

# NATIONAL PARKS Magazine



A Miniature World for  
Future Conservation Workers

*Special Education Issue*  
*February 1961*

# Are We Doing Enough?

A Guest Editorial by Robert J. Ferris,  
a ranger at Platt National Park.

IN THE SPRING OF THE YEAR 2000, a man who lived in Denver, Colorado, stepped from his house and into a machine in the yard. He piled his gear behind the seat, and shot vertically into the air. When the machine was well above the housetops, it whisked him away toward the mountains. He was going fishing.

The man's home was in a part of Denver that during the 1950's had been some distance east of the edge of town; but it was now almost in the center. In its westward growth, the city had long since reached the foot of the Rockies and had spread slowly over the foothills. North and south there were other roads and other houses, pushed on by an ever-increasing population. Only the steepest slopes of the majestic front range had escaped encroachment.

The man climbed until he was high enough to top the towering, timberless peaks of the continental divide, then dropped down the more gradual west slope, with its green coniferous forests and mountain streams. Reaching the valley of the Blue River, he turned north, searching for a good place to fish.

Most of the Blue had been lost during the heyday of the dam builders in their quest for hydroelectric power; power that now came from atomic sources. But there were a few short stretches of the old river left. The reservoirs were criss-crossed with the wakes of many boats. After nine in the morning, fishermen would troll in parallel lines between the buoys; the earlier arrivals were permitted the luxury of choice until the increased numbers of boats made regimented trolling necessary. Stream fishermen were thick on the few open stretches of the Blue, so our fisherman flew to the Swan, a tributary of the Blue. The Swan was a ravaged river. Its lower half was a wilderness of rock and gravel, dredged by gold seekers of past years—heaps of rock as high as houses had altered the flow of the river many times.

The river's headwaters were still an unbroken chain of placid beaver ponds, but there was a good road the whole length of the river, and although the day was young many fishermen already whipped the surface of the quiet pools. There would be more later. He circled and retraced his path, longing for a measure of space and solitude and beauty. What with the increased numbers of fishermen, and the decreased miles of stream, the situation seemed hopeless. All the smaller contributing streams were accessible by road. *There was no place to go.*

\* \* \* \* \*

Is this local picture far-fetched, or is it inevitable? Unless there is a drastic change in America's population trend, or unless we act now, this picture seems to me to be inevitable. But how can it be prevented if the predicted population, the almost unbelievable increase in human numbers, occurs? If the envisioned multitudes materialize, they will be a deadly threat to our remaining wild lands. Should the

multitudes force utilization of these lands for other sorts of recreation, no group, however determined, could hold them back. They would have their way. It must be hoped that the mass-will of this force will be for beauty and an untrammeled earth, and that it will see the benefit of preservation and demand that *something* will be preserved.

We need public understanding and public clamor if we are to save our remaining wilderness. To get these, we need conservation education, which is experiencing a slow growth in our school system. Most of it, however, is on the adult level, reaching only those who are interested in the first place. Without an increased and energetic program of conservation education, our wild areas are doomed. Already the public has come to think of the national parks as places to go for a "good time," and complaints are heard about lack of facilities. "Why don't you have more toboggan runs here?" "What's here beside scenery?" Questions like these are not uncommon among today's park visitors. Motorboat enthusiasts are outraged because a small section of Yellowstone Lake may be set aside to be kept, as far as possible, in a wilderness condition. The Park Service will undoubtedly face increased pressure to "open up" its back country, and ultimately to change its policy toward wilderness.

The larger aspects of conservation are of such importance that ignorance of them is a threat to the future strength of the nation, and the importance of conservation teaching cannot be over-emphasized. Though long range and not as dramatic, the problem is every bit as important as the ideological struggles now engrossing the world. It is a matter of survival for this nation and for the world.

If our sketch of the imaginary future resident of Denver is not to become a reality, we must tell the conservation story to our children, and we must do it *now*. We are racing against time. We need a crash program for this purpose as urgently as we need one for the teaching of science.

I know that many conservation organizations realize the value of education and are doing something about it. But is this enough? Are we not still like children at a bargain counter, whose voices are small among the crowd of boisterous shoppers? To be heard we must develop listeners as well as lungs. What better place to start than with our children?

Conservation teaching should not be included as a subordinate part of some other subject, like geography or science, but should be given the status of a fulltime subject. It should be a subject on every report card. It should not be relegated to the unimportance of special reports, speeches, and projects which are not required for passing, but should demand the attention of the student on equal footing with other subjects. Starting in the early grades and carried through high school and college, conservation training would give the citizen of tomorrow at least as good an understanding of conservation as of history and democracy.

If enough people feel that there should remain in our land areas of wilderness, remoteness and beauty, we will have such areas. But if the tremendous future population does not understand and does not want wilderness, then nothing can be done to save it. We must not only set it aside for them; we must prepare it for them. We must do it now if we are to have the kind of world we want for our children, or they will have no place to go. ♦

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Paul M. Tilden, Editor

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## THE FRONT COVER FOR FEBRUARY

A terrarium duplicates, in a small way, a living place of plants and animals, and provides youngsters with entertainment as they learn about the interrelationship of the various forms of life.

A Photograph by Alhambra, California, City Schools

This special education issue was designed to serve as a classroom aid in presenting information about our national parks and the concepts of conservation and preservation. It is available to schools, teachers and libraries at fifteen cents per copy, or three copies for thirty cents. Prices for larger quantities quoted upon request.

## 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. Bequests, too, are needed to help carry on this park protection work. Dues 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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A teacher, usually called "trail counselor" by his students, helps his group to plan its field activities for the coming week.

# California Schools Teach Conservation Out-of-Doors

By Russell K. Grater

With Photographs by the Author



A study group pauses during the course of an all-day hike to discuss the relationship of plants and animals with their environments.

**T**HE CAUSE OF CONSERVATION has taken a most important step forward in California during the past ten years. No new conservation society has been formed to accomplish this, nor have the people of the State done an about-face and suddenly decided to do a better job of taking care of California's valuable resources. Instead, something new has been added to an educational system that has already shown great progress in teaching youngsters of the State something about conservation and what it really means.

The "something new" is the outdoor education program (originally referred

to as "school camping") which was introduced in the schools of San Diego in 1947. Pioneered by such progressive districts as Long Beach and San Diego, the movement spread slowly at first; but, by 1958, a total of 173 school districts were taking part in the program.

### A Different Program

This "school camping" should not be confused with other types of camping activities offered during the summer months all over the country to youngsters of elementary school and high school age. It does not much concern itself with the activities usually asso-

ciated with camps of that type—swimming, boating, fishing, camping, horseback riding, woodcraft, and so forth. It is primarily concerned with the teaching of conservation in the out-of-doors as part of a regular school educational program. As an example, let us examine one of the Long Beach "school camps" and see how it works.

High in the San Gabriel Mountains above Pasadena, just a few miles from Mount Wilson and its observatory, the City of Long Beach owns a group of buildings situated in a densely forested canyon. Here are a large dining hall and kitchen; eight cabins designed to

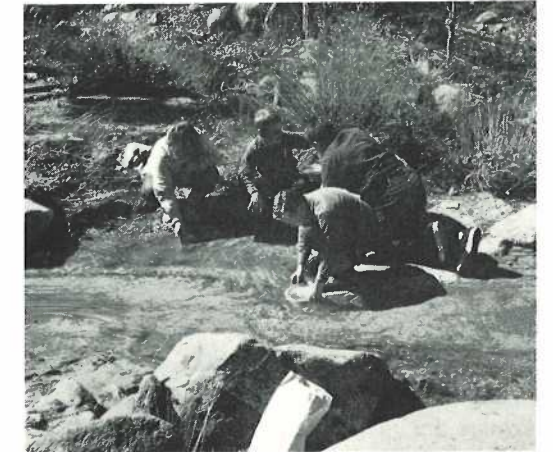
comfortably house from eight to ten students at a time, with a counselor; and quarters for a camp director, four resident teachers, two visiting classroom teachers, three cooks, and a camp caretaker. This is the physical plant for the outdoor education school operated by the Long Beach Unified School District.

Each September, the camp director calls his staff together and prepares for "school." His instructors are regular, certified teachers, trained in teaching on the trail. His cabin counselors are college students, hired to look after the boys and girls who will visit the camp from the elementary schools of the city. His cooks have passed examinations, given for the purpose of obtaining competent people to feed the children. A typical week at the camp gives a good picture of how it operates.

### Making the Arrangements

At eight o'clock on a Monday morning, the camp director and at least two members of his staff arrive at a selected elementary school (of which there are more than fifty in Long Beach) to meet the children of the sixth-grade level who are coming to camp for the week. Having met with the camp director the week before, the children know pretty well what to do when they arrive at school. Two classes—boys and girls with their classroom teachers—make up the group. They come dressed for living in the out-of-doors. They carry suitcases, sleeping bags or bedrolls, cameras, and miscellaneous items they think they will need. Quickly the children assemble in their "home rooms," and then, in small

Mr. Grater, a contributor to the pages of *National Parks Magazine* in the past, makes his home in Walnut Creek, Calif.



Along the trail, the students try their luck at panning gold—and sometimes find "colors" in the pan.

A baby wood rat, found beside the trail, gives the students a chance to make a close-up wildlife study.





Field instruction under the outdoor education program—once referred to as “school camping”—is carried on in winter as well as in warmer months.

groups, they go to be examined by the school nurse. If they pass inspection, they are ready for camp. As soon as all have been given a health check, they file outside and are loaded into two large buses—a camp staff member to each bus. Their luggage and sleeping bags are placed on a truck, and the trip to camp begins.

Arriving at camp, they meet together in a large outdoor play area. Here cabin groups are made up by the camp director, usually eight to ten boys or girls to a cabin, with their cabin counselor. Soon there are eight such groups on the way to their cabins with their belongings. Once there, the cabin counselor assigns beds, and the group settles down to deciding (aided by suggestions from the counselor) how it will operate in the cabin during the week.

#### Counselors Meet Students

After lunch, the four camp teachers (usually called trail counselors by the students) meet with the students and cabin counselors. Each teacher has under his, or her, supervision a cabin group of boys and a cabin group of girls, along with the two counselors. This combined group, called a “field activity group,” spends whatever time is necessary to plan the week’s activities. The activities will center around field trips into the mountains and canyons, with such things as a conservation project, night hikes, star studies and the like being worked in to “round out” the program. The children choose the hikes to be taken and whatever “filler time” activities that seem desirable. The program is now ready to get under way.

Each day during the week the various

activity groups are in the field with the teacher and the counselors. Instruction is centered around nature—watersheds, the work of streams, the work of forests, the story of erosion, the making of soils, the relationships of plants and animals to their environment, forest fires and their control—and through all this instruction runs the theme of conservation, and how all these things relate to each child and to the people of the State and nation.

At the end of a week’s instruction in watershed, stream, soil, plant and animal conservation, and general nature studies, the last night in camp is set aside for a get-together “fun-time.”



Other values—living together, working together, learning to get along with others, finding out that their “home school” teachers (who go along on the hikes also) are “regular” people—are experienced during the week. It is a satisfied group of sixth graders that returns home on Saturday morning, there to use camp experiences in numerous ways in studies through the weeks to come.

Each sixth grade student in the school district is entitled to go to camp. If the child is financially unable to do so, the local Parent-Teacher Association helps pay the bill. Race, color or creed does not enter into the picture.

This program is rapidly growing in California, with more than 31,000 sixth grade students taking part in 1958. The program is also spreading to other States as the idea of outdoor education takes hold. Massachusetts, Ohio, Illinois—to name only a few—are leading the way. If the idea continues to grow as rapidly in the next ten years as it has in the past decade, its farsighted sponsors can chalk up a solid contribution to the welfare of their State and to that of the nation. ■



Located in a woodsy section of Rock Creek Park, in Washington, D.C., the new nature center conducted by National Capital Parks has taught outdoor lore to thousands of youngsters since its 1960 dedication.

Learning is fun at

## The Rock Creek Park Nature Center

### A Story in Pictures

With Photographs by Abbie Rowe,  
Courtesy the National Park Service

**D**URING THE first week of June, 1960, a group of children from the nation’s capital and its surrounding communities conducted a dedication program that formally opened a new nature center in Rock Creek Park, some two thousand wooded acres that bisect the western portion of the District of Columbia.

The new Rock Creek Nature Center, designed to “promote understanding and appreciation of the outdoors, to encourage wide use of our natural resources, and to develop respect for public property,” is operated by National Capital Parks, one of the units of the National Park System, and was designed to replace an outmoded structure previously used for the purpose. Since the doors of the new center were opened, more than 77,000 children and adults have seen and operated the ingenious nature exhibits, watched the

“stars” of a modern planetarium, and learned first-hand of the plant and animal community that exists within the confines of a great city.

The nature center is open six days a week the year around (it is closed on Mondays and on Christmas Day). Programs of instruction in nature lore—talks, demonstrations, films and special exhibits—are conducted throughout the day in the building’s assembly room; and, while adults are cordially welcomed, the programs are aimed primarily at children of school age.

The following two pages show some of the exhibits and features that have brought a better understanding of nature and the out-of-doors to scores of thousands of city-dwelling children. ■

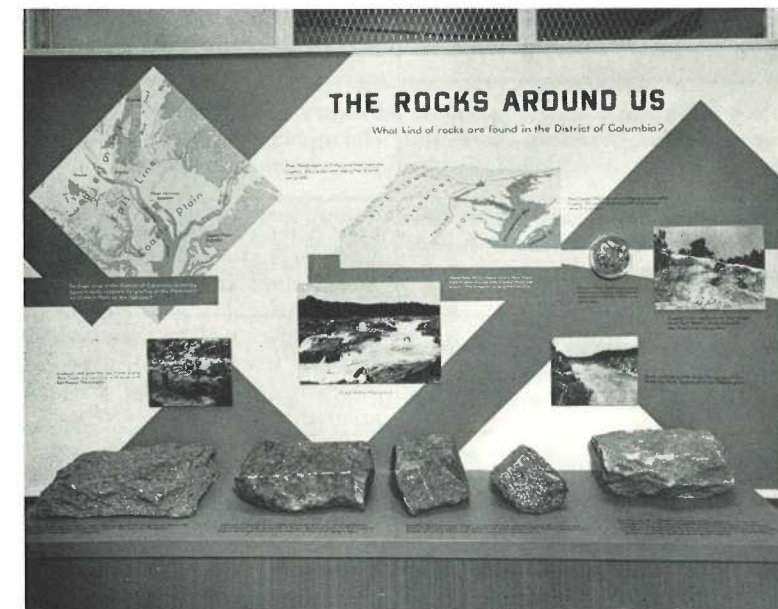


Young visitors at Rock Creek Park Nature Center test their knowledge of plants. The boy at the display board selects a picture of a plant with an electrical plug. If he finds the correct name with a second plug, the picture lights.

A large light flashes when the dragonfly specimen and its name are properly matched. This new display is already well-thumbed by the many visiting children.

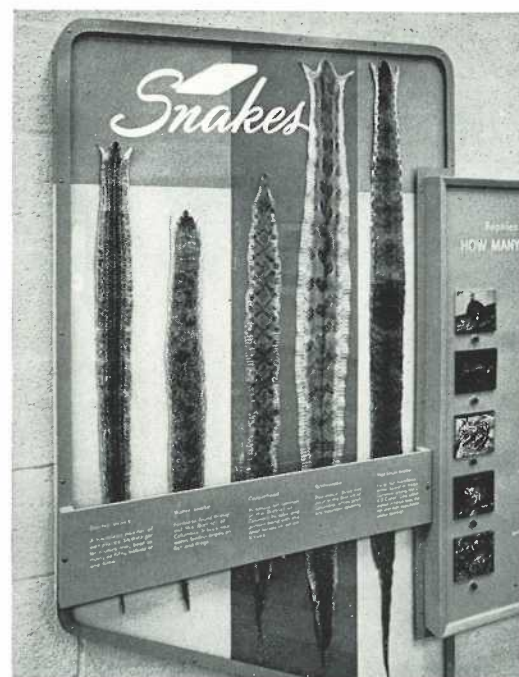


Samples of rock types found in the District of Columbia area appear in front of photographs showing the same rocks in their natural settings. The samples shown in the picture are, from left to right: schist, diorite, two gneisses, and a granite.



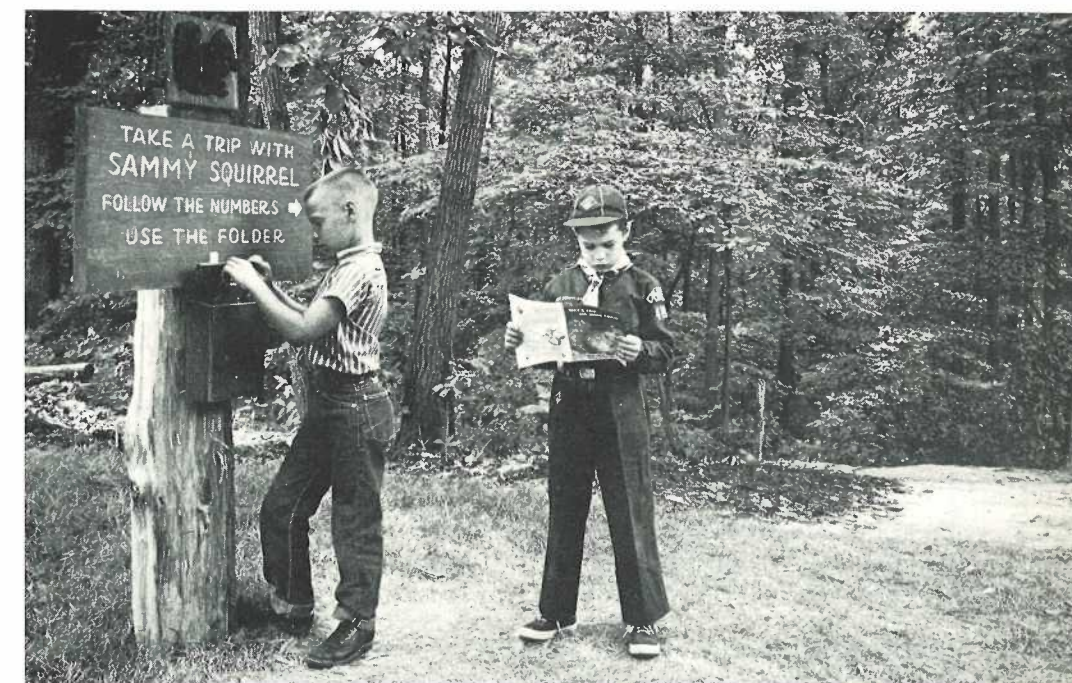
The planetarium—in which some children expect to find plants, according to park naturalists—shows images of the stars, planets and moon in their proper positions as viewed from the earth.

This display demonstrates how simple materials can be used to make weather instruments for home or classroom use. At the top a paper cup anemometer measures wind speed. Right, a milk carton barometer.



A bright blue and red case calls the eye to the skins of the garter snake, water snake, copperhead, rattlesnake and a pilot blacksnake that is more than four feet long.

On the "Sammy Squirrel" self-guiding nature trail, youngsters identify a number of the many plants and trees which flourish in Rock Creek Park. From the building itself they may also watch many birds of the locality—mourning doves, jays, cardinals, titmice and others—at several nearby feeding stations.



# An Up-to-Date Glance

Dates followed by an asterisk under the column entitled "date established" indicate the date established as a national monument. The date in parentheses indicates year of establishment as a national park.

National Park and Address	Date Established	History	Wildlife and Plants
ACADIA Box 690, Bar Harbor, Maine	1916* (1919)	Discovered in 1604 by Samuel de Champlain. Was site of the first French missionary colony in America.	Sea-beach and tidal-pool animals; loon; pitcher-plant, pink ladies'-slipper, and black spruce bog.
BIG BEND Big Bend National Park, Texas	1944	History divided into five periods: Apache Indian, Spanish, Mexican, Texas Republic, and United States.	Peccary, mountain lion; colima warbler, aplomado falcon; cactus, pinyon pine, fir, and cottonwood.
BRYCE CANYON Bryce Canyon, Utah	1923* (1928)	Basketmakers and later Pueblo Indians and Paiutes lived here. It was named after a Mormon cattleman, Ebenezer Bryce.	Prairie dogs; swallows, swifts, nutcrackers and ravens; juniper, ponderosa pine; arrowroot, cinquefoil.
CARLSBAD CAVERNS Box 111, Carlsbad, New Mexico	1923* (1930)	Used by early Indians, and known as "bat cave" by cattlemen of 1880. Jim White explored the cave in 1901.	Eleven species of bats, including the Mexican free-tailed bat, plus spring-blooming desert plant life above ground.
CRATER LAKE Box 672, Medford, Oregon	1902	Discovered in 1853 by a prospector, J. W. Hillman. William Gladstone Steel fostered national park idea for area.	Sixty mammals and 120 birds are found in life zones ranging from Transition through Alpine-Arctic.
EVERGLADES Box 275, Homestead, Florida	1947	Birds were slaughtered and almost exterminated by plume hunters before refuges and the national park were established.	Spoonbill, ibis, herons, egrets; manatee, alligator; sawgrass, royal and cabbage palm, mangrove and air plants.
GLACIER West Glacier, Montana	1910	Hudson's Bay Company men entered present-day area in early 1800's. Established as part of International Peace Park in 1932.	Mountain goat, moose, elk, grizzly bear, bighorn sheep, fisher, wolverine; beargrass, glacier lily; thirty tree species.
GRAND CANYON Grand Canyon, Arizona	1908* (1919)	Basketmakers and Cohonino Indians lived on the rims about 1 A.D. Coronado's expedition discovered the canyon in 1540.	Abert and Kaibab squirrel, mountain sheep; lazuli bunting, crossbill; cactus, cottonwood, pinyon and yellow pine.
GRAND TETON Moose, Wyoming	1929	John Colter passed through in 1807. The three Tetons were once landmarks for Indians and "Mountain Men" of Jackson Hole.	Large elk herd, moose; trumpeter swan; lodgepole and whitebark pine, alpine fir, spruce, sagebrush; Indian paintbrush.
GREAT SMOKY MOUNTAINS Gatlinburg, Tennessee	1930	Home of Cherokee Indians. White settlers were rugged mountaineer descendants of English and Scottish colonists.	Bear, deer, bobcat, turkey; 1300 species of trees, shrubs and herbs, plus 1800 funguses, 330 mosses and 230 lichens.
HALEAKALA Box 456, Kahului Maui, Hawaii	July 1, 1961	Hawaiian Islands, once known as Sandwich Islands, probably settled in pre-historic times by people of Polynesian race.	Ringnecked pheasant, quail, Hawaiian hawk (io), Hawaiian owl (pueo), Pacific golden plover; a number of introduced mammals.
HAWAII Hawaii National Park, Hawaii	1916	Frequent volcanic activity (eruptions of liquid lava and steam) between 1790 and 1960, within the Kilauea and Mauna Loa sections.	Apapane, amakihi, elepaio, iiwi, koae (birds); the rare silversword, tropical rain forest, tree ferns (near Kilauea).
HOT SPRINGS Box 1219, Hot Springs National Park, Arkansas	1921	Within area first claimed by France, then Spain, Hot Springs area acquired by United States with Louisiana Purchase in 1803.	Oaks, pines, hickories; goldenrod, bitterweed, asters, coreopsis; lichens, mosses, ferns, grasses, sedges; ninety species of birds.
ISLE ROYALE 87 N. Ripley St., Houghton, Michigan	1940	Chippewa Indian territory until 1843. The French fur traders were here early. Illusory copper mining explorations were abandoned in 1899.	Wolves, moose, beaver; eagle, osprey; forty-six species of fish; evergreen and hardwood forests meet here. Devil's-club and orchids.

# at Our National Parks

The location of each of the national parks listed below may be ascertained by reference to the map on page 19 of this issue. This map was prepared by the National Park Service, and appears through courtesy of the Service.

Size in Acres	Geology	Special Educational Opportunities
41,634	Granite mountains have been smoothed and carved by glaciers of the geologically recent ice age. Great sea cliffs have been produced by assault of the sea.	Abbe Museum of Archeology contains relics of Stone Age period of Indian culture. Sea beach and tidal pools provide rich field for biological study.
708,221	Fossil life indicates that the present folded and tilted rock layers were originally deposited on ancient sea bottoms. Erosion has carved cliffs, columns and buttresses.	Curious mixture of plants and wildlife of Mexico and the United States offers an unusual study opportunity for biologists.
36,010	Limestone and sandstone laid down beneath early lakes and swamps (and varying greatly in kind and hardness) has been eroded into numerous fantastic pink and white formations.	Colorful and unique erosional forms—pinnacles, walls and spires—in horseshoe-shaped amphitheater illustrate the earth's most recent geological era (the past 60 million years).
49,448	This, the largest of the world's limestone caverns (known to date) was formed by water dissolving the limestone and later depositing it in curious stalactites and stalagmites.	Comprises an under-ground laboratory for the study of cave building with a great variety of formations on display. The incredible summer-night bat flights interest biologists.
160,290	Collapse of mountain top followed catastrophic ejection of pumice and lava from ancient Mount Mazama. Resulting pit holds 2000-foot-deep lake of rain and snow water.	Tells an amazing geological story of the lake's origin, with natural exhibits of dikes, glaciation, and growth of new volcanic cones within the collapsed caldera.
1,400,533	Once the bottom of a shallow sea in geologically recent times, this park is now barely above sea-level.	Largest sub-tropical wilderness in the United States. Outstanding rookeries of birds may be seen on tours conducted by the National Audubon Society.
1,013,129	After deposition on the ocean floor, layers now forming land were uplifted, with ensuing buckling, folding and fracturing. Stream erosion and glaciation then carved U- and V-shaped valleys that are prominent in the park today.	Fascinating display of glacial relics; cirques, U-shaped valleys, glacier-formed lakes, and hanging valleys. Many-colored bands of rock on mountain faces. Museum of Plains Indian on nearby reservation.
673,575	Colorado River and thunderstorm waters in this arid country, combined with a slow uplift of the earth's crust, have eroded the 217-mile-long, 4- to 18-mile-wide, and mile-deep gorge.	The oldest rocks known to geology occur in the narrow inner gorge. The Yavapai Point Overlook, combined with the trails, offers a wonderful site for study of earth's history.
310,350	Example of mountain building by slow upthrust of great fault block. Volcanic and sedimentary rocks have been eroded to expose the ancient crystalline rocks of the Teton Peaks.	The range illustrates the fault-block type of mountain, and volcanic, Paleozoic sedimentary, and pre-Cambrian crystalline rocks are clearly exposed to view and study.
511,678	Situated in one of the most ancient uplands in the world, and the most massive in the eastern United States.	Museum near Cherokee displays early tools and household objects of the pioneers. A botanist's paradise, with more than three thousand species of plants.
26,403	Summit crater of Haleakala is one of greatest volcanic craters known; illustrates an old volcano whose eruptions are now separated by long periods of time.	Mountain of Haleakala is linked with native legend. Cinder cones and lava flows of recent age offer unusual study opportunities for geologists, young and old.
220,345	Park, and Hawaiian Islands, formed by volcanos. Kilauea's summit has collapsed to form a caldera paved with recent lava flows. Molten lava sometimes gushes forth from cracks in Mauna Loa, which towers 31,680 feet above Pacific bottom.	Ideal for the study of recent vulcanism and way in which plant life regenerates the soil. Rare plant species found on "kipukas" (islands of soil surrounded by recent lava flows).
986	Park's 47 hot springs are located along a break in the earth's crust at southwestern base of Hot Springs Mountain. Average temperature of water, 143°F.; total water flow nearly a million gallons a day. Water carries many minerals and gases.	Student may wish to speculate on origin and mechanism of hot springs here; exact geological story as yet unknown, although various explanations have been offered.
539,338	The ancient lava rocks of this wilderness island were ground smooth by ice-age glaciers. When the ice melted, the island was submerged until the lake level fell.	Wilderness island fifty miles from the Michigan shore, where animals of wilderness may be studied under primeval conditions. Pre-Columbian copper mines here.

## An Up-to-Date Glance

National Park and Address	Date Established	History	Wildlife and Plants
LASSEN VOLCANIC Mineral, California	1907* (1916)	Latest volcanic eruption of Lassen Peak in 1914-1917. Was named for Peter Lassen, an early pioneer.	Black-tailed and mule deer; bald eagle; rainbow trout; ponderosa and Jeffrey pine, white pine, manzanita, chinquapin, snow-plant.
MAMMOTH CAVE Mammoth Cave, Kentucky	1941	Cave was first discovered in 1799 by white man. Used early by Indians. Saltpeter obtained here during the War of 1812.	Bats; eyeless fish; cave crawfish; cricket; above ground, broadleaved trees, Solomon's-seal, wakerobin, May-apple.
MESA VERDE Mesa Verde National Park, Colorado	1906	Pueblos supplanted pit houses 750 A.D. Classic pueblo period, 1100-1300. Drought that caused abandonment began 1276.	Mule deer, fox, mountain lion; a hundred bird species; pinyon pine, juniper; pentstemon, lupine, sweet pea, paintbrush.
MOUNT MCKINLEY McKinley Park, Alaska	1917	The first white man set foot on the mountain in 1902. The first ascent was made in 1910, by Taylor and Anderson.	Caribou, white (Dall) sheep, moose, grizzly bear, wolf; surfbird, willow ptarmigan, wandering tattler; white spruce.
MOUNT RAINIER Longmire, Washington	1899	Mountain was sighted in 1792 by Vancouver. It was climbed in 1870 by Stevens and Van Trump.	Mountain goat, marten; white-tailed ptarmigan, sooty grouse; Douglas fir, hemlock, yew, cedar; avalanche lily.
OLYMPIC 600 East Park Avenue Port Angeles, Washington	1909* (1938)	Spanish sea-captain Perez discovered Olympic Mountains in 1774. First major exploration was Seattle Press Party in 1889.	Olympic elk; extraordinary rain forest of Sitka spruce, western hemlock, Douglas fir and western red cedar; ferns.
PLATT Box 379, Sulphur, Oklahoma	1906	Locality now included in Platt was once a summer camping and hunting ground of Indians, who made medicinal use of mineral springs.	Buffalo herd, opossum, armadillo, fox squirrel; redbud, oaks, cottonwood; many species of plants; more than a hundred bird species.
ROCKY MOUNTAIN Box 1086, Estes Park, Colorado	1915	Utes and Arapaho Indians here early. 1859 gold rush brought settlement of meadows beneath Front Range. Enos Mills was park "father."	Bighorn sheep, elk, beaver; some 215 species of birds; Colorado blue spruce, ponderosa pine; Douglas fir, quaking aspen.
SEQUOIA AND KINGS CANYON Three Rivers, California	1890 1940	Established separately, these two parks are administered as one. Hale Thorp was first white man to see Giant Forest sequoias.	Sierra bighorn, pine marten, wolverine, fisher; giant sequoias up to 36' diameter, 272' high, 4000 years old; fir, incense cedar, several pines.
SHENANDOAH Luray, Virginia	1935	First explorations by Lederer in 1669. Mountain gaps were important during Stonewall Jackson's Civil War campaigns.	Woodchuck, deer, bear; ruffed grouse, turkey, tanager; oaks, hemlock; gentian, bead lily, orchids, wood lily.
VIRGIN ISLANDS Box 1707, Charlotte Amalie, St. Thomas, Virgin Islands	1956	Virgin Islands, discovered by Columbus on second voyage, 1493, were purchased by United States from Denmark in 1917.	Diversified flora of tropical forest; rich marine fauna of tropical waters.
WIND CAVE Hot Springs, South Dakota	1903	Discovery credited to Black Hills pioneer Tom Bingham; was known to Plains Indians as the "Cave of the Winds."	Bison herd, antelope, elk, deer, prairie dogs and prairie dog "towns;" many wild flowers in season; Great Plains grassland flora.
YELLOWSTONE Yellowstone Park, Wyoming	1872	Discovered by John Colter in 1807. The famous Washburn-Langford-Doane expedition of 1870 resulted in the first official national park in 1872.	Grizzly bear, moose, bison, pronghorn antelope, bighorn sheep, elk; white pelican, trumpeter swan; lodgepole pine; fringed gentian; fritillary.
YOSEMITE Box 577, Yosemite National Park, California	1890	Yosemite Valley and Mariposa Grove sequoias set aside in 1864 as State park. Later added to national park.	Great variety in five life zones—chipmunk, squirrel, water ouzel, rosy finch, grouse; giant sequoia, pines, fir, oaks, incense cedar.
ZION Springdale, Utah	1909* (1919)	Padre Escalante was the first white man to visit it in 1776. The Mormons settled near area in the 1850's, naming it "Zion."	Mule deer, cougar, coyote, weasel; roadrunner, nuthatch, golden eagle; cactus, yucca, cottonwood, pinyon, juniper, Zion moonflower.

## at Our National Parks

Size in Acres	Geology	Special Educational Opportunities
105,922	Near Lassen Peak once stood the great peak Tehama, which later was destroyed by collapse. Four park peaks are remnants, and Sulphur Works and Bumpass Hell show thermal qualities.	Is the only recently active volcano in continental United States. Hot springs, steam and sulphurous vents in Sulphur Works and Bumpass Hell areas. Chaos Crags and Jumbles are remarkable examples of volcanic violence.
51,354	Cave limestone laid down some 260 million years ago by inland seas. Rainwater later dissolved limestone corridors at five levels, followed by the deposit of dripstone.	Illustrates the two stages of limestone cave building, at five successive levels. Possesses a cave fauna of the greatest biological interest.
51,333	Erosion of massive layers of sandstone by wind and water hollowed out the caves that form the setting for the ruins seen today.	Hundreds of ruins of prehistoric pit houses and pueblo dwellings are scattered throughout twenty canyons and side canyons, and tell a story of prehistoric civilization.
1,939,493	During past ice ages, valleys and lowlands of the area were filled with glacial ice. The glaciers are presently retreating.	The only national park that is habitat for wolves and caribou. Extensive glaciers cover highest peak on the North American continent here (elevation 20,269 feet).
241,782	The lavas and sedimentary rocks of the Cascade Range were uplifted and dissected by river erosion. Then local eruptions built Rainier's cone, and extensive glaciation followed.	Excellent opportunity for study of twenty-six glaciers at work in the greatest single-peak glacial system in America. Illustrates melt-water, moraines, polished and fluted rocks, cirques and crevasses.
896,599	Sedimentary rocks (from shallow seas) and lava were uplifted to form the Olympic Mountains. Ice and water then eroded them into their present rugged forms.	Wettest climate in United States (140 inches annual rainfall) obtains here; contains finest remnant of Pacific Northwest rain forest. Ocean strip offers fifty miles of primitive coast-line for study.
912	Mineralized waters find their way to the surface here through fractures and faults in the ancient sedimentary rocks that underlie the park. Conspicuous among elements found in waters of springs are bromine and sulphur.	Located in area of rich historical interest; is example of artesian water action and principle.
259,978	Hazy story includes several periods of deposition beneath a sea and uplift, together with volcanic eruptions and glacial carving.	Offers fine and legible record of recent Ice Age glaciation. The glacial deposits at Moraine Park make it an ideal geological study site.
386,550 454,650	Huge sedimentary block of earth's crust uplifted and tilted westward, causing faulting along eastern face of Sierra. Molten rock intruded from beneath, cooling slowly into granite. Glacial ice then quarried out present valleys.	Largest groves of the world's biggest—and possibly oldest—trees, <i>Sequoia gigantea</i> ; Crystal Cave; much high mountain wilderness, including 14,949-foot-high Mount Whitney.
211,325	Volcanic materials—lava and granite—covered by sediment from a shallow sea. Mountain-building followed, with erosion again lowering the area to the present height of the Blue Ridge.	A variety of ancient greenstone (among the oldest rocks in the park) is displayed at Hawksbill Head and Stony Man Mountain; illustrates early earth history. A great variety of wildflowers are to be found in the park.
9,500	Island group which includes Virgin Islands is essentially of volcanic origin; present also are some sedimentary and metamorphic rocks; also coral reefs.	Park established in an area rich in historical significance. Eighty-five percent of acreage of St. John Island covered with tropical vegetation.
28,059	Delicate "boxwork" of cave represents veins of calcite that were deposited in crevices and cracks of the Pahasapa limestone, which has been dissolved in the cave area by percolating ground water.	Variety of rocks, minerals and geological formations in park and vicinity very large; is located on southeast flank of Black Hills, whose granites are estimated to be in excess of a billion years old.
2,221,772	Violent volcanic eruptions—primarily of rhyolite lava—covered former inland-sea sediments between older Absaroka and Gallatin Ranges. Stream erosion and glaciation followed.	Ten thousand thermal features include geysers, hot springs, mud volcanos, paint pots, pools, terraces; is an outstanding wildlife preserve. Many forests of petrified trees, some still upright.
760,951	Westward tilting of Sierra Nevada "block" (with eastern edge rising to 14,000 feet along cracks in the earth's crust) caused Merced River to cut deeply, followed by glacial carving of U-shaped valley.	Remnants of glaciers include polished granite domes, glacial "erratics," moraines, U-shaped valleys. Great waterfalls, giant sequoias, John Muir Trail.
143,254	Sheer-walled canyon cut by the Virgin River through soft sandstone. Exposed rocks are midway between those of Bryce and the Grand Canyon in age. Some faulting exhibited.	Carved by the Virgin River, deep, narrow, multi-colored, vertically-walled Zion Canyon displays "medieval" geology. "Checkerboard Mesa" illustrates cross-bedded sandstone.



## Conservation News Briefs

### Yellowstone Powerboating Regulations Win Approval

Just before the turn of the year—on December 29, 1960—the Department of the Interior made public its approval of regulations governing the use of powerboats on Yellowstone and Shoshone Lakes in Yellowstone National Park. Under the new regulations, which will become effective thirty days after their publication in the *Federal Register*, approximately twenty percent of the southern part of Yellowstone Lake—including the Southeast Arm, South Arm, and Flat Mountain Arm—will be closed to all water-craft save those propelled by hand. Entirely closed to powerboating, also, are the waters of Shoshone Lake, over the continental divide just west of Yellowstone Lake, and the Lewis River Channel, which connects Shoshone Lake with Lewis Lake to the south.

Aside from considerations of wilderness preservation and the protection of natural values in these areas, Shoshone Lake and the southern arms of Yellowstone Lake are important as nesting and wintering habitats for a number of bird species—including the rare trumpeter swan—hitherto threatened by the roar and backwash of speeding powerboats.

The National Parks Association, in common with other preservation and conservation organizations, strongly favored the promulgation of such regulations. The Association was represented at public hearings in the matter—held by the Interior Department on August 24, 1960, at Yellowstone Park, Wyoming—by Dr. Olaus J. Murie, a trustee of the Association. Dr. Murie testified in part that “there are many places where those who desire speed for its own sake . . . can have such fun,” and that a national park “should be considered a dedicated place for the more quiet, contemplative kind of enjoyment.”

### Historic Landmarks To Be Registered

The National Park Service will register historic landmarks of national signifi-

cance and interest, according to an October announcement by Secretary of the Interior Fred A. Seaton. The *National Registry of Historic Landmarks* is designed to recognize and endorse the preservation and protection of structures and sites now administered by States, public agencies or historical societies. The *Registry* will encourage private owners of historic landmarks to maintain such properties.

Federal involvement with the sites will be limited to the issuance of certificates, periodic inspection and arrangements for site owners to acquire suitable markers. The *Registry* is based on studies of the National Survey of Historic Sites and Buildings program of the Park Service. A list of landmarks and special studies of the English, French and Spanish Explorations, Colonial Development, and Advance of the Frontier are available from the National Park Service, Washington 25, D.C.

### Dates and Places

**Resources for the Future Forums.** February 2, National Park Administration in England; February 16, Regional Resources Development in Southern France; March 2, Preservation of Natural Areas in Great Britain. Brookings Institution, 1775 Massachusetts Avenue N.W., Washington, D.C. Time 2-4 p.m.;

### Mrs. George Hewitt Myers

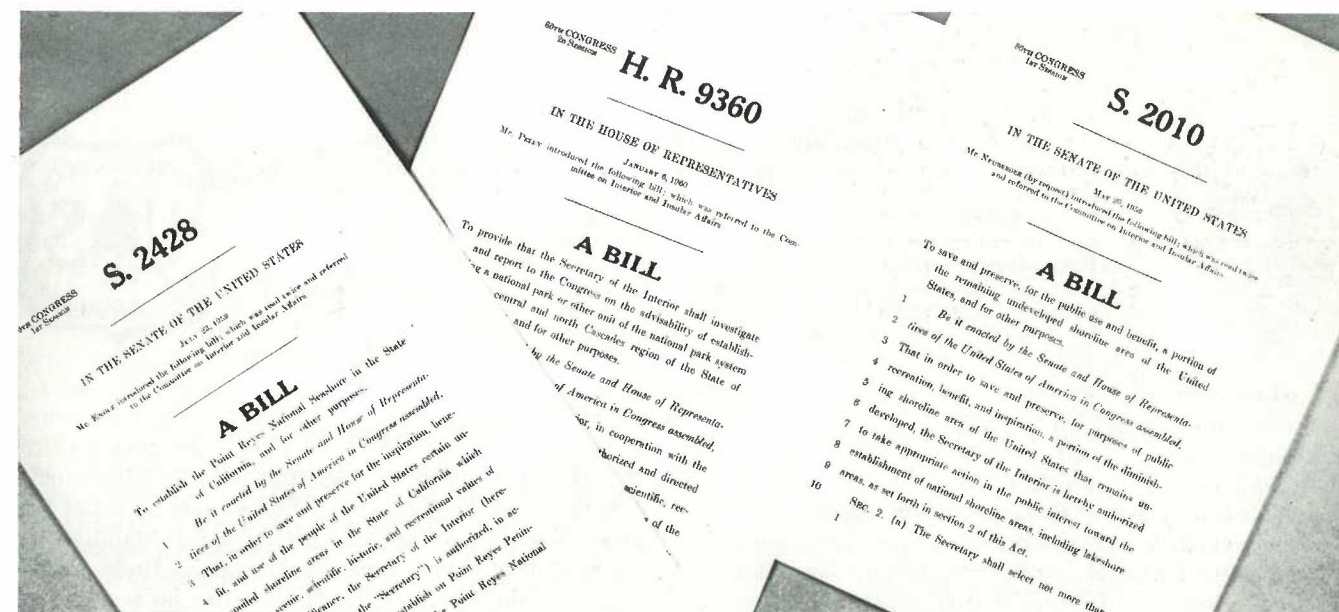
It is with deep regret that *National Parks Magazine* must record the passing, on December 16, 1960, of Louise Chase Myers (Mrs. George Hewitt Myers), long-time resident of Washington, D.C., and member of the board of trustees of National Parks Association. Deeply interested in public affairs, Mrs. Myers had for many years taken a keen and practical interest in the activities of the Association, as well as in other organizations of cultural or civic nature. She was eighty years old at the time of her death.

**American Camping Association Regional Conventions.** February 2-4, Region I, Hotel Statler, Boston, Massachusetts; February 16-18, Region VI, Granada Hotel, San Antonio, Texas; February 22-25, Region V, Savery Hotel, Des Moines, Iowa; March 2-4, Region VII, Asilomar, California; March 8-11, Region II, Sheraton Hotel, Philadelphia, Pennsylvania; **North American Wildlife and National Resources Council,** March 6-8, Statler Hilton Hotel, Washington, D.C. Theme: Planning for Population Pressures. **National Wildlife Week: March 19-25.** Theme: Multiple Use, Balanced Conservation Planning for the Future.

### Conservation Commemorative Stamp for 1961 Released During First Week in February



The eighth stamp in the Post Office Department's conservation commemorative series was released on February 2, at Salt Lake City, Utah. The new stamp dramatizes, in three colors, the development of range conservation, from open-range days to present time.



Capitol Photo Service

### A Thumbnail Sketch . . .

## How a Bill Becomes a Law

ALL OF US have, at one time or another, read news items in the papers announcing the introduction of a bill into the United States Congress. Perhaps it was even introduced by a senator from our own State, or a representative from our own district.

We also may have wondered, from time to time, exactly what a “bill” is, and what happens to it between the time it is introduced into House or Senate and the time it is either killed or passed by both houses, and sent to the President to be signed or vetoed.

A bill, in itself, is nothing more or less than a proposed law, and it may be introduced into either house of Congress. By custom, bills that provide funds for the work of the Government originate in the House of Representatives.

Since legislative procedures are quite similar in either house of Congress, let us, for the sake of simplicity, briefly follow a bill through the Senate.

After a Senator introduces his bill it is given a number—in this case with the letter “S,” as in two of the bills that

are shown at the top of this page.

The bill is then sent to one of the many standing committees of the Senate, the particular committee depending on the subject matter of the bill. The committee chairman may perhaps then refer it to a sub-committee, appointed by him to study the bill and make a report on it.

Either the committee or the subcommittee may hold public hearings on the bill, to receive testimony from interested persons or from experts in the matter under study. They may also send the bill to government agencies or departments for reports and recommendations. On the basis of its judgment, the committee may then either recommend the bill to the Senate for passage, or submit an adverse report on it. In the latter case, the bill's chance of passage in the Senate is dim indeed.

If the committee reports favorably on the bill, it is placed on the Senate calendar, and comes up for debate. A majority vote is required for passage.

If passed, the bill is sent to the House of Representatives, where it is again

referred to a committee, and again may be the subject of public hearings. The House committee then reports the bill back to the House, perhaps with amendments, or possibly with an adverse report.

The bill is listed on the House calendar; and, as in the Senate, it is debated and voted upon. If it passes the House but contains considerable differences from the Senate version, agreement may be reached between the two bodies by the appointment of a conference committee. Such differences between Senate and House are usually settled by compromise.

Should the conference committee's report prove acceptable to both houses, the bill is signed by both the Speaker of the House and the President of the Senate, and sent to the President of the United States. If the President approves, he may sign it into law; if he disapproves, he may veto it. However, the bill may still become law in spite of a Presidential veto, providing it is passed again in both houses by a two-thirds majority vote. ♦



# National Parks and National Forests



"Millions of people annually visit both national parks and national forests, or receive benefits of one kind or another from them, without realizing that there is a definite distinction between these two kinds of Federal reservations. Perhaps you are one of these, and would like to know what that distinction is."—From a leaflet prepared by the Interior Department's National Park Service and the Agriculture Department's Forest Service, entitled *National Parks and National Forests*. The statements of the two Services, as outlined in the pamphlet, are presented on this page. (Note: as of July 1, 1961, there will be thirty national parks in the national park system).



## The National Park System

NATIONAL PARKS, of which there are twenty-nine, all established by acts of Congress, and a number of national monuments have been set aside to preserve superlative examples of natural beauty permanently for public enjoyment. Geological features and all plant and animal life are carefully protected in them. The law requires that they be administered to provide for public enjoyment "in such manner and by such means as will leave them unimpaired for the enjoyment of future generations." They are thus, in a sense, great outdoor museums. Only such developments are permitted as are needed for the protection and administration of the areas or required for the comfort and convenience of those who visit them for the recreation and inspiration they offer. Research into and interpretation of the natural phenomena of these areas are an important part of the Service's work.

All animal species are given equal protection, subject to sensible controls; virgin forests remain unlogged to go through their natural cycles; grazing is limited and is being steadily decreased, with the ultimate objective of eliminating it completely; lands, with a few exceptions specifically authorized by Congress, are not subject to mineral entry; impoundment or artificialization of lakes or streams for irrigation, hydroelectric power, or other purposes is opposed in accordance with the principle recognized when the parks and monuments were exempted from the provisions of the 1920 Federal Power Commission Act. The basic policy is to preserve nature as created while providing for visitor appreciation and intelligent use.

The National Park System also includes other national monuments of historic or prehistoric significance and many areas of special historic interest in other categories. As of January 1, 1960, there were twenty-nine national parks, seven national historical parks, eighty-three national monuments, thirteen national memorials, twelve national historic sites, ten national cemeteries, five national battlefield sites, three national parkways, three national battlefield parks, one national memorial park, one national seashore recreational area, and the national capital parks—a total of 180 areas covering about 23,000,000 acres. In addition, the Service administers three national recreation areas on reservoir sites; two under agreement with the Bureau of Reclamation and one with that Bureau and the Office of Indian Affairs. ♦

## The National Forests

NATIONAL FORESTS are established by proclamation of the President, or, in some States, only by act of Congress. The earliest national forests were established by reservation of lands in the public domain. Under authorization of the Congress, lands may also be acquired for national forest purposes by purchase, donation, or exchange.

National forests are administered for the protection, development, and use of timber, water, range, and other resources in the public interest. A basic purpose is the management and protection of watersheds, to safeguard water supplies, prevent erosion, and reduce floods. Timber resources are managed to contribute toward a permanent supply of lumber and other forest products and to serve as demonstration areas of forest management for the benefit of private timber owners and operators. National forest ranges are managed to provide a sustained supply of forage for the grazing of livestock. The forests are managed also to preserve their beauty and attractiveness for the recreational enjoyment of the people; to maintain a favorable habitat for wildlife; and in other ways to make their resources contribute to the economic stability and welfare of the Nation.

All these uses of the national forests are provided for under a management principle known as multiple use. Multiple use means that most of the national forest areas yield not one but several different products or services. Thus, timber harvesting, livestock grazing, various uses of water, mining, hunting, fishing, berry picking, and similar activities may take place at the same time—each is so adjusted that it does not seriously interfere with the others. At some places, of course, one use may be so important as to give it the right-of-way over the others, and multiple-use management provides for this. The controlling objective is to maintain for the national forest as a whole a coordinated pattern or use that will produce the largest net total of public benefits.

There are 151 national forests, containing approximately 181,000,000 acres. The Forest Service also maintains nine regional forest and range experiment stations and a forest products laboratory for research into the basic facts necessary for proper management and utilization of all forest resources, and conducts programs to encourage and support better management and protection on forest lands in State and private ownership. ♦

## Employment in the National Parks

### SUMMER JOBS

Private concessioners in the national parks employ guides, cooks, waitresses, nurses, chauffeurs, bellboys, chambermaids, and salesclerks in lodges, restaurants and shops. Applicants should apply directly to the concessionaires, whose addresses can be obtained by writing to the National Park Service, Department of the Interior, Washington 25, D.C.

### STUDENT TRAINEES

The National Park Service conducts a vacation work-study program for a limited number of qualified college students. Salaries range from \$72 to \$77 a week depending upon qualifications. Applicants must have successfully completed at least one full year of academic study toward a bachelor's degree in one of the fields listed below:

*Park Ranger trainee* (men only): Major courses in natural sciences, such as forestry, biology, conservation, geology, physical geography or wildlife management.

*Park Naturalist trainee*: Major courses in botany, zoology, geology, natural history or related fields such as ecology.

*Park Historian trainee*: Twenty-four semester hours in history, including twelve semester hours in American history.

*Park Archeologist trainee*: Twenty semester hours in anthropology including one course in American archeology.

Written tests are required in order to qualify for appointment. Ask for Announcement No. 239B and Application Form 5000-AB at any post office or U.S. Civil Service regional office. Applications will be accepted until March 13, 1961.

### CAREERS WITH THE PARK SERVICE

College graduates may begin a career in the National Park Service at grade GS-5, \$4040 per year. They must have majored in one of the fields listed above, with minimum course requirements in history and archeology as specified. Protection and management of parks are among the duties of park rangers. Naturalists, historians and archeologists will work in interpretation and research. For further information, write to the Personnel Office, National Park Service, Department of the Interior, Washington 25, D.C. Specify your field of interest.

### Some Facts about Areas of the National Park System and Your Visit to Them.

In carrying out the mandate which established the National Park Service,

Government Agencies and Functions Relating to Parks and Recreation Areas	
GOVERNMENT AGENCY	GENERAL FUNCTIONS
<b>FEDERAL GOVERNMENT</b>	
Congress	Passes laws, makes appropriations, investigates
President	General direction of Executive Branch
Department of Agriculture Forest Service	Directs agricultural and forestry programs Manages national forests
Department of the Interior National Park Service Fish and Wildlife Service Bureau of Land Management Bureau of Reclamation	Directs various resource programs Manages national park system Manages federal wildlife areas Manages grazing districts and public domain Builds and operates reservoirs
Department of the Army Corps of Engineers	Has certain civil works responsibilities Plans and builds flood control and navigation projects
<b>STATE GOVERNMENTS</b>	
Legislature	Passes laws, makes appropriations, investigates
Governor	General supervision over Executive Branch
Park Board or Department*	Manages state park system
Forestry Board or Department*	Manages state forests
Wildlife Board or Department*	Manages state wildlife refuges
State Highway Department	Manages waysides and other areas along highways
*may be included in an over-all Conservation Commission	
<b>COUNTIES</b>	
Usually have some general governing group, often called commissioners	
May have park and/or recreation departments or officers, to manage parks and direct activities on playgrounds or other outdoor areas	
May manage school systems, including use of playgrounds for general recreation	
<b>CITIES</b>	
Generally have mayor, city council, and sometimes appointed general manager	
Like counties, may have park departments or officers, recreation directors, and school administration, each of which is concerned with management of particular outdoor recreation areas	

roads, trails, and campsites have been constructed by the Service where necessary. Other facilities, including hotels, lodges, cabins, and bus transportation, are provided in the larger areas by private concessioners. The Federal Government itself does not operate public accommodations or transportation. Park rangers protect the parks from fire and acts of vandalism, and perform many services for visitors. Park naturalists or historians give talks and conduct tours and this service is supplemented by many museums.

Moderate fees are charged in some areas for guides, admissions, or motor permits. These fees have been established in the belief that part of the expense of the administration should be borne directly by those who use the areas.

Rules and regulations, which must be observed, are those of good manners, and are for the protection of the natural features as well as for safety, comfort and convenience of visitors.

Obey All Park Regulations!

## CLASSIFIED ADVERTISING

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

**CAMP DENALI, MCKINLEY PARK, ALASKA**—A wilderness retreat in the shadow of Mt. McKinley. Sessions for hiking, tundra nature lore, wildlife photography, or just relaxing. Box 526, College, Alaska for brochure.

**WAMPLER TRAIL TRIPS**—Wilderness trips—hiking or riding. Year around activities at moderate prices with experienced organization. Visit California Sierra Nevada, Arizona Havasu Canyon and Chiricahua Mountains, Carmel back country and Mexico. Couples, families, groups—many come alone, make lasting friends. For details, Box 45, Berkeley 1, Calif.

**BACKWOODS JOURNAL**—Old Forge 10, New York. Camping, nature, conservation. Illustrated. Introductory, \$1.00 a year, sample 20¢. With *Birch Bark News*, \$2.00, sample 35¢.

**CANOE TRIPS**—in famed Quetico-Superior wilderness! Complete or partial outfits at low daily rates. Beginners welcome. Free canoe trip planning kit. Border Lakes, Box 569K, Ely, Minnesota.





Charles Eggert

*We must learn about those who share our world with us; we must guard against unfair proportion and thoughtless waste . . .*

National Park Service



*Learning is a natural process of youth . . . To deny these early lessons of life is to deny the fullness of later contribution.*