



TRENDS

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PETERSBURG *"Living history"*

By MARTIN R. CONWAY ●

"We'll fight it out along this line if it takes all summer." Three Youth Opportunity Corps employees at Petersburg National Battlefield might well paraphrase Ulysses G. Grant in that manner. The three, Mike Godburn, Kenneth Lee, and Richard Bryant, have been living, eight hours a day, five days a week, the life of soldiers in a quiet sector during the siege of Petersburg. The only thing missing is hostile fire and perhaps even more hostile first sergeants.

Clad in woolen uniforms, and carrying rifles, bayonets, knapsacks, blanket rolls, haversacks, canteens and cartridge boxes, the three youngsters move out smartly every morning, Thursday through Monday to set up camp at the park's Battery No. 5, about 300 yards from the visitor center. There they pitch their tent, a lean-to made of shelter halves and ponchos, and build their cooking fire. Then the work begins.

The cook for the day roasts coffee beans in a pan, pours them into the coffee can, a reproduction of the type carried by Civil War soldiers, smashes them with a piece of firewood, adds water and sugar, and hangs the concoction over the fire. A little later he starts cooking the day's dinner, which can run from army issue salt pork, beans, and hardtack to boiled chicken, roasting ears, and cornbread baked in a frying pan.

● Martin R. Conway was born and reared in Wilkes Barre, Pennsylvania. He served two years in the Army, half the time in Korea. In 1953 he graduated from East Stroudsburg State College and taught and coached for seven years in a high school at Red Bank, New Jersey, Buckingham County High School, Virginia, and Havre de Grace High School, Maryland. He has taken graduate courses at the University of Scranton and the U.S. Department of Agriculture Graduate School in Washington, D.C.



He was a seasonal Ranger at Yellowstone National Park and at Gettysburg National Military Park and in 1961 came with the National Park Service on a career basis as Historian at Gettysburg National Military Park. During his four year duty there, he was twice elected as President of the Gettysburg Civil War Round Table.

In 1966 he transferred to Petersburg National Battlefield as the Chief Historian and since February of this year he has been Acting Superintendent.

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As visitors arrive, walking along the self-guiding trail through the battery, they find the young soldiers going about their tasks — chopping firewood, preparing food — or, in the manner of soldiers everywhere — anytime, taking it easy. But with the arrival of the visitors, the camp takes on a different atmosphere. The three welcome in the visitors, show them their gear, and talk about the life of the soldier.

In a short time they become adept at breaking the ice. One woman, accompanied by several children, seemed quite timorous when confronted by three shaggy, campaign-worn young soldiers. Obviously she was wondering whether she shouldn't gather up her flock and go, quickly and quietly. Attempts at conversation only seemed to make her even more unsure. Finally, one of the lads wandered over to the cooking pot, lifted the lid, peered in, and let out a plaintive wail, "Ma'am, can you tell me if this chicken's done?"

Her housewifely instincts immediately came through. She flew into the camp, grabbed a fork, punched the chicken, and opined, "Goodness, yes. It's overdone." She and her children spent nearly 30 minutes in the camp, apparently enjoying it thoroughly.

Although the three excel at informal demonstration and interpretation of soldier life, they also have a formal talk they give periodically. In it they discuss their uniforms and how they developed from a French pattern; their field equipment and its uses; cooking, giving particular attention to sickness caused by lack of sanitation; and their infantry weapons and how they were used.

They wind up their formal talk with a demonstration of the Civil War manual of arms, the formal movements for loading and firing, and finally, fire the weapons. For firing, they use blank charges.



Richard starts cooking dinner.

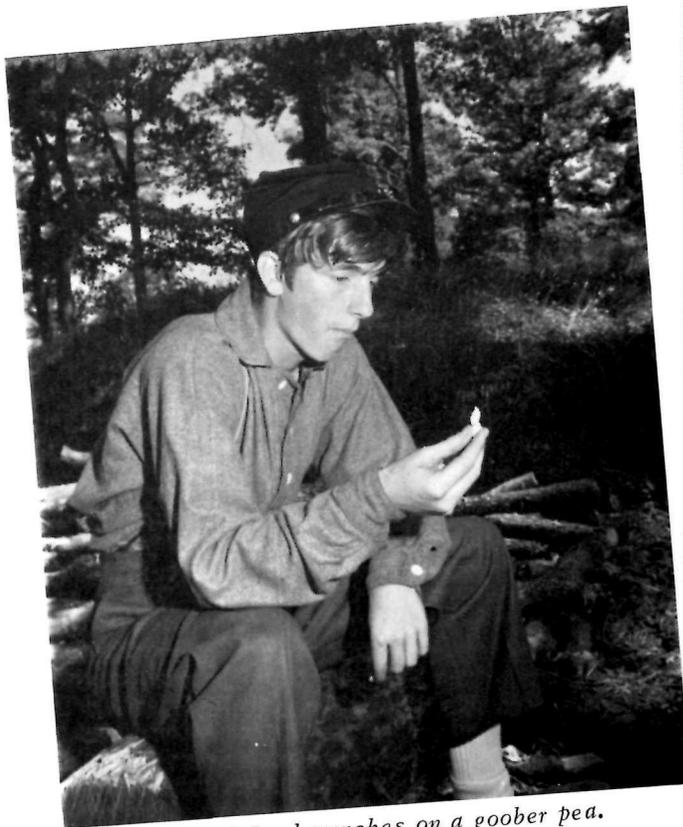
CONTENTS

	Page
Petersburg "Living history"	1
Cape Perpetua on the Oregon Coast	7
Parks or Parking	11
Philmont Scout Ranch	13
State Park Statistics - 1967	18
Park Road Standards	22
Russian National Parks	31

*Mine eyes have seen the glory of the coming
of the Lord;
He is trampling out the vintage where the
grapes of wrath are stored;
He hath loosed the fateful lightning of His
terrible swift sword;
His truth is marching on.*

Julia Ward Howe





Here Richard munches on a goober pea.



And Mike relaxes with his clay pipe.



After they pitch their tent or lean-to, food is the issue of the day. While Ken peels potatoes for the stew and Mike builds the cooking fire, Richard, the cook for the day, grinds the coffee beans for the day's brew. But before grinding the beans, Richard has to roast them in a pan and then after the grinding process with his hatchet handle or any handy piece of firewood, he adds water and sugar and hangs the concoction over the fire to brew.

In their formal talk and demonstration they have overcome one bugaboo of Civil War firearms demonstrations — giving the impression that 19th century warfare was a matter of individual riflemen hunting down individual enemy soldiers. They discuss the line of battle, the method of delivering massed, volley fire, and the psychological value of volleys. Their discussion of tactics has brought a considerable number of approving nods from officers visiting from nearby Fort Lee.

The idea of using Y.O.C. employees for such a demonstration came to Acting Superintendent Martin R. Conway early in the year. He wanted a full time demonstration program, but could not see any other way to find man day spaces for the job. He broached the idea to Charles E. Shedd, Jr., Southeast Regional Chief of Interpretation. "Pete" Shedd agreed and sought authorization for using Y.O.C. lads as demonstrators. He got it, and Marty picked his men. Marty told them they would never become effective demonstrators overnight, and in January he laid out a reading course for them. It did not contain the tactical and strategic elements of the Petersburg story; only soldier life of the Civil War in general.

Marty, a graduate of the March session of the Firearms Demonstration and Safety course, then set about finding weapons and field equipment. Most of it he purchased while on a visit to the Gettysburg area. He turned to William K.

Kay, writer-editor (Southeast Region Office, National Park Service), who had already made arrangements with a Richmond, Va. costumer to produce copies of original Union and Confederate uniforms. There was one problem, however, Kay's source turned out gray Confederate uniforms, but Marty wanted the butternut worn in the last half of the war. Finally, a Philadelphia-area military goods dealer came through with a modern copy of butternut woolen cloth. The costumer turned out the butternut uniform.

Of the three, Mike Godburn, clad in black slouch hat, butternut trousers and short jacket, and checkered shirt, is the lone Confederate. Kenneth Lee and Richard Bryant wear the dark blue "bummer" caps and fatigue jackets, the gray wool shirts, and sky-blue trousers of the Union army. They do not portray any particular battlefield scene, although troops from the opposing armies occasionally came together in informal and highly irregular truces. They simply are types of soldiers one might see on the battlefield.

Curiously, the summer's work fits into their career plans.

Godburn intends making the military his life's work and hopes to gain an appointment to the Air Force Academy. Lee wants to be an actor; Bryant wants a Park Service career.

It has been an eventful summer for the three. They were scheduled to begin work on June 17, and the American Broadcasting Company was scheduled to shoot troop scenes for its Saga of Western Man production, "Gettysburg," on June 15 and 16 at Petersburg. So the three were invited to come to work early, not as National Park Service employees, but as extras for the production. Two responded and earned actor's pay for the two days. They were assigned to two different units; one made up mainly of University of Maryland students, whose commander, a history Ph.D. candidate at that university also makes historic costumes for the National Park Service. The other, composed largely of Virginia Military Institute cadets, University of Richmond and Virginia Commonwealth University students, was commanded by a history professor from the University of Baltimore, who also makes costumes for the National Park Service.



Keeping with the times, the boys enjoy a gambling game called "keno" and bet with goober peas instead of chips. Of the three, Mike Godburn on the right, clad in black slouch hat, butternut trousers and short jacket, and checkered shirt, is the lone Confederate. Kenneth Lee and Richard Bryant wear the dark blue "bummer" caps and fatigue jackets, the gray wool shirts, and sky-blue trousers of the Union army.

Both commanders are excellent drillmasters, and the two Y.O.C. lads picked up the rudiments of drill and considerable soldiering lore, particularly from the Maryland students who have long had a reputation for excellence in drill and portrayal of soldier life.

In addition to drill, the youngsters learned a few practical aspects of soldiering. Bryant, who had been assigned in one scene to an infantry detachment supporting an artillery gun under frontal assault, later said, "They say you can get off three rounds a minute, but when the enemy comes in on you at the run, they're on you before you know it." Since a few bruises and contusions resulted from that film scuffle, Bryant may remember it with feeling.

Although the film incident is not germane to their work, they picked up impressions that were valuable to their Park Service work: the feeling of being rolled out of bed at dawn to a fife and drum; drilling in full uniform and equipment under a hot sun; forming the line of battle, advancing, firing, and withdrawing. These impressions help them interpret the life of the 19th century soldier.

That their reading program and the filming helped prepare them for their new job is attested by Bill Kay. On June 17, he began what was to be their training. "I found the job was pretty easy," he said. "Godburn, at least, knew the

drill as well as I did. Both he and Bryant had an excellent idea of the line of battle. What really amazed me was their knowledge of the camp equipment set-up for the broadcasting company. One of the youngsters commented that he had never expected to see a Sibley tent. Another said that the cooking gear was obviously officers' equipment; that no soldier could wangle space on a regimental wagon for it. One mentioned the pup tents. The other two jumped him immediately. They reminded him they were called dog tents in the Civil War. I really didn't have much to do. I went through the drill with them, answered questions, and pointed out books from which they could get additional information."

Has the program been successful? Shedd, Conway, and Kay, among others, think it has. Kay tells of one visitor who approached him on a dark, drizzly day when the Y.O.C. men had set up their camp and were struggling to keep their cooking fire going. The visitor a westerner, said that he had long been a Civil War buff and that he had planned his present pilgrimage to the Civil War parks for years. They had been everything he had expected and he had taken great pleasure in wandering around the battlefields, maps and reference books in hand. But, he continued, it was not until he arrived at Petersburg and saw the three lads camped in the rain that it had been brought home to him just what the war was like.



Resting under the lean-to made of shelter halves and ponchos, Mike is content with a clay pipe. Cigarettes were still in the future and for the most part only generals could afford to smoke cigars, so the common pleasure for the regular soldier was the clay pipe.

Cape Perpetua on the Oregon Coast

By Mrs. ELIZABETH L. HORN ●



● Elizabeth L. Horn, Director of the Cape Perpetua Visitor Center on the scenic Oregon Coast, received a B.A. in biology from Valparaiso University in 1964 and a M.S. from Perdue University in 1966.

Mrs. Horn began interpretive work in her home-state of Indiana where she served as a naturalist at Turkey Run and the Indiana Dunes State Parks. She spent the next two summers as a ranger-naturalist at Crater Lake National Park in Oregon.

Following a year of teaching biology and wildlife conservation at Central Oregon College in Bend, Oregon, she joined the Cape Perpetua staff as a naturalist during its first summer of operation. The following fall, Mrs. Horn became director of the Visitor Center and spent a busy winter planning the interpretive program for the following season, writing brochures for the Visitor Center, presenting evening programs, planning new nature trail signs, and working up additional displays for the Visitor Center.

The U.S. Forest Service administers over 186 million acres of public land. This land is managed on the principal of multiple use—that is, equal consideration is given to all resources: forage, watershed, timber, wildlife, and recreational values. With more leisure time, Americans are flocking to the National Forests to camp, picnic, hike, enjoy scenic vistas, and just relax.

However, many of these people seek even more. They want to know about the natural world around them. They are interested in seeing shy animals or finding wildflowers. They are keenly aware, as more land is developed to meet urban expansion, that the land administered by the Forest Service is theirs to enjoy. So they want to know more about how its management will benefit them.

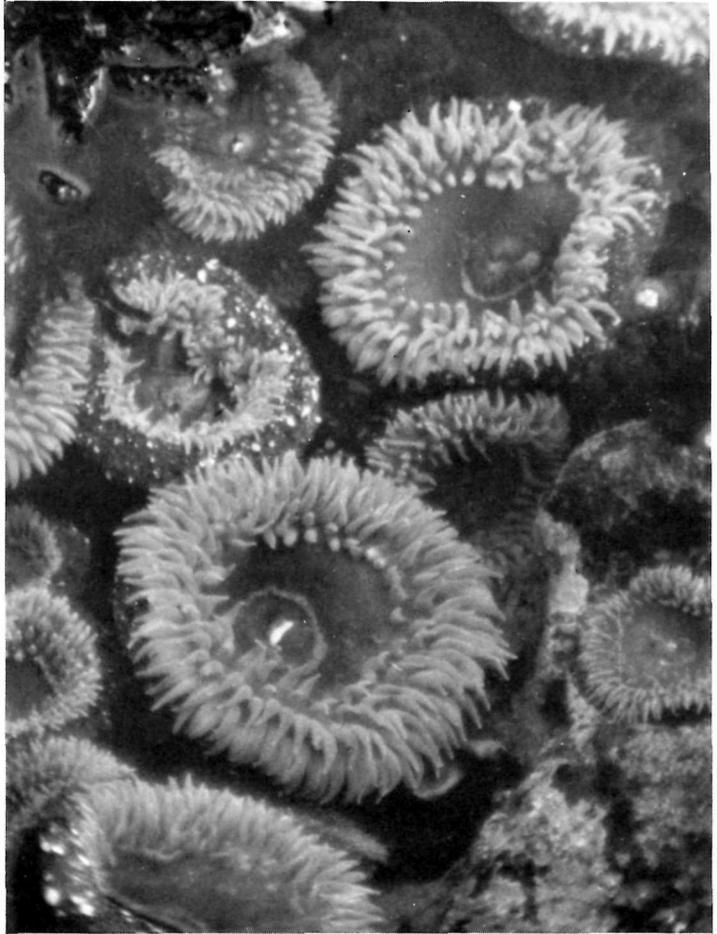
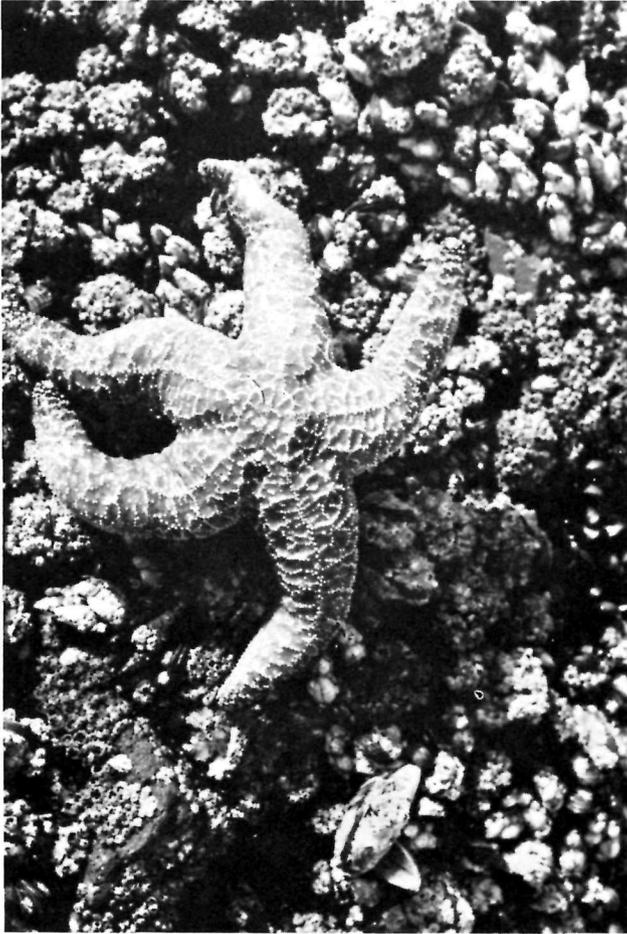
To meet the needs of these people, the Forest Service has a program called Visitor Information Service. An integral part of this program is the construction of Visitor Centers, each with a theme depicting its particular environment, whether this be desert ecology, a spectacular geologic phenomenon, or the effects of the ocean. About one dozen of these centers are now scattered throughout the United States. The centers are not simply brochure-dispensing stations; instead, they carry out a complete interpretive program and are a new type of endeavor for the U.S. Forest Service.

One of the most picturesque of these Visitor Centers is the Cape Perpetua Visitor Center in the Siuslaw National Forest.

The Cape Perpetua Scenic Area, located along the Central Oregon Coast, contains 988 acres of rugged rocky headlands, grassy slopes, timbered hillsides, and fascinating tidepools. The marine climate includes mild winters, about 70 inches of rain a year, and cool, often foggy, summers. Cape Perpetua, a huge basalt rock formation, is the highest point on the Oregon Coast, rising 800 feet above the sea. From the top, there are spectacular panoramas of the coast, north and south.

The Visitor Center, on a low rise just south of Cape Perpetua itself, has several objectives:

1. To develop a better public understanding and appreciation of local history, natural resources, and conservation needs;
2. To add to the visitor's enjoyment of the area, and
3. To satisfy the visitor's curiosity and desire for knowledge.



RECREATION AREA FACILITIES

Work on the building began in the fall of 1966 and was completed by January of 1967. Another six months was required to finish the interior of the building and the landscaping. It was opened to the public on July 22, 1967, and dedicated on August 5.

The shake-covered building seems a part of its environment and houses displays intended to carry out the theme "Forces of Nature." Much of the surrounding vegetation, with its twisted and gnarled forms, shows the effects of constant wind.

The hexagonal building contains a large carpeted viewing room. Here, windows form the western walls, giving a panorama of the restless Pacific Ocean. Various native woods panel the rest of the room. A diorama sets in the center of this room and, with timed lights and a 3-minute recording, tells of the history of Cape Perpetua. A rear-screen continuous slide projector in another portion of the room shows programs on tidepool life and local flora and fauna. A 15-minute film about the Oregon Coast is presented in a 49-seat theater. This color film was made especially to be shown at the Cape Perpetua Visitor Center and has excellent photography of marine animals, plant and animal life, storms, and other coastal wonders.

Additional displays include one of the effects of wind, complete with an anemometer and wind-blown snag, and one on the effects of water, which includes a 9-foot tube that is



"Tidepool walks are extremely popular..."

gradually filled with water-colored beads to total the coastal rainfall to date during the year. Smaller exhibits on local subjects are changed periodically.

Cape Perpetua campground is also located in the Scenic Area. Originally built by the CCC's, it is still popular. However, since it lacks trailer spurs, reconstruction is planned as soon as funds are available. Another attraction is the Devils Churn, a deep fissure in the rocks below Cape Perpetua. A trail leads down to the Churn from a paved parking area and connects with other trails or returns to the parking area.

The top of the Cape can be reached both by trail and road. A loop trail complete with nature signs is on the top.

A twenty-two mile signed auto tour leaves from the Devils Churn. It winds through the coastal forest. An accompanying brochure tells about the ecology and uses of the forest.

Six trails (the longest is one and one-half miles) lace through the Cape Perpetua Scenic Area. These trails are graveled to help them withstand intense visitor use. Four trails are signed with interpretive metal photos explaining a particular theme. One trail follows a small coastal stream, passing from dense brush to a lush patch of "rain forest" complete with nurselogs. Another, with the picturesque name "Trail of the Restless Waters", winds along the bluff beside the Devils Churn and gives a dramatic view of the sculpturing power of the ocean wind and waves. Since the trails are relatively short, they are widely used by family groups wishing

a walk in the woods, to the tidepools, or to the beach. Planned are another short loop trail and a longer 5-mile trail to an old-growth stand of Douglas-fir.

OTHER INTERPRETIVE PROGRAMS

The Visitor Center staff (consisting of a director, naturalist, and receptionist plus additional seasonal naturalists) carries out an extensive interpretive program during the summer. Three forest campgrounds along the coast have amphitheaters, each seating about 150 people. The staff goes to these campgrounds three nights a week to conduct slide programs on various natural history topics, from tidepool life to the history of logging.

Weekend nature hikes are also offered and, when tides are favorable, tidepool lectures are held on the rocks below the Center. These tidepool walks are extremely popular, with people even showing up during the early morning hours. A naturalist takes the group on a short walk from the Center to the tidepool area where tidal zonation and adaptations are explained. Informal seminars or discussions on such topics as off-shore currents, tides, and marine life are also held at the Visitor Center.

In addition, the staff presents slide talks for organizational camps located in the Siuslaw National Forest area. Scouts and other groups are guided on forest nature walks.

SUMMER VISITATION

Visitation during the first summer was good. Sundays were the busiest days. Many people from the heavily populated Willamette Valley (a one and one-half hour drive away) come to the coast for the weekend or a Sunday picnic. Between July 22 and Labor Day September 4, 1967, 17,239 visitors came to the Center. During this time the Visitor Center was open seven days a week from 9 a.m. to 6 p.m. For summer 1968 the hours are 10 a.m. to 7 p.m.

Head counts are kept by the person on the desk. This is accurate when visitation is low, but when large groups are present it becomes difficult. At the end of last summer a traffic counter was placed across the parking area entrance. A new counting and sampling method being developed should eliminate the need for a constant head count.

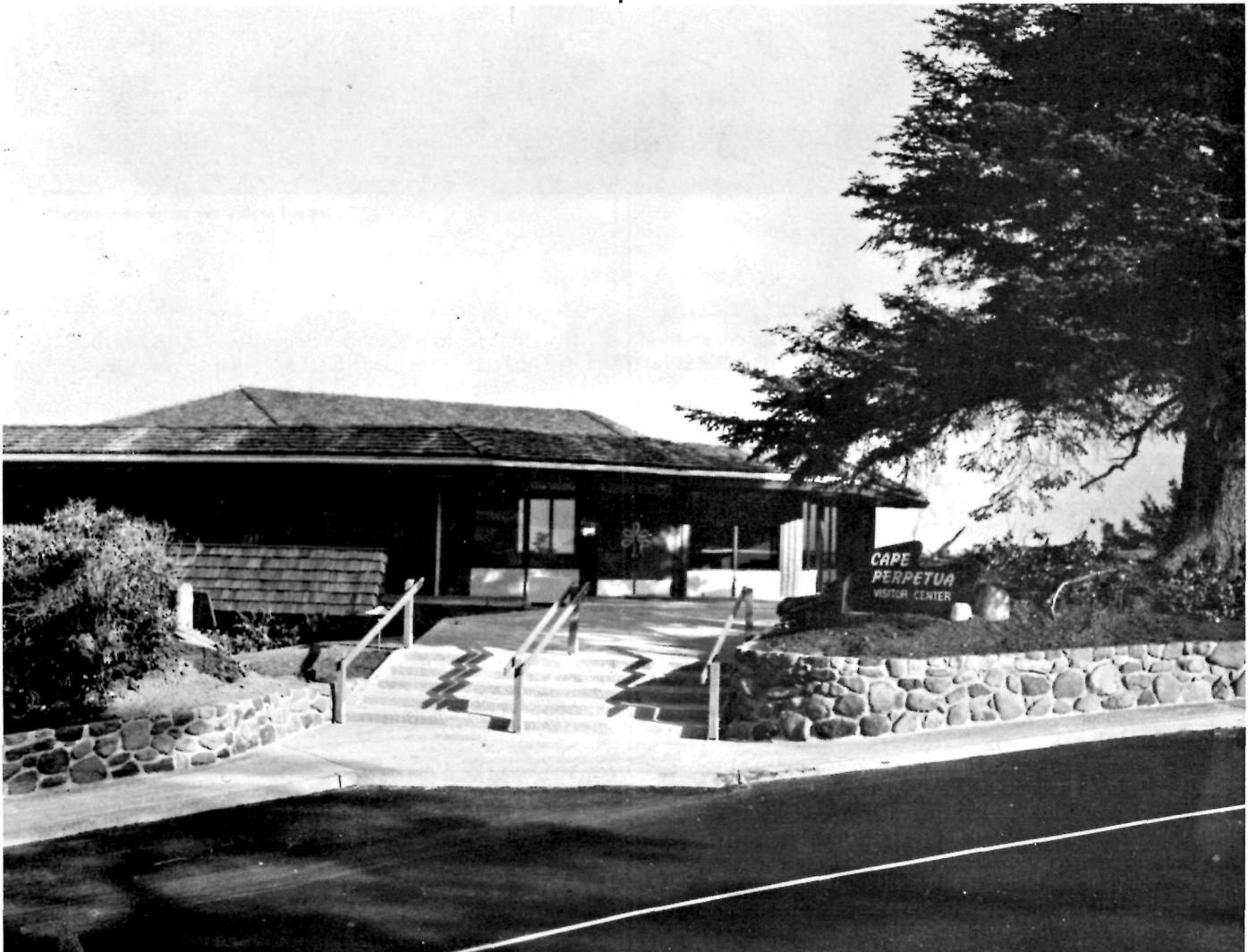
WINTER PROGRAM

During the winter the Visitor Center operates on a three-day week — Friday, Saturday, and Sunday. Weekend visitation remained fairly high. Many Oregonians take a weekend trip to the coast and many local people return periodically. School groups are encouraged to visit anytime during the week. A special slide program is available for them. Then they walk to the tidepool area with a staff member to see spiny purple sea urchins, hermit crabs, and other marine life. A worksheet on tidepool adaptations supplements the tidepool lectures.

The outstanding scenic and recreational resources found in the National Forests attract more visitors every year. Several million people use forest camps, trails, fishing areas, and other recreational sites. With most of the population living in cities, exposure to nature may be rather limited, so the forest environment gives these people a chance to appreciate the natural world around them.

The Forest Service feels a responsibility to explain forest management and ecology to their guests. The Visitor Centers throughout America help fulfill this.

The new Cape Perpetua Visitor Center





P A R K S ➔ or PARKING

By JOHN P. HEWITT ●



● John P. Hewitt, employed by The Maryland-National Capital Park and Planning Commission in various capacities since 1945, was appointed Director of Parks in 1957. As Director of Parks for The Maryland-National Capital Park and Planning Commission, he is responsible for the acquisition, development, maintenance and operation of the 919 square mile park system in Montgomery and Prince George's Counties, Maryland. At present Mr. Hewitt is Vice-President of the American Recreation and Park Society and a member of several other professional organizations. He has been the recipient of numerous local as well as National awards for park, recreation and conservation achievements.

Situated in the heart of a highly popular suburban business and residential area of Silver Spring, Maryland, a part of the Washington, D. C. Metropolitan community area, is a small piece of property which for years has remained a shady but inaccessible green spot . . . overgrown, littered with trash and surrounded by brick and asphalt.

As the business community grew, The Maryland-National Capital Park and Planning Commission realized that if this piece of property was not quickly salvaged, it too would give way to mortar and stone. With the loss of this open space, the last vestiges of green in this already congested area would be gone, along with the last remaining buffer zone dividing the business and residential community.

This spot of land, only 17,588 square feet, less than half an acre, was purchased by The Maryland-National Capital Park and Planning Commission at a cost of \$18,500. Added to this amount was \$16,450 used by the Commission for development. The result is now an oasis of green space that surrounding business and residential community leaders have called . . . "a most beautiful park" . . . "prettier than anyone had ever anticipated or even hoped that it would be" . . . "an asset and a source of pride to the community for years to come."

THE PARK SITE

The park is flanked on two sides by public streets, on the third by a small commercial area and on the fourth by commercial and residential property. Heavily wooded from the start, this little piece of property was a collecting place for the community litter—a flat space with perhaps a 3 or 4 percent grade, with the only feature of interest being tall oak trees.

When the businessmen were told that a park was going to be built on the site, they were apprehensive that this small piece of property would hardly do for a park that shoppers and residents would want to use. In fact, many of the business owners felt that the ground could be better used by clearing the oak trees and paving a new parking lot for the shoppers. Against these objections the Commission looked beyond to the future of the area and decided to go ahead with plans for the park.

OBJECTIVE

The Flower Avenue Park is intended primarily for adults who live and work in the congested business and residential community. The park is meant to provide a pleasant meeting spot where people may sit . . . and talk . . . and relax, a place set aside for the hurried businessman, the busy shopper and the strolling resident.

To achieve this interest, this small lot had to be designed with the maximum emphasis on beauty and usefulness, while at the same time, conserving the existing oak trees. Therefore, the park had to be laid out in accordance with the natural placement of trees. A sheltered area was needed as well as many park benches. Just enough light had to be provided to make the park safe at night without diminishing the privacy of the surrounding residential area.

A FOCAL POINT—ACCOMPLISHING AN OBJECTIVE

Providing the park with an intimate seating area, a sunken garden with a lighted fountain and an elevated gazebo was designed by a staff landscape architect. Soil taken from the sunken seating area was used in other portions of the park to make elevated planting areas, creating topographic variety and a natural eye movement.

Where soil was mounded around existing oak trees, gravel up to two feet in depth was placed around the roots to provide drainage.

Between the mounded gardens and the existing oak trees a natural flagstone walk leads park visitors to the pleasant sound and the lovely sight of the 6-foot high fountain, framed by the open gazebo shelter and numerous park benches. To give contrast to the heavily planted areas, large rocks were brought into the park to create additional visual relief.



PLANTING

To give a finished picture to the park, both very high and very low plant material had to be used in the right proportion between existing oak trees. The intermediate planting had to complement the existing oak tree growth and provide a natural screening from the surrounding area. Plant material was selected to provide interesting growth and eye appeal throughout the year.

To perk up the winter drabness, Canadian hemlock, American holly, rhododendron and andromeda were used. In the springtime the park will be ablaze with many colors of azaleas and white flowering dogwood. During the summer months the park will abound with planted annuals and perennials as marigolds, petunias, ageratum, geraniums, plus ground covering plants which bloom from late spring to late fall as heathers and plaubago. For added interest the gazebo columns will become a trellis for clematis and climbing hydrangea.

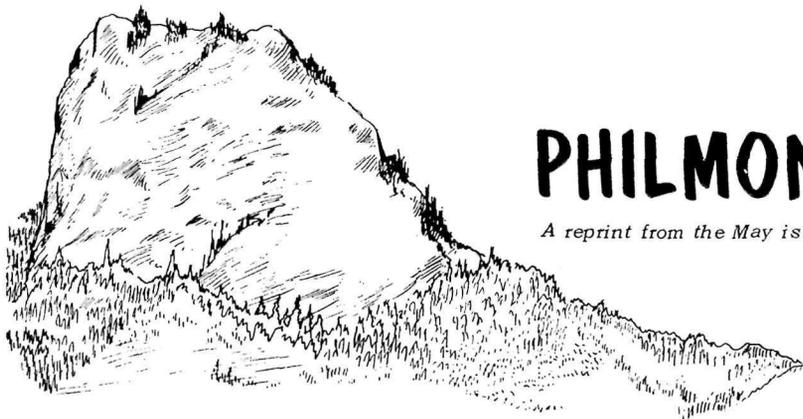
RESULTS

Indication that the Park Department and the park designers took the right approach in their plans for this park are the many residents who have written letters thanking us for the "gem of a park," and the many people in the community who have already made the Flower Avenue Park their park.

This park has been in use for just a short time, but the presence of the park has influenced nearby residents to clean up their yards and plant shrubs and flowers. Business leaders are taking note that they can do more to make their community a better place to live and work.

Providing a place to park is not enough. Creating an atmosphere of enjoyment and relaxation is just as important.

This lovely spot with its six-foot high fountain, almost became a parking lot for an already congested business and residential area. The Maryland-National Capital Park and Planning Commission saw beyond the requests of the business community who asked that this be used for parking. After seeing the finished product the community has given their full endorsement to the Commission's forethought.



PHILMONT SCOUT RANCH

A reprint from the May issue of *AMERICAN FORESTS*



By MARION CLAWSON ●

● Marion Clawson, noted conservationist, author and economist, studied general agriculture at the University of Nevada, and later received a Ph.D. in economics at Harvard University. His federal career started with the Bureau of Agricultural Economics, U.S. Department of Agriculture, where he directed extensive studies of agricultural development on major irrigation projects. He then transferred to and, in 1948, became Director of the Bureau of Land Management, U.S. Department of the Interior.

In 1953, Mr. Clawson was assigned as economic consultant to Israel, and subsequently served on similar missions to Pakistan, India, Venezuela, and Chile.

Since 1955, Mr. Clawson has been Director of the Land Use and Management Program of Resources for the Future, Inc., a nonprofit private research and educational institution financed by the Ford Foundation. A prolific writer, he has published many works in the field of conservation and recreation. Since joining PRF, Mr. Clawson



has written such publications as: *The Federal Lands: Their Use and Management, Land for the Future, Soil Conservation in Perspective, Natural Resources and International Development, Land Use Information: A Critical Survey of U. S. Statistics Including Possibilities for Greater Uniformity, The Federal Lands Since 1956—Recent Trends in Use and Management, Economics of Outdoor Recreation, Policy Directions for U.S. Agriculture, Land for Americans, Land and Water for Recreation, Man and Land in the United States, and The Land System of the United States.*

He is also co-author of *Farm Management*, written in collaboration with C.R. Sayre, Walter W. Wilcox, and the late John D. Black. Other published works include *Western Range Livestock Industry* and *Uncle Sam's Acres*. At present, Mr. Clawson is working on a study of urban expansion and its effect on the rural economy.

Philmont Scout Ranch in New Mexico may reasonably be described as an intensively managed wilderness. It may seem contradictory to refer to a wilderness as intensively managed, since many people associate "wilderness" with a lack of man's intrusion on the natural scene. However, resource managers are coming to realize that no wilderness area in the world today can be unmanaged; the policy issues revolve around the kind of management, the purposes of management, and the tools and the skill used in management. As a result of my experience on Philmont Scout Ranch in the summer of 1967, I think that it has some significant lessons or results to offer for the management of other private and public park and recreation areas.

Philmont Scout Ranch is located just west of Cimarron, New Mexico, and to the east of Taos, on the eastern slopes of the Sangre de Cristo mountains. Consisting of 137,000 acres, it is probably the largest single private landholding devoted primarily to outdoor recreation (in the broad sense of that word) in the United States, if not in the world. It is rugged mountain country. Elevations range from about 6,000 to 12,000 feet; most of the ranch is wooded, with occasional open grassy parks. Abandoned gold mines and ghost mining towns are found in various locations on the ranch. Some of the area has been logged in the past, but logging scars have healed. Its primary use today, and its best use, in my judgment, is for outdoor recreation of precisely the type which the Scouts use it for. A considerable part of

the Ranch was a gift from oilman Waite Phillips, who had used it as a hunting area.

The Ranch is considered a "wilderness" by the Scouts; emphasis is upon the natural conditions of the area, and improvements have been kept to a minimum. It would not qualify as a wilderness under the federal Wilderness Act; the Ranch is bisected by a paved highway, although public access from the highway is limited and Scouts use a stream bed under a bridge to cross under the highway without much interruption of their hiking. Unimproved roads through the Ranch provide jeep or other four-wheel drive access to most of its camps. Inside the Ranch's outer boundaries lies at least one valley with privately owned ranches and resorts. However, large parts of the Ranch are primitive in character, and conscious efforts are made to maintain its natural character.

The Boy Scouts of America value Philmont as a place for carrying out scouting programs, particularly for the somewhat older and much more advanced Boy Scout. As such, it is somewhat similar to the Scout Canoe Base in northern Minnesota. These scouting programs are highly important, but I am not going to consider them here. My interest is in the resource management program carried out at the Ranch, and the suggestions that this may offer for the management of other areas. Admittedly, the Scouts are a special user group and there are many special features of Philmont which are not, nor cannot be, duplicated elsewhere; but there are also some aspects of use of this area which might profitably be employed on other areas.

The best way to consider the resource management programs of Philmont is to start with the use Scouts make of the Ranch. Groups of Scouts or individual Scouts are urged to register for use of Philmont, months in advance of their intended arrival. Our troop registered in the early fall of 1967 for its trip in 1969. Registration this far in advance is unusual, but registration six months or more in advance is necessary in order to assure space at the time desired. Troops or individual Scouts who are going to Philmont are provided with a large body of interesting informative material, after their registration but long before they leave home. On the basis of this information, a group can plan its activities at Philmont carefully and in detail, while still at home. Many troops, including ours, put on shake-down hikes and training sessions, long before the group leaves home, both as a means of getting in shape for Philmont and as a means of testing Scouts for their capacity to carry heavy packs on long hikes.



At Philmont, the Scouts go in groups on their hikes over the ranch. A group of ten Scouts is average, but fewer or more Scouts may be included in a group. Each group of Scouts must be accompanied by an adult advisor. The best arrangement is for a single troop to send a group of ten Scouts under one of its own leaders; but a Scout Council may assemble a group of individual Scouts under an adult leader who has volunteered to accompany a group. Adult advisors vary greatly in competence, naturally, but many are experienced and capable. Scouts must be 14 years of age and ordinarily come from the higher ranks; many of them are very skilled.

Upon registration, each group is given a number—three figures representing month and day, and a letter based upon its priority of registration, as 6-25A. Mail is directed to Scouts under this number, it serves to identify their storage locker at headquarters, and generally this is its identification while at Philmont.

When a group arrives at Tent City, the staging area for Philmont, it reports to the information booth, and finds that it is expected that day and is provided for. Each group is assigned a Philmont ranger, who spends three days with his group. Rangers were formerly Scouts and all are highly experienced in scouting and outdoor activities. One of his first tasks is pack inspection, to insure that each Scout is taking necessary gear but nothing extra—the packs are heavy enough, without toting some useless equipment or junk. Each group spends its first night at Tent City, occupying tents assigned to it, and the next day starts on the trail. Each group must carry all the tents, sleeping bags, clothing, cooking utensils and other gear it needs. Food can be picked up at camps along the trail. Even with careful planning packs are likely to average close to 40 pounds apiece.

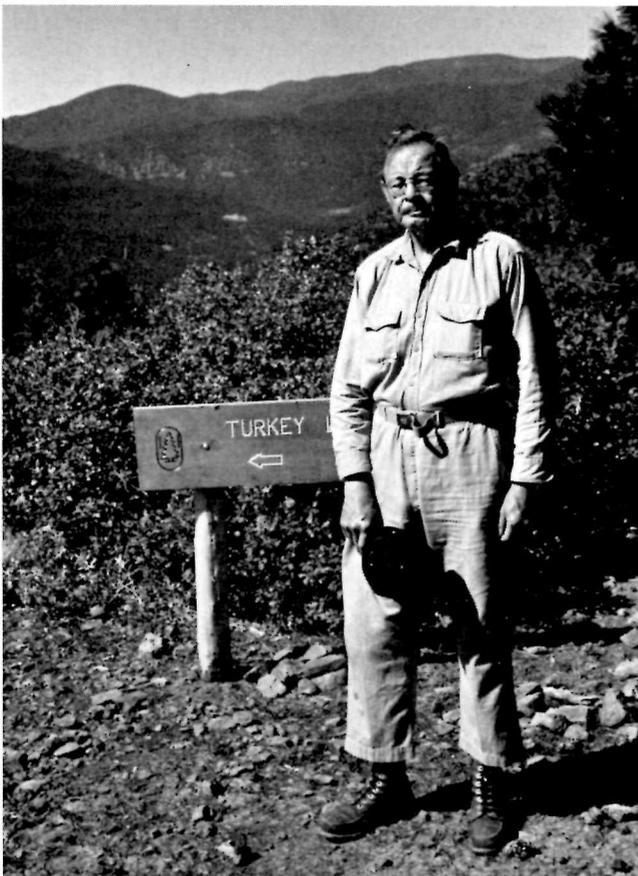
Shortly after arrival at Tent City, each adult advisor and his crew leader must sit down with a trip planner—an employee of the Ranch who knows it thoroughly. Up to the capacity of each camp, a group is allowed to plan its trip where it wishes. Many camps are no more than 5 or 6 miles apart—not too severe a hike, even in rugged mountain territory and even carrying a heavy pack. The more ambitious can go further, if they wish. Food can be picked up at many camps, so a group usually does not have to carry food for more than three days. Food comes in standardized and numbered lunches, dinners, and breakfasts; if a group is at Philmont only ten days, then it gets a different menu for each meal. For a longer stay, it repeats on earlier menus. The meals are nutritious and, as the boys say, “not too bad”—dried foods, of course, because of weight. In working out a trip plan, the trip planner points out the kinds of activities available at each camp. A group may lay over a day or longer at any camp, to rest or to undertake special projects.

Once planned, a trip must be adhered to, unless changed by consent with headquarters. Each advisor is given a copy of the trip plan, including information about food pickup and special programs at each camp. Another copy of the trip plan becomes the basis for the commissary stocking each camp with food. Should a group meet an accident on the trail, or get lost, the camp which expected it that night would immediately take necessary steps to rescue the group.

When a group arrives at a camp, the adult advisor reports to camp headquarters. The coffee pot is on the stove at most camp headquarters. After perhaps a rest, the camp director personally, or his assistant, and on foot, escorts the group to its assigned campground. He gives a little lecture on camp manners in general and arrangements in that camp in particular. He points out that the campground is immaculately clean, without a scrap of paper or tinfoil in sight anywhere; and he reminds you that it must be equally clean the next morning before he will check you out. He tells you whether the water supply has been tested for purity or whether iodine treatment is necessary; he points out the location of the latrine; he informs you about sources of wood supply. Because bears, who steal food, are a problem at Philmont, he tells you how to protect your food supply from the bears—and they are mighty ingenious at stealing food. He points out the sump where you pour your dishwater, both as a means of keeping the camp clean and fresh smelling, and as a means of reducing odors tempting bears. He

points out further that the screen over the sump must be cleaned completely before you can check out the next day. Your ranger, on the first three days, may take over some of this direction from the camp manager, and in any case supplements it by some instruction and demonstrations. Because it frequently rains at Philmont in the afternoons, he shows you how to get a dining fly up as soon as you arrive, so as to have a place to protect crew gear when it rains, and he urges everyone to get his tent up promptly so that his personal gear is under shelter.

In addition to these admonitory or directive statements, the camp director, or the ranger, or both, tells each group about the special program at that camp. At one camp it may be archeology, at another geology, or field biology, or survival in the wild, or something else. Each camp has one or more specialists in these programs— young men, usually Scouts, who have been to Philmont in earlier years and who know their subjects. Participation in these special programs is voluntary with each group, but many are very interesting and popular.



On the day your group leaves a camp, you get a member of the camp staff to check you out, before you are permitted to leave. He looks about the camp, to be sure there are no scraps of paper floating about, nor any items of gear left by a careless Scout. You are required to burn all garbage and to collect from the ashes all unburnable residues, and to put these in centrally located garbage cans. Your checkout man goes through the cold ashes of the fire very carefully, looking for the smallest scrap of tinfoil or unconsumed plastic. When you finally leave, you and he can be sure that your camp is indeed as clean as you found it.

After three days, the ranger leaves you, and you are on your own. The mechanics of getting meals, cleaning up, packing, hiking from one camp to another, getting set up again, collecting firewood, and other necessary tasks while on a hiking expedition take a lot of time and energy. But each can be fun, as well as good learning experience, even for advanced Scouts.

The management of Philmont Scout Ranch has gone to considerable lengths to preserve the natural or wilderness character of the area. The insistence on absolute cleanliness of campsites is part of this program; as the camp director points out, if each group left only one piece of paper, soon each camp would be unsightly and unusable. Camps have minimum improvements needed for the large numbers of boys using them. The toilets are pit, not flush. Tables are provided, but fireplaces are primitive. Only down dead wood may be used for fires; all cooking is over open fires.

All Scouts who hike 50 miles or more at Philmont are eligible to receive a special leather patch, which can be sewed on their packs. As might be expected, this patch is highly prized, as evidence of a major outdoor experience. In order to earn it, however, each Scout must do at least ten hours of conservation work, under the direction of a camp staff member, or under direction of his own adult advisor. Our group helped clear up windthrown trees at one site, and to build water-diverters in trails at another site. And I can testify that we worked long and hard.

INTENSIVE USE

In 1967, Philmont was used by more than 17,000 Scouts who stayed at least ten days each. These, plus their adult advisors, plus other adults on special training programs, add up to about one and a half days use per average acre on the whole ranch. This is about the present intensity of use on the whole national forest system, including use at its popular camp and picnic areas, and a thousand times or more as intensive as the use on the average national forest wilderness area. It is this high intensity of use, and the management necessary to sustain it if the area is to be maintained in a reasonably natural condition, that leads me to characterize Philmont as an intensively managed wilderness.

In 1967, Philmont Scout Ranch had about 400 employees, of all classes, ages, and specific duties. Many of these are at headquarters; in service as well as administrative jobs; but many are at the various camps, as directors, assistant directors, and program leaders. To one familiar with natural resource administration, 400 employees on 137,000 acres of land is a very high ratio of manpower per unit of area— much higher than on most federal or state park or forest areas. This high ratio of men to area is another measure of the intensity of use of Philmont Scout Ranch. It is also the reason why such intensive use is possible while at the same time the essentially primitive nature of the area is maintained. Philmont demonstrates on the ground the economist's old proposition that, within considerable limits, manpower can be substituted for land area in the production of an output— in this case, the output being Scout experience in a wilderness setting.

Most of the employees at Philmont were comparatively young— under 25 years of age, in most cases. All or nearly all of the younger men had long records of Scouting activity; many had been at Philmont as Scouts or as workers or both, in previous years. A few men, especially at headquarters, were older, both in years and in employment at Philmont. The turnover of employees is high, so that about 40 percent

of the total staff each year is new. I was greatly impressed with the eagerness, the vitality, the spirit of cooperation, the ability, and the knowledge of these young men. Out of the two or three dozen I met and worked with, I would rate only two as mediocre and none as poor. Some were quite unusual; any public park and recreational agency would be fortunate indeed to have men like this in its service. The high turnover would normally present serious problems, but this seems to be offset by the general knowledge and dedication of the young men, plus a short training session for each at the beginning of the season.



COMPARED TO OTHER AREAS

One could relate many other details of the operations at Philmont, but the foregoing includes the major features. How does this contrast with management of most public park and recreation areas?

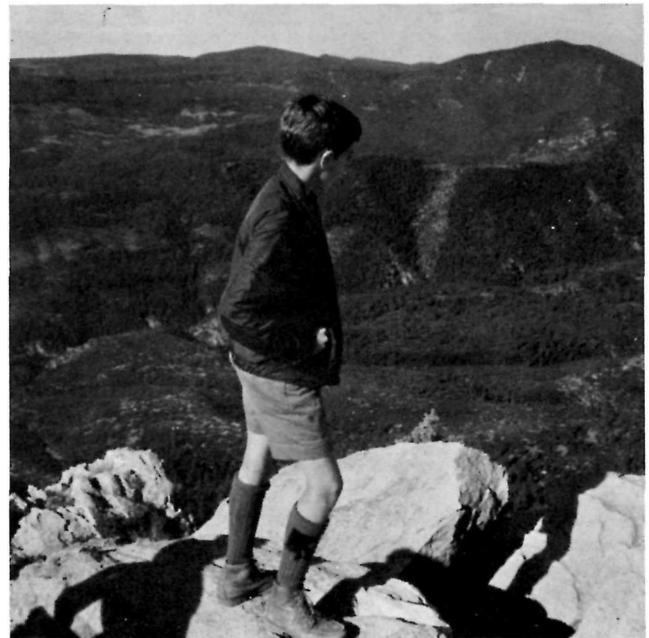
At every federal or state wilderness area or park with which I am familiar, one simply goes without advance registration. At some state parks, you may be turned away because the campground is already full; at some wilderness areas you may find more people there than you had expected — perhaps in numbers so great you would not have come, had you known there would be so many others seeking to use it at the same time. You have no assurance as to the crowding conditions at the wilderness or park area of your choice, or even that there will be space for you, because there is no advance registration; nor does the park or forest manager know how many, or whom to expect, for the same reason. Can we (the user public), or should we, expect to use the most desirable outdoor areas on a “demand” basis, when we want them, with no advance planning or preparation on our part, or on the part of the managers of such areas? One cannot usually go to the theater on this basis, and one can fly on an airplane on this basis only if there are empty seats. If Scouts can plan their use of Philmont months in advance, why cannot and why should not other users plan their use of other wilderness and park areas in advance?

Secondly, most users of federal and state wilderness and park areas arrive at the scene with relatively little information about the area they propose to visit — and with some of that, wrong. Managers of many, but by no means all, such areas have leaflets or other sources of information, but many users are unaware of what is available or have not tried to get it. Again, the lack of advance registration makes it impossible for the managers of such areas to put such information into the hands of would-be visitors before they actually

arrive at the scene. As a result of lack of information, most visitors do not know how to plan their visit and there is no “trip planner” available to sit down with them and work out the kind of a detailed trip plan which is standard at Philmont. A few highly experienced visitors do come to some wilderness areas, knowing exactly what is available and what they want; but they are comparatively rare.

Thirdly, when you drive up to the typical state park, wanting to camp for the night, you meet a uniformed employee sitting behind his desk in his office. He makes out a camp permit for you, collecting the required fee, and tells you how to reach your campsite. You rarely see him again, and then only as he is driving by in his pickup truck. He never mingles with his visitors, trying to help them and to learn from them why they do what they do — why they do what he considers antisocial actions, for instance. At the usual federal campground, you never see any employees, either when you arrive or later — even at those campgrounds where a fee is supposed to be collected or the Golden Eagle passport shown. The same is true of most federal wilderness areas. I have had direct personal experience at a considerable number of state parks and federal camping areas and wilderness areas in the past few years, and these statements reflect that experience. In perhaps no other aspect is the contrast between Philmont and the average public camp or wilderness area sharper than in this matter of the relationship between employee personnel and users. In defense of the public area employees, one must concede that their numbers, in relation to the numbers of users, is vastly fewer than at Philmont. But one can also see them sitting in their offices a great deal of the time, not visibly hard at work on pressing problems.

Fourthly, most public outdoor recreation areas, including even the most primitive unimproved campsites in wilderness areas, are filthy dirty with the accumulation of weeks or months of trivia discarded by careless and unsupervised users. The garbage cans may be emptied two or three times a week or possibly daily in very heavy use areas, if you are lucky; but the scraps on the ground are never cleaned up. When the site is already dirty, why should anyone go to much pains to keep his litter off the ground, much less to clean



up what he finds on arrival? Moreover, you can be sure that no one will be around to check you out, before you leave, so it is only your conscience and your sense of good outdoor manners which leads you to keep the site clean — and these fail all too many users. You might like to pour your dirty dishwater into a sump, but not finding one readily, you pour it on the ground, leaving the odor and the flies for the next user. Some campers, not finding a ready source of fuel for the bonfire, which they consider an essential part of camping, cut trees and shrubs in spite of strictures on the camp permit or signs posted about — but no one that I saw was ever brought to task by camp personnel, for the latter were not around. One can hardly look at any public campground or user area without feelings of dismay and perhaps disgust. But does all the fault lie with the users? Might not some of the responsibility lie with the management personnel as well?

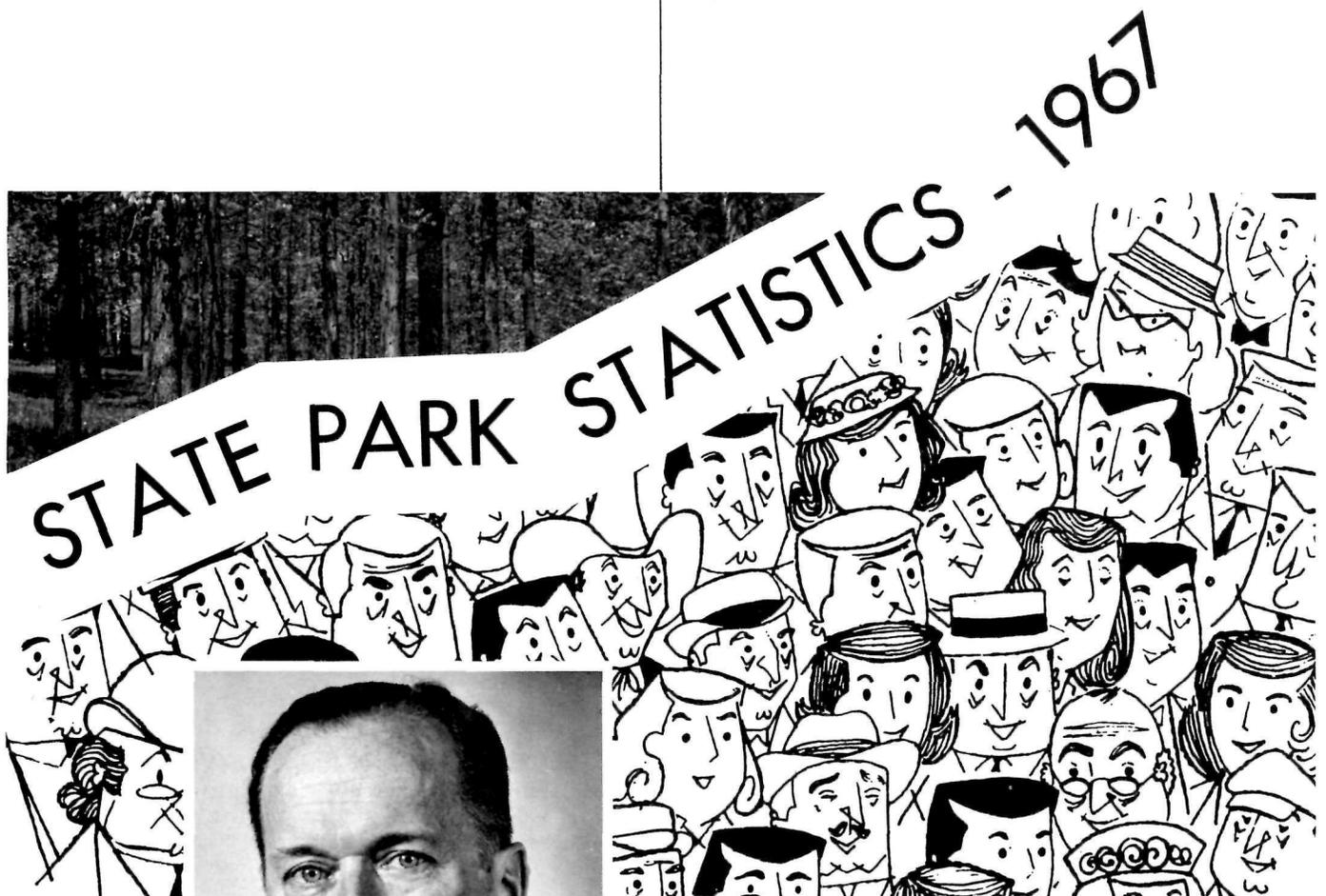
At nearly all public park, forest, and wilderness recreation areas, the visitor is strictly on his own. Some such areas do indeed have "interpretive" programs, some of which are both good from the professional viewpoint and also popular with the public. But these are unusual, and even they tend more toward museums than toward programs on the ground. The average visitor does not know the recreation, educational, and inspirational possibilities of the area he visits. On even such a humble matter as trying to find out how best to catch a few fish, he is likely to be unable to get any useful information at all. There is nothing comparable to the various programs available to the boys at Philmont, under which they get instruction in the field from someone who knows. And it is totally unheard of that the visitor should be expected to perform some conservation work under leadership, as a payment in kind for the advantages he has had.

COPYING PHILMONT'S METHOD

As I have said, Philmont Scout Ranch is undoubtedly a special case of an intensively managed wilderness; it would be hard, perhaps impossible, to duplicate its management at areas open to the general public. And an exact copying of Philmont methods might not be the best management program for such general-public areas. But I would like to suggest that the experience at Philmont should cause every federal and state park and forest agency to reconsider its management methods. Is advance registration or reservation really impractical? Could not the typical user be given more knowledge of the area, before he leaves home, so that his visit could be more meaningful? Might it not be possible to work more directly and more meaningfully with visitors, than is now the case? I realize that manpower is now limited. But I have suggested, not wholly in jest, that the average state park manager should have his pickup truck and his office chair taken away from him, and be forced to walk among his clientele and visit with them. Is it really impossible to get the general user public to practice more cleanliness and better outdoor manners generally, if professional personnel really do their part? Could not more meaningful activities be offered to users? How far, in other words, are some of the shortcomings of public use of outdoor areas to be charged to the careless and uninformed users, and how far should professional personnel critically re-examine their own management programs?

I would like to suggest that federal and state park and forest directors personally visit Philmont, and hike a few days with any group of boys, and see for themselves the features of this intensively managed wilderness area. And then, go home, and think about your own program.





by BEN H. THOMPSON
Executive Secretary
National Conference on State Parks

For more than twenty years prior to 1961 the National Park Service prepared and published annually at the request of the National Conference on State Parks a report entitled "STATE PARK STATISTICS." In 1962 the Bureau of Outdoor Recreation published the last of that series, which was entitled "State Outdoor Recreation Statistics-1962" covering a somewhat broader field than the "State Park Statistics."

Because of the need for up-to-date statistical data on State Park expenditures, sources of funds, revenue from operations, attendance, area and acreage, and personnel, the Board of Directors of the Conference urged that the Conference update the State Park Statistics and publish them as soon as possible. That has just been done. The publication may be purchased from the Conference for \$2.00.

Because of the five year lapse in the publication of State Park Statistics, the following summary prepared by Sidney S. Kennedy, long a Conference member and formerly in charge of the State Park Statistics work in the National Park Service, shows definite trends in State Park programs over the last five years. Accordingly the "Summary" is published here.

SUMMARY

State Park agencies reported substantial increases in 1967 over 1962 (the last year state park statistics were compiled) in all categories except organized camping:

Total expenditures by state park agencies	\$ 295,146,335	increase of	171.1 percent
Salaries and wages	77,087,172	increase of	80.6 percent
Supplies and equipment	36,934,706	increase of	100.5 percent
Lands	57,410,420	increase of	375.9 percent
Improvements	107,923,198	increase of	217.4 percent
Total funds available for expenditure	472,466,927	increase of	226.7 percent
Appropriations	174,428,819	increase of	76.7 percent
Other funds	298,083,108	increase of	549.7 percent
Total revenue from operations	50,083,874	increase of	89.2 percent
Operated facilities	28,226,604	increase of	80.9 percent
Concessions	5,709,534	increase of	74.6 percent
Entrance and parking fees	12,813,623	increase of	173.2 percent
Other revenue	3,334,113	increase of	18.5 percent
Total attendance	391,062,694	increase of	37.3 percent
Day visitors	354,819,049	increase of	36.5 percent
Total overnight visitors	36,243,645	increase of	50.7 percent
Hotel and cabin visitors	2,350,190	increase of	6.1 percent
Organized camping	2,054,616	decrease of	8.6 percent
Tent and trailer camping	31,838,839	increase of	69.8 percent
Total personnel	29,254	increase of	66.0 percent
Year-round employees	11,477	increase of	62.2 percent
Seasonal employees	17,777	increase of	68.6 percent
Total number of areas	3,202	increase of	29.1 percent
Total number of acres	7,352,322	increase of	27.6 percent



The upsurge in expenditures, especially for land acquisition, may be attributed to a large extent to a number of sizable bond issues, such as those in California, New Jersey, New York and Pennsylvania, and to the establishment of the Land and Water Conservation Fund in 1965.

Additional expenditure for state park purposes made by other than state park agencies totaled \$29.8 million, an increase of 254.7 percent over 1961, the last year for which figures for these particular expenditures are available.

The wide difference between the amount of \$472,466,927 available for expenditure and the amount of \$295,146,335 actually spent is due largely to bond-issue funds and some of the appropriations that are available for more than one year.

For the first time there are included in the series of State Park Statistics grants to state agencies from the Land and Water Conservation Fund totaling \$14.1 million and grants by the states to local agencies totaling \$15.6 million. Actually, the state grants to local agencies exceed this amount because in some of the states such grants are made by other than the state park agencies.

Revenues derived from park operations, including operated facilities, concessions, and entrance and parking fees, totaled \$50.1 million, an increase of 89.2 percent over 1962.

Attendance showed a substantial increase of 37.3 percent over 1962. The leading states are New York with 42 million, California with 35 million, Ohio with 26 million, and Illinois with 20 million. Other states reporting attendance between 10 and 20 million were Iowa, Kentucky, Michigan, Missouri, Oklahoma, Oregon, Pennsylvania, Tennessee and Washington in the order named.

Day use, which accounted for 90.9 percent of the visitor attendance, increased by 36.5 percent over 1962. Total overnight use increased by 50.7 percent. Tent and trailer camping increased by 69.8 percent and use of hotels, lodges, motels and cabins increased by 6.1 percent while organized camping decreased by 8.6 percent. This appears to continue the previous trend when organized camping decreased 1.3 percent in 1962 from 1961.

The states reporting overnight use of more than 2 million were New York with 5,027,878; California with 2,821,217; and Ohio with 2,305,563. Other states reporting overnight use of a million or more were Oklahoma, Michigan, Washington, Arkansas, Oregon, Indiana, Missouri, Florida, Illinois, and Texas in the order named.

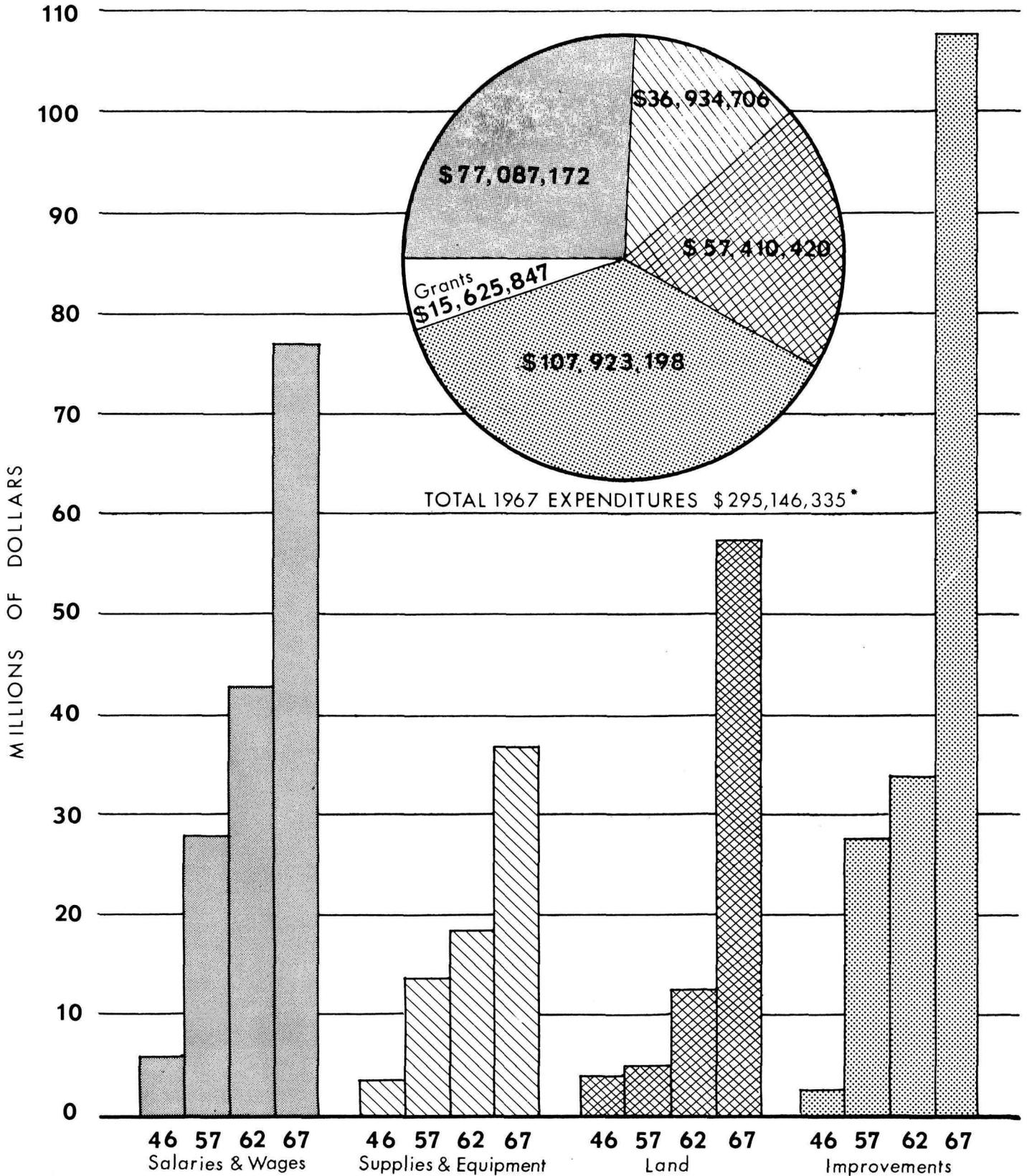
A total of 29,254 personnel were employed, an increase of 66.0 percent over 1962. Year-round employees increased by 62.2 percent to 11,477 and seasonal employees increased by 68.6 percent to 17,777. Among these employees were 1,367 year-round and 380 seasonal professional personnel. Employment of 75 consulting personnel and 216 consulting firms was also reported.

One hundred thirty areas containing 118,064 acres were reported as acquired during the year. This makes a total of 3,202 areas containing 7,352,322 acres—increases respectively of 29.1 and 27.6 percent over 1962.

If the total of \$114,021,878 spent for operation and maintenance is prorated among the number of visits, the cost per visitor amounts to 29 cents. However, the net cost per visitor is 16 cents if there is deducted the amount of revenue derived from operations. This cost is up 2 cents from the net amount of 14 cents reported in 1961.

State Park Expenditures

1946 • 1957 • 1962 • 1967

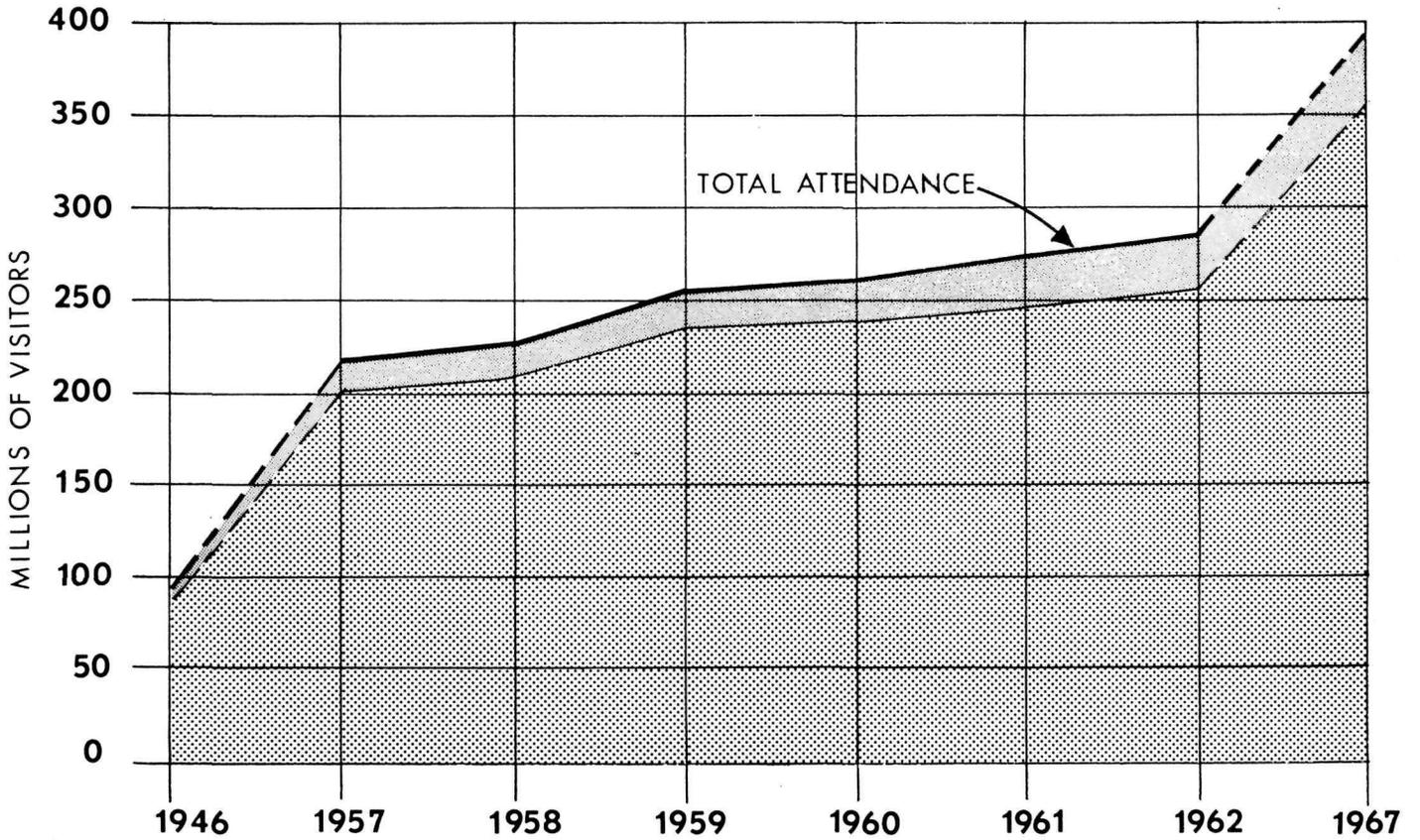


* This total exceeds the sum of the figures in the circle because Rhode Island did not report a breakdown of capital expenditures.

Attendance - 1967

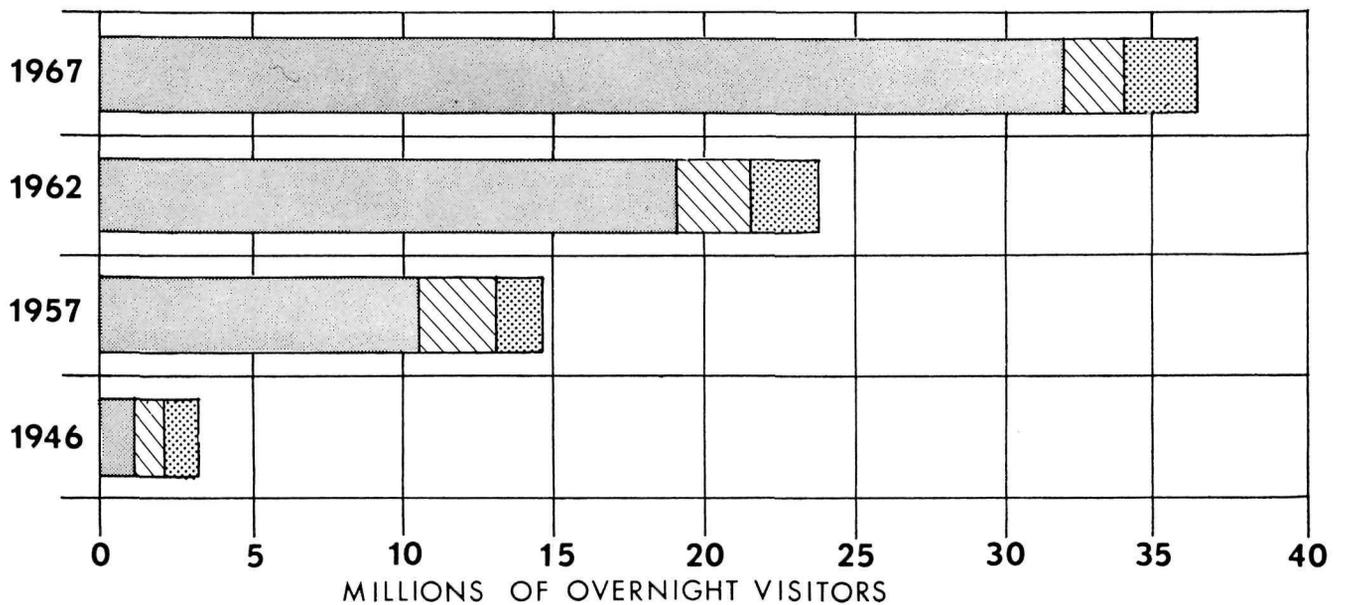
● PARK ATTENDANCE TRENDS

Overnight Visitors Day Visitors



● OVERNITE USE TRENDS

Tent and Trailer Camps Organized Camps Hotels, Lodges, Cabins



U.S. DEPARTMENT OF THE INTERIOR

park road

From a greeting card given park visitors.

If the National Parks were like the rest of the countryside, you probably wouldn't be visiting one now. The National Parks are different, though, and one reason for this is that roadways, where they exist, are planned for leisurely sightseeing.

Park roads are designed with extreme care and located with a sensitive concern for the environment. They are often narrow, winding, and hilly. At times they are little more than trails. But therein lies their appeal. These roads can take you close to America's most breathtaking places of beauty and history.

To experience a park at its best, try getting away from your car. Walk or, if conditions permit, go by horse or canoe to the more remote reaches. It is almost a truism that the slower you go the more you will see. The next best thing, for those who have neither time nor zest for roughing it, is a judicious use of park roads. Along these roads, you will find a world as varied as it is unhurried.

But park roads are for leisurely driving only. If you are in a hurry, you might do well to take another route now, and come back when you have more time.

George B. Hartzog, Jr.

UNITED STATES
DEPARTMENT OF THE INTERIOR
National Park Service
Washington, D.C.

September 8, 1967

Memorandum

To: Messrs. Ansel Adams, Ira Gabrielson, Joe Penfold, Deputy Chief Scientist Linn, and Assistant Directors Everhart and Krueger

From: Director, National Park Service

Subject: Park Roads

I have discussed with each of you my concern that the National Park Service develop standards which will guide and control the construction and use of park roads. I deeply appreciate your willingness to undertake a study of this critical segment of park management.

In most of our parks the essential key to visitor use is the park road system. It is both means and end; it enables one visitor to reach his goal, for another it is the goal.

As in the case of the management of our park resources, we find that park boundaries are not barriers. The expanding network of Federal, state, and interstate highways increasingly designates park roads as connecting links, and demands appropriate standards. Some parks, traversed by a single road, are fated for inevitable strangulation.

I do not wish to restrict your field of enquiry, but I do suggest that most careful consideration be given to the following basic elements of the problem:

1. The basic purpose of park roads.
2. Guidelines for the speed limits, design, location and standards of park roads.
3. Criteria which will define consideration of transportation systems other than park roads.

It is my hope that your study will help provide us with answers to these basic questions: What is a park road? When, where, how and why do we build a park road? And under what circumstances do we consider adoption of other means of transportation?

I am asking Assistant Director Everhart to serve as Chairman of this group, and Assistant Director Krueger to serve as liaison officer with the Bureau of Public Roads. Mr. Lowell Bridwell, Federal Highway Administration, is being invited to designate a representative to work with you on the study.

I hope that you may be able to complete your work and submit your recommendations to me by December 1.

GEORGE B. HARTZOG, JR.

JOSEPH PENFOLD
Conservation Director,
Izaak Walton League of America



IRA GABRIELSON
President,
Wildlife Management Institute

ANSEL ADAMS
Photographer and
NPS Collaborator



standards

NATIONAL PARK SERVICE

UNITED STATES
DEPARTMENT OF THE INTERIOR
National Park Service
Washington, D.C.

April 11, 1968

Memorandum

To: Secretary of the Interior
Through: Assistant Secretary, Fish and Wildlife and Parks
From: Director, National Park Service
Subject: Park Roads Standards Committee Report

You will recall that on September 8, 1967, I appointed a Committee of distinguished conservationists and members of my immediate staff to review the status of road construction in the National Parks, to define the purposes of such roads and to establish guidelines for their design and construction.

Serving on the Committee were: Joseph Penfold, Conservation Director, Izaak Walton League of America; Ira Gabrielson, President, Wildlife Management Institute; Ansel Adams, Photographer and NPS Collaborator; Charles Krueger, Assistant Director for Design and Construction; Robert Linn, Deputy Chief Scientist; and William C. Everhart, Assistant Director for Interpretation, who served as Chairman.

I believe this report will prove a significant contribution to National Park philosophy, and of enormous value to us at a time when road construction decisions constitute one of our most critical management problems.

If you are in agreement, I would like to make this report available for distribution to interested conservationists and park organizations, and to begin immediately implementation of its recommendations within the National Park Service.

GEORGE B. HARTZOG, JR.

Concurred:
STANLEY A. CAIN, Assistant Secretary, Fish and Wildlife & Parks

Approved:
STEWART L. UDALL, Secretary of the Interior

UNITED STATES
DEPARTMENT OF THE INTERIOR
National Park Service
Washington, D.C.

April 11, 1968

Memorandum

To: Director, National Park Service
From: Chairman, Park Road Standards Committee
Subject: Final Report

On September 8, 1967, as a result of your deep concern "that the National Park Service develop standards which will guide and control the construction and use of park roads," you appointed a Committee on Park Road Standards: Joseph Penfold, Conservation Director, Izaak Walton League of America; Ira Gabrielson, President, Wildlife Management Institute; Ansel Adams, Photographer and NPS Collaborator; and from the National Park Service, Charles E. Krueger, Assistant Director, Design & Construction; Robert Linn, Deputy Chief Scientist; and as Chairman, William C. Everhart, Assistant Director, Interpretation.

The Committee was asked to review the status of road construction, to define the purposes of such roads, and to establish guidelines for their design and construction. The report which follows expresses our conviction on the philosophy which should guide those responsible for policy decisions, as well as those who have design and construction responsibility.

In the quest to insure that National Parks remain places to which people go for a special kind of experience, rather than merely places for viewing famous natural wonders, the park road system is an essential key.

It is our hope that this report will be of help to you in a most difficult and complex area of park management. The opportunity to serve on the Committee, we believe, was a distinct honor.

WILLIAM C. EVERHART
Assistant Director, Interpretation

CHARLES E. KRUEGER
Assistant Director,
Design & Construction, NPS



ROBERT LINN
Deputy Chief Scientist,
National Park Service

Chairman, WILLIAM C. EVERHART
Assistant Director,
Interpretation, NPS





George B. Hartzog, Jr.
Director, National Park Service

The Purpose of Park Roads

Among all public preserves, those of the National Park System are distinguished by the quality of their natural, historical, and recreational resources—dedicated and set aside unimpaired for the benefit and enjoyment of the people.

These national parklands—mountains, deserts, seashores, lakes, forests—increasingly have become places of escape from the monotony and frustrations of urban life. And the astounding mobility of vacation travelers has brought the most remote wilderness areas within reach of millions.

Major destination points for this seasonal migration are the well-known National Parks, which are now asked to serve a volume of visitors that seemed inconceivable as recently as 10 years ago.

In 1956, there were 61 million park visits; in 1966, 103 million; in 1977, the total will be more than 300 million.

This flood of park users represent either a profound threat to park values—or an extraordinary opportunity to make those values a more meaningful part of this nation's cultural inheritance.

The single abiding purpose of National Parks is to bring man and his environment into closer harmony. It is thus the quality of the park experience—and not the statistics of travel—which must be the primary concern.

Full enjoyment of a National Park visit is remarkably dependent on its being a leisurely experience, whether by automobile or on foot. The distinctive character of the park road plays a major role in setting this essential unhurried pace.

The design and location of park roads must be in accordance with the philosophy that how a person views the park can be as significant as what he sees, thereby insuring that National Parks remain places to which people go for a special kind of experience, rather than merely places to view famous scenic wonders.

Since 1915, when the early motorists in Yellowstone were no longer required to chain their cars to logs and turn over their keys to the park superintendent, visitor activities in the parks have been geared to the automobile. Although, by an accident of history, the National Park concept reached its development stage at about the same time as did the automobile, there is no everlasting and indissoluble relationship between the two.

But in some ways, the National Parks stand at the same crossroads as do the American cities—some of which seem on the verge of choking on their automobiles. Just as noise, congestion, and pollution threaten the quality of urban life, they have begun to erode the quality of the park experience.

Many park roads are now congested, particularly around points of great interest; others have a predictably brief grace time.

There is no reason to expect that the construction of a new park road, by itself, will always relieve this congestion.

The effective size and capacity of the parks is diminished or expanded by the means of access. Paul Brooks put it this way:

If you are in a canoe traveling at three miles an hour, the lake on which you are paddling is ten times as long and ten times as broad as it is to the man in a speedboat going thirty—every road that replaces a footpath, every outboard motor that replaces a canoe paddle, shrinks the area of the park.

In many locations it is impossible to construct roads—of whatever standard—without damaging, enduring scars and obstructing the natural movement of wildlife. While many park administrators and conservationists in the past have been unalterably opposed to replacing roads with tramways, funiculars, and other such developments, in many cases these would have done far less permanent damage to the park environment.

The Service is presently conducting extensive research into the capabilities, cost, and possible effects on the terrain and equilibrium of nature, of many different methods of transporting people, including tramways, monorails, rail conveyor systems, buses, helicopters, and hydrofoils. Research on this technology—and the development of pilot programs—should be given high priority.

These forms of transportation are adaptable to park use, and many can be built without damaging resources or even tree cutting. They can also provide experiences for visitors otherwise unobtainable. The intrusiveness of roads—their cuts and fills, traffic noise, and the consequent ecological barrier—can often be avoided completely.

When the Service is faced with a choice between creating a severe road scar in order to bring visitors to a destination point, or requiring visitors to walk a considerable distance—or considering an alternate transportation system—the decision should be against the road scar.

It is quite possible that, at this point in the history of National Parks, new roads should be considered the last resort in seeking solutions to park access.

In the older parks, the road systems have been established, and solutions to circulation problems must start with this situation. Desirable solutions do exist: Speed limits can be reduced; two-way roads may convert into a

NPS Photo



"The horizontal and vertical alinement should respect the terrain,"
Natchez Trace Parkway.

total or partial one-way system; existing administrative or service roads may provide for leisurely one-way nature roads or other uses; automobiles may be limited to certain portions of a park, and bus, minitrain, or other transportation furnished.

The search for new solutions is imperative, and must not be crippled by those well worn shibboleths dealing with human behavior: "people won't walk," "they won't leave their cars," "they won't accept restrictions." The good humor of those who stood in the long, long lines at EXPO 67, and the acceptance of an advance reservation system for guided tours of the Mesa Verde cliff dwellings in 1967, effectively contradict such assertions.

Inevitably, if the park experience is to maintain its distinctive quality, the numbers of people and their methods of access and circulation will necessarily have to be more closely controlled.

Park roads cannot accommodate all types of vehicles. While the travel industry continues to develop new kinds of mobile camping vehicles, the Service must not be obligated to construct roads or to manage traffic in order that modern transportation technology can be accommodated. The development of parking areas for trailers at park entrances and the exclusion of these vehicles from those park roads not capable of handling them are appropriate solutions.

Existing park roads should be analyzed to determine the size and type of vehicles that can be accommodated. Vehicles exceeding these standards must be excluded, rather than reconstructing the roads to ever higher standards.

In this era of enormously increasing vacation traffic, it must be assumed that those who visit the National Parks do so for the purpose of enjoying a unique experience, and are therefore willing to accept necessary restrictions, including those regulating numbers of people and their means of travel. Such regulations, as necessary, may deepen the awareness of visitors that they are truly in places of special importance.

Today the facts are these: unless an open-end road-construction program were to be carried out, the National Parks cannot indefinitely accommodate every person who wants to drive an automobile without restriction through a National Park.

This does not constitute a value judgment that those who seek a hurried trip through a park are less desirable visitors and should be excluded. Obviously, many who first visited a National Park in haste have returned to enjoy leisurely visits.

The Service needs to communicate widely that parks are for leisurely travel and that park roads are purposely designed for low speeds. This information should appear on oil company road maps and in automobile association literature, as well as NPS signs and publications.

People need also to appreciate that the purposes of park roads are completely different from those of the Federal and State systems. Park roads are not continuations of the State and Federal network. They should neither be designed — nor designated — to serve as connecting links. Motorists should not be routed through park roads to reach ultimate destinations.

Within parks, no road or other circulation system should be designed simply as a connecting device to link points of interest. Every segment of every park road should relate to the environment through which it passes in a meaningful way, and should, to the extent possible, constitute an enjoyable and informative experience in itself.

For this reason long tangents which encourage faster speeds — and fleeting views of "kinetic scenery" — should always be avoided. The horizontal and vertical alinement should be taken of interpretive and scenic values.

Capital Reef National Monument



The character and pace of this jeep road should be retained.

And, the design and location of the road should constantly encourage people to leave their automobiles to more thoroughly experience the park, by providing pullouts, parking, scenic overlooks, and trail connections.

Every opportunity should be taken also to encourage the safe use of waterways for access to park features. Few resources lend themselves so well to human use, and sustained penetration of natural areas, without serious impairment of natural values. Careful consideration must be given to regulation of motorboats, for sound pollution is as destructive to the values of natural waterways as are water pollution and waterfront buildings.

The purposes of roads differ in the natural, historical, and recreational areas of the National Park System, and design standards must recognize these differences. However, the damaging effects of road construction are generally as disruptive to the historical scene as they are to the natural setting — and the effects of roads on integral values of natural features in recreational areas must be fully considered.

In summary, a road should not be considered until a most thorough and thoughtful determination has been made of the most meaningful way in which people can experience the park.

“A pleasing road is one which lies lightly on the land”



Natchez Trace Parkway

APPROVAL OF DESIGN AND CONSTRUCTION

To insure that all National Park roads, or other circulation systems, are in harmony with fundamental park purposes, the following considerations must precede approval of design and construction:

1. A professional ecological determination must be made that the resulting effects on park values — including such aspects as wildlife habitat and mobility, drainage, stream flow, and the climatic effect of paved areas — will be minimal.
2. A professional determination must be made that the means of transportation and its location will provide maximum opportunity for visitor enjoyment and appreciation of park resources. The encouragement of such activities as viewing wildlife, photography, and hiking and nature walks will be influential in determining actual locations and standards.

A park road is not one that merely conforms to standards of technical road-building excellence. Preserving the integrity of the landscape, respecting ecological processes, insuring a fully rewarding visitor experience — these are the elements which dictate the means of visitor access and the development of design standards.

On the old towpath, Chesapeake and Ohio Canal National Monument



Glacier National Park

NPS Photo by William Keller



Design Standards

Five types of park roads exist: major, minor, special-purpose, interpretive (motor nature), administrative, and parkways.

Park roads, of these varying types, are built over terrain and under climatic conditions which approach the infinite in variety: On high mountain ridges in rugged terrain — along seashore and lakeshores — from the permafrost of Alaska to the deserts of the Southwest and the Everglades of Florida — over lava fields and through rainforests. Each road problem must be influenced by the specific local conditions of climate and topography, as well as ecological and interpretive factors.

This requires maximum flexibility in working out design features, which does not permit the establishment of arbitrary standards. Instead, the following guidelines are provided, within which necessary flexibility can be reached.

Yellowstone National Park

NPS Photo by Bob Murphy



Over-snow vehicles are gaining in popularity.

DESIGN

An esthetically pleasing road is one which lies lightly upon the land utilizing natural support wherever possible. Moreover, heavy cuts and fills must be avoided. In effect, the road is molded to the terrain through which and upon which it is passing. Monotony is avoided, and maximum advantage taken of park values, by eliminating long tangents, by changes in elevation, by developing viewpoints and overlooks, as well as providing close-range views of local scenes. The road should, in fact, strive to maintain a continuing sense of intimacy with the countryside through which it is passing.

In forested terrain, clearing limits should be carefully controlled and selective cutting should be used to produce variation and indentation in the tree line. Retaining walls can reduce the height and extent of cut-and-fill slopes. In heavy mountainous terrain and under certain other conditions, serious consideration should be given to the use of trestles or bridges, tunnels, and half-viaduct sections to reduce scarring and permit movement of wildlife.

ROADWAY STRUCTURES

The design of all structures — bridges, tunnel portals, grade-separation structures, and retaining walls — should be aesthetically pleasing as well as functional and easily maintained.

“To experience a park at its best, try getting away from your car.”



Yellowstone National Park

NPS Photo by Jack E. Boucher

DITCHES AND SLOPES

The immediate roadside setting must exemplify the highest design quality in terms of blending ditches and shoulders and related tree and other vegetative cover. The objective should be a natural and attractive setting. To minimize maintenance problems, cut-and-fill slopes should be rounded, wrapped at the ends for transition, and properly seeded, fertilized, and mulched for early recovery and to control erosion.

ENGINEERING

Working within the guidelines established by scientific, interpretive, and aesthetic considerations, the engineer is responsible for providing expert engineering advice in road planning, and for constructing a road which is safe, has adequate foundation and drainage, and will require a minimum of maintenance. Engineering also includes thorough soil analysis by borings and other necessary geological determinations to assure roadbed stability.

“The decision should be against the road scar.”



Visitors must walk into the fort area at Fort Bowie.

VERTICAL ALINEMENT

On parkways, major and minor park roads, and administrative two-way roads, grades of 7 percent are normally a desirable maximum, but grades of 8, 9, or even 10 percent should be considered for relatively short distances to avoid excessive cuts and fills or to reach desirable points of interest. On one-way roads where vertical sight distance is not a problem, these requirements can be further relaxed and a more undulating gradeline used to reduce cuts and fills to a minimum and provide for leisurely driving.

DESIGN SPEED

The maximum degree of curvature permitted on a road is generally expressed in terms of “design speed” which represents the maximum speed at which a curve can be safely driven. Thus a road with a 25-mile-per-hour design speed has no curves which cannot be safely negotiated at 25 miles per hour.

Except in special cases approved by the Director, major and minor roads in natural and historical areas should have a design speed not to exceed 25 miles per hour, parkways and major roads in recreation areas, 45 miles per hour, and special-purpose or interpretive roads, 15 miles per hour.

Rigidity in laying out horizontal alinement to a uniform design speed should be avoided, by reducing the design speed to fit the terrain, with the proviso that drastic reductions in design speed should be properly signed for the safety of the driver.

“The objective should be a natural and attractive setting.”



Blue Ridge Parkway

NPS Photo by Ralph H. Anderson

ROADWAY WIDTHS

Roadway width constitutes the width of the final completed roadway extending from edge of shoulder to edge of shoulder. A road having 22 feet of pavement and 3-foot shoulders would have a roadway width of 28 feet.

Selection of the proper roadway width is made on the basis of numerous factors including existing and anticipated traffic volumes, safety, type of terrain, engineering requirements, design speed — and the purpose for which the road is being built. Pavement widths that are too narrow can defeat their own function.

The extreme outer edge of the pavement, the weakest point, carries the wheel load and tends to break down and create a raveled edge which requires constant patching and maintenance.

The width of shoulders is equally important. Shoulders which are too narrow do not provide good support for the edge of the pavement nor adequate space for pull-off in case of emergency.

Except as may be approved by the Director, roadway widths in natural areas shall be as follows:

1. Major two-way park roads should have a pavement not to exceed 22 feet plus shoulders not to exceed 3 feet.
2. Minor two-way park roads should have a pavement width not to exceed 20 feet with shoulders not to exceed 3 feet.
3. Major, minor, and special-purpose one-way park roads should have a pavement width not to exceed 12 feet with shoulders not to exceed 2 feet.
4. Interpretive (motor nature) roads should have an overall width not in excess of 14 feet.
5. Administrative roads should be of the minimum width necessary to serve the purpose of the road. In

no event may they exceed the guidelines for minor park roads.

6. Where guardrails or guideposts are required for reasons of safety, two additional feet of shoulder will be permitted.

The foregoing standards will not permit certain oversize vehicles to use such roads safely, and such vehicles should be prohibited by regulation.

RECREATION AREAS

As a rule, two-way parkways and two-way major roads in recreation areas serve functions broader than roads in natural areas, such as driving for pleasure and providing access for recreational vehicles and boats. Accordingly, where necessary to accommodate such use, roadway widths for two-way roads in recreation areas may be 24 feet of pavement and shoulders not to exceed 4 feet. Roadway widths in excess of the foregoing should be approved by the Director. In those recreation areas where the road is part of a through highway, no higher standard should be approved within the area than exists for the roadway outside the area.

Other type roads (minor two-way roads, interpretive and administrative roads) in recreation areas should be of widths specified for similar roads in natural areas.

PARKING

Parking areas, either within the system or at terminal points, are an integral part of the circulation system. The placement of parking areas where they intrude, by sight or sound, on significant features must be avoided. Moreover, the size of parking areas should be limited to the greatest extent possible for effective operation. Where large parking areas are necessary they should be broken up with plantings and screenings, if possible.

SIGNS

Roadside signing, whether regulatory, informational, or interpretive, is an integral part of the visitor experience, as well as road design. Care should be exercised to insure that the quality and design of all signing enhances the visitor experience.

ROAD SURFACES AND MATERIALS

Wherever appropriate, the color of materials used in road construction will be chosen to harmonize with the general character of the landscape. Chips used for periodic sealing and repair should be selected from appropriate rock material sources. The above is equally applicable to parking areas.

TRAIL SURFACES AND MATERIALS

A particular effort shall be made to avoid the construction of black top trails in sensitive areas such as Indian ruins and natural features, and the above guidelines for road materials will apply to trails. Elevated boardwalks, such as the Anhinga Trail, are often effective solutions, and methods of stabilizing soils should be investigated.

BURROW PITS

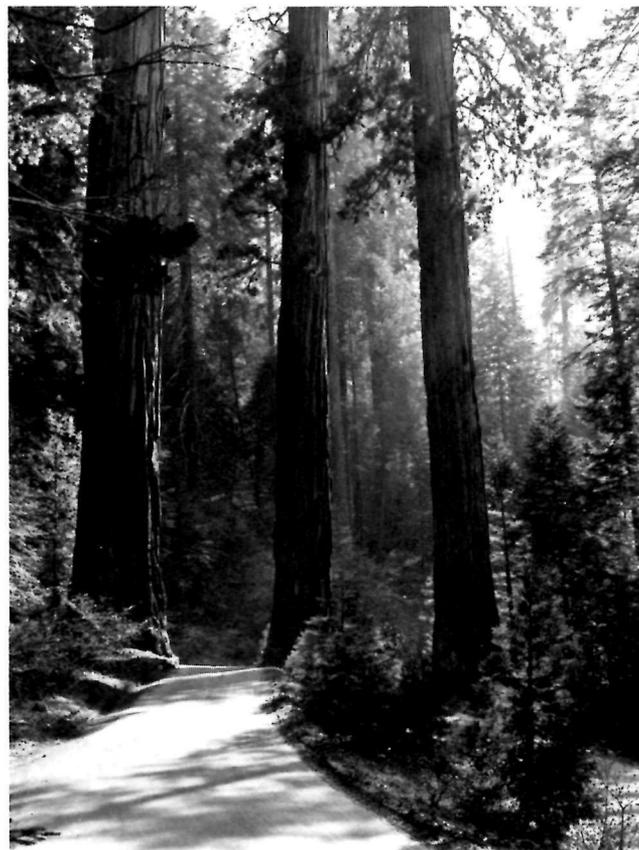
Only when economic factors make it greatly impractical will borrow pits be created in the parks, or present pits further utilized, unless located in washes or other places where natural factors will eradicate the scar.

ONE-WAY ROADS

In general, the philosophy should be followed that the primary park purposes of preservation, enjoyment, and interpretation are collectively served better by one-way roads than by two-way roads (major and minor park roads and parkways). Accordingly, one-way roads should be constructed in preference to two-way roads wherever practicable, when in keeping with the purpose of the road and these guidelines.

INTERPRETIVE (MOTOR NATURE) ROADS

An often overlooked opportunity to disperse the traffic load and to increase visitor enjoyment is to convert existing roadbeds — such as abandoned roads and railroads, fire roads, and administrative roads — into interpretive roads or motor nature trails. Their use for this purpose is encouraged. These low-speed, often one-way roads, with ample parking, viewing, and trail opportunities, encourage visitors to explore the scenery and features at a leisurely pace.

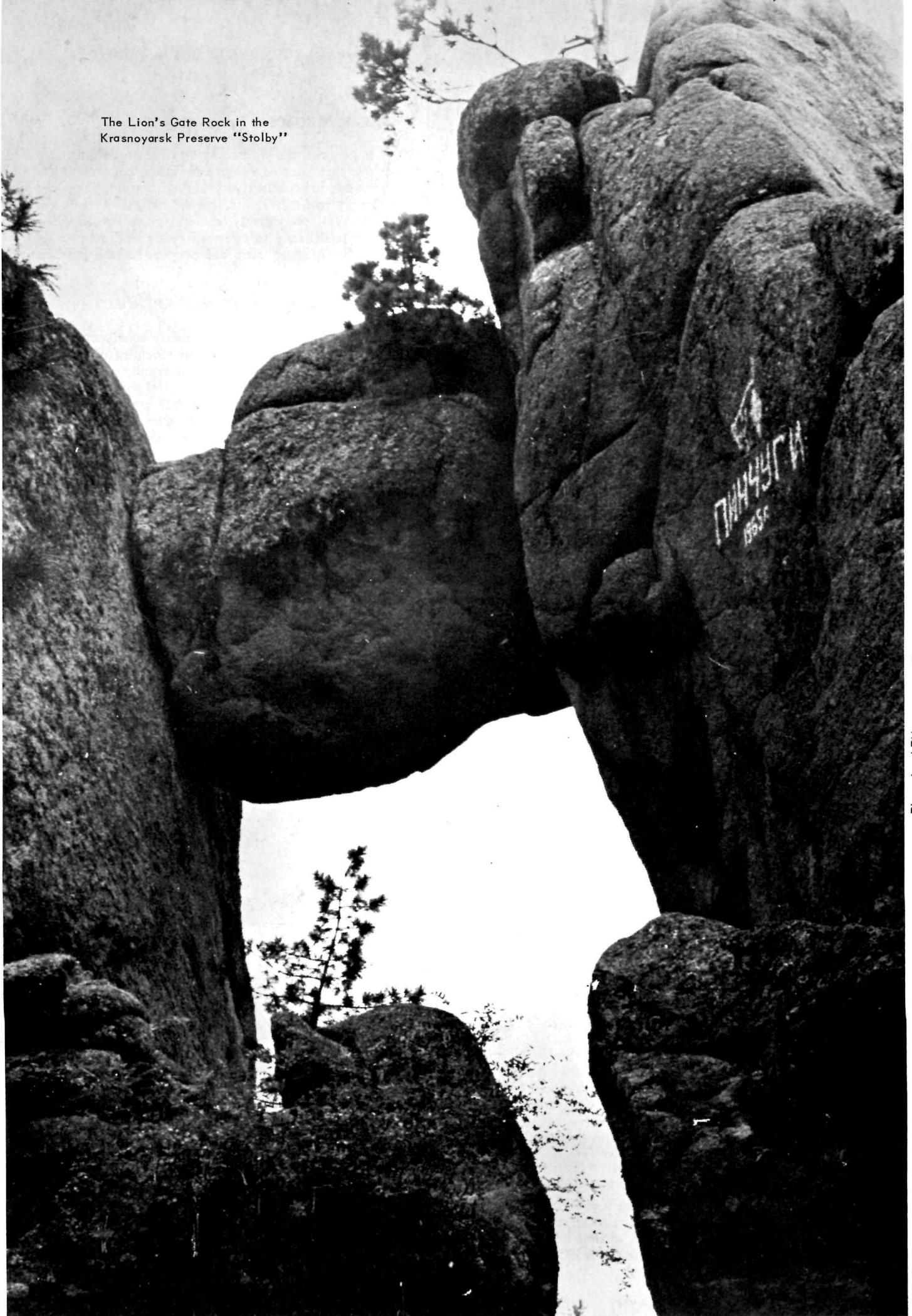


Sequoia National Park

ALTERNATE METHODS OF TRANSPORTATION

The Service must avail itself of an up-to-date, continuing analysis of all potentially useful modes of transportation. Feasible alternatives to road transportation should receive experimentation in parks or recreation areas in which serious circulation problems now exist or in which access has not yet been provided.

The Lion's Gate Rock in the
Krasnoyarsk Preserve "Stolby"



RUSSIAN



Walrus on Cape Bloss
from a photo
by B. Korobeinikov

NATIONAL PARKS

NOVOSTI PRESS AGENCY (APN)

Jn just the past five years the area of the suburban forests increased from 26.75 to 29.75 million acres," Boris Flerov, Deputy Minister of Forestry of the Russian Federation, told a Novosti Press Agency correspondent. "That is equivalent to the territory of about 250 cities the size of Moscow. Green zones have now been created around almost all the large cities and settlements of Russia."

One of the first acts of the young Soviet state was to pass Lenin's Decree on Forests. That was 50 years ago, on May 27, 1918. The decree provided for the setting aside of forests with special allocations for their maintenance. They included some forests which, as was noted in the decree, were to be of "hygienic and protective significance for populated areas." On April 23, 1943, the Soviet government passed a decision classifying forests into groups. One group included the forests of the green zones around cities and industrial enterprises. In addition, forests for park use were set aside near large industrial centers.

Forest parks occupy almost a third of the suburban green zones. They have specially equipped places where people can rest. The largest national park in the USSR, "Russki Les" (Russian Forest) is being established outside Moscow, between Serpukhov and Kashira.

The Moscow suburban forests are rich Central Russian landscapes whose coloring is unexcelled. Here birch groves are close neighbors of oak groves, dense stands of fir adjoin spacious pine groves, and marsh meadows, lakes, and forest streams are abundant. It is in one of these beautiful places in the suburbs of Moscow, on the bank of the Oka River, that the national park is being organized. Its more than 125,000

acres have been tentatively divided into three zones. One will be a scenic forest-park with the characteristic Central Russian landscape, a second will have an arboretum, and the third will feature a unique natural forestry exhibition. Feeding troughs will be set up in the park for elk and roe deer, with additional special places for stags and birds. To take advantage of the many lindens and nectar-bearing grasses, hundreds of apiaries will be placed there. By the summer of 1970, "Russki Les," in which holiday homes, tourist bases, and hotels will be built, will accommodate up to 80,000 vacationers every day.

Approximately 37.5 thousand acres of forest-park areas in Moscow Region have been reserved for the capital's industrial enterprises. The employees of 20 Moscow plants and factories work to improve the Chekhov forest. These workers go to the forest on their free days to cut openings for roads, set up benches and rain shelters, organize athletic fields, and build summer houses and pavilions.



Caucasian deer in the Teberda State Preserve.

An aurochs herd in the Caucasus.

Photo by N. Nemnonov



The Klyazma forest-park outside of Moscow; Leningrad's Razliv, Kavgolovo, Sosnovka, and Nevsky forest-parks; Shar-tash park outside Sverdlovsk; the Sher shni not far from Chel-yabinsk—these and many other have become very popular.

Collectives of industrial enterprises in the city of Ivanovo have become custodians of forest-park zone around this city, 197 miles north of Moscow. The people of Ivanovo planted a cedar grove on the Volga's bank, and built stages, stadiums and sports grounds in the forest-parks. A beach with a boating station and a parking lot was organized on the picture-sque Rubskoye Lake bank, a favorite resting place of the Ivanovo textile workers.

Protective belts have been laid out in Astrakhan, a city at the mouth of the Volga River. They extend along the roads for a distance of 37 miles. New areas are being planted along the thoroughfares to bring the total distance to 45 miles. In the western part of the Soviet Union, outside the city of Kaliningrad, the bank along the Baltic Sea is being reinforced with green areas. Tourist bases and holiday homes will be built in the Buzuluk grove and the Trans-Volga steppe. In the northern Caucasus, in Kabardino-Balkaria, the forests have been cleaned in the Valley of Narzans, and in the Elbrus region the "Baksan-Elbrus" road has been planted with greenery. The forest administration of Udmurtia, in addition to its basic forest regulation work, has equipped dozens of children's playgrounds in the suburban green zones. The administration has also built stadiums and football fields, parking areas, kiosks and summer cafes.

Green areas have been organized in the Far East around the cities of Ussuriisk, Spassk, Iman, Nakhodka, Suchan and the port of Vanino. There will also be a forest-park near Vladivostok. Hunting has been prohibited here, as has the picking of cedar nuts and medicinal and technical herbs. Open-air cages for spotted deer and feed boxes for other animals and birds will appear in the wooded area this year.

Storks in the Askaniya Nova
Reservation (Ukraine)

Photo by A. Mokletsoy



Park-forest authorities are being set up to guarantee better management of the forest in suburban zones. One of these, for instance, is being organized near Arkhangelsk, a northern city. For several years the Arkhangelsk forest managers have been working in Talagi, on Yuros, in the Little Korely and on the Vologda automobile highway. They have dried the swampy forest in the suburban zone and cleared them of dead wood. Roads and tourist paths are being laid out.

A suburban state forest has been organized in the Caucasus in Grozny. The forests in the region of Greater Sochi, on the Black Sea coast of the Caucasus, will be reconstructed.

The state has allocated considerable sums of money to improve the suburban forests and transform them into rest zones. The All-Union State Designing and Research Institute known as "Soyuzgiproleskhoz" and the All-Union organization "Lesproyekt" draw up the project plans for the forest parks. At the request of the Ministry of the Forest Economy, the State Institute on Planning the Development of Forestry is drawing up standard designs for summer houses, benches and bridges for the forest-parks.