent of park lands may be returned to the towns as the need arises. This can be changed in the House Committee. The scheduling of hearings in both House and Senate Interior and Insular Affairs committees early in March before public consideration of other park bills would seem to indicate the possibility of early passage of one or the other of these bills.

**Oregon Dunes National Seashore.** S.992 (Neuberger). To establish the Oregon Seashore Recreation Area from the mouth of the Siuslaw River to a point south of the Umpqua River. Provides for a general advisory board composed of Oregon residents to advise the Secretary of the Interior on policy concerning the development of the seashore, including zoning regulation standards. Both Tahkenitch Lake and Sea Lion Cave areas may be added at a later date, depending upon whether or not existing land-use is consistent with proper regulation of the seashore. This is one of the three seashore areas recommended by the Department of the Interior last year in the "three-seashore" bill, which also included Padre Island and Cape Cod. Referred to the Committee on Interior and Insular Affairs.

**Padre Island National Seashore.** S.4 (Yarborough) and H.R.5049 (Kilgore and Young.) To establish a national seashore on a section of Padre Island, Texas. Senate bill provides for preservation of 88 miles of the island, the House bill for 65 miles. Provisions of the House bill would seem to indicate a good chance for early passage, though not in accordance with National Park Service recommendations reflected in Senate bill. Interior and Insular Affairs Committees.

**Point Reyes National Seashore.** S.476 (Engle and Kuchel), H.R.2775 (Miller), H.R.3244 (Cohelan). To establish the Point Reyes National Seashore in Marin County, California. Many local residents are pushing for quick passage to prevent increasing subdivision of lands. Senate hearings requested, though not scheduled. To the Interior and Insular Affairs Committees.

**Salmon River Fish Conservation.** S.323 (Church, Neuberger, Engle). To provide for the conservation of anadromous fish spawning areas in the Salmon River, Idaho. To Committee on Interstate and Foreign Commerce. (See FPC below.)

**Shorelines Bill.** S.543 (Anderson and others.) As the magazine goes to press, hearings are under way on this bill to investigate certain coastal and inland shoreline areas of the United States to determine what action federal government should take to preserve them. The study would include such areas as Huron Mountains, Michigan; Fire Island, New York; Channel Islands, California, and Cape Flattery, Washington. This bill is acceptable to many commercial interests who would otherwise oppose establishment or enlargement of protected areas. Senate Committee on Interior and Insular Affairs.

**Wilderness Bill.** S.174 (Anderson and others.) Secretary of the Interior Udall and Secretary of Agriculture Freeman were among witnesses favoring the Wilderness Bill at hearings conducted by the Senate Committee on Interior and Insular Affairs in late February. Representatives of many leading conservation organizations urged that the bill be enacted into law in order to give present wilderness areas full protection as soon as possible. Mining and lumber interests represented at the hearings largely opposed the bill.

**Selway-Bitterroot Primitive Area.** Hearings on the proposed reclassification of the Selway-Bitterroot Primitive Area to a wilderness area were held on March 7, 9 and 14 in Missoula, Montana, and Lewiston and Grangeville, Idaho. Although reclassification would strengthen the wilderness values of this great Montana-Idaho area, boundary revisions included in the proposal would reduce the area by 549,000 acres out of some 1,900,000. This would open more than a fifth of these protected wildlands to commercial development. Conservation organizations have expressed the hope that the reclassification of wilderness areas will not be accompanied by reduction, but rather by a consideration of the need for greater protection, and even enlargement. Readers wishing to express their views in the matter may write to the Regional Forester, Federal Building, Missoula, Montana.

**Federal Power Commission.** FPC hearings that started last fall are still under way in the matter of the Pacific Northwest Power Company's application for a license to construct a dam at High Mountain Sheep site on the Middle Snake River, and the Washington Public Power Supply System's application to construct a dam downstream at Nez Perce site on the same river. Hearings are concurrent because the impoundment area of the Nez Perce overlaps that of High Mountain Sheep. The Nez Perce dam, proposed by a public utility, would prevent migrating salmon and steelhead trout from reaching important spawning bars. It would also cause flooding of areas in the Salmon River where Snake River fish spawn. High Mountain Sheep dam, on the other hand, would block fish runs up the Middle Snake, but would not seem to affect the Salmon River. Conservationists have urged the establishment of a fish sanctuary on the Salmon River. This is stated in proposed legislation (S.323) described above.



Fern Fiddleheads in April