

NATIONAL PARKS *Magazine*



North Cascades of Washington: Glacier Lake in foreground, Mount Shuksan and Mount Baker in far background

June 1967

The High Watersheds

An Editorial

THIS JUNE, VERDANT AS COUNTLESS Junes before, wide fields are being brought to harvest across all the fertile continent; fragrant hay is being made, and barley, wheat, and oats are ripening, the great granary crops on which civilization was founded.

Ingenuous equipment, mower, baler, combine, will carry most of the physical burden, directed by men skilled as much in machinery as in agriculture.

Following the plow have come reeling, killdeer, meadowlark, swallow. New fawns have been dropped in the woods and the fields; new calves in the pastures and barns. Another generation of squirrel, fox, raccoon, and 'possum have been born in the world.

Guiding the management of the farms in considerable part have been policies developed a generation ago by a group of devoted public officials, gathered into the Soil Conservation Service: Bennett, Brown, Graham, Wetzell, to name but a few.

Their mission was to help the farmers stop the wanton loss of soil which had been destroying the countryside, the erosion by water and wind, the gullies like canyons, the dust bowls.

Out of this great cooperative work came the contoured strips of hay, small grain, and corn which give so much of American land its now-familiar appearance of well-tended and enduring affluence.

As this benign work in conservation prospered, soil conservation evolved into watershed management, using small detention basins to hold back spring freshets; later on, small siltation and irrigation pools within the basins; later again, small reservoirs for flood prevention, local water supply, and quiet, high-quality, natural outdoor recreation.

These headwater networks bespoke the deep concern many countrymen feel for the land they work, for the soil, crops, wildlife, woodlands; they bespoke both an emotional and intellectual recognition of the science we call ecology; an unconscious and conscious knowledge of the interrelationships of living things, their mutual dependence, each upon all.

The watershed approach embodied

certain basic pre-suppositions: that water stored in the countryside should be used in the countryside; that the power of eminent domain, if employed, should be asserted by the locality, not the distant metropolis; that the established homes, farms, businesses and communities should be respected, and their stability and continuity protected. Local autonomy, not national authority, has always been the keystone of the small watersheds program.

Always there was a tension between watershed management and the big engineering projects which have epitomized our national river basin policies farther down the tributaries and the main rivers.

Downstream, the emphasis was on conquest, control, domination of nature. The rationale shifted: flood control by huge and destructive impoundments; navigation, supplementing an extravagant transportation system; hydro-power, now long since past its major usefulness; pollution abatement, soon to be supplanted by pollution prevention; and water supply for the super-cities, shortly to be provided by purification and recycling, not storage.

Always the big reservoirs, with their passing benefits, brought with them the death of the natural streams and valleys, the defacement caused by deep drawdowns of water, and wholesale evictions.

Cultivating their vineyards, realizing perhaps too slowly the menace which big construction posed for the countryside, for the forests, for the mountains, the country people accepted a series of unwise and semi-secret deals, during a decade and more, whereby the Army Engineers assumed control over the lower portions of the river basins, and the Soil Conservation Service devoted itself to the headwaters; but the principle of care and concern for the land, for the life-environment, cannot be restricted in its application, by secret treaty or otherwise, to any limited fragment of America; it is an imperative everywhere.

The cash nexus has always been present in these controversies: the big urban contractor, hauling steel, pouring concrete, has been the principal bene-

ficiary of the big downstream structures and their counterparts pushing out into the countryside. An army of office holders, promoting and building, organizational men with careers to make, jobs to hold, have been the other main beneficiaries. The big-dam program has acquired a life of its own, blind, callous, ignorant, contemptuous.

But Americans are having second thoughts about some of the economic and governmental monstrosities which they have allowed to arise in their midst: the Army Engineers, the Bureau of Reclamation, the Bureau of Public Roads. A horror is spreading among us at the destruction of stream valleys, farmland, marshland, and forest. Programs based on a deep-seated concern for the environment may in due course displace the destruction which now encircles us.

One place where a fundamental re-evaluation of past and present policies needs to be made is at the Fourteenth National Watershed Congress which is meeting this month in Boston. Farmers, technicians, and students of life on the land are gathering to exchange ideas and formulate policy statements on comprehensive river basin management. Watershed management, plus flood-plain zoning, plus local protection, plus depollution, should largely displace the large downstream reservoir in our national river basin policies, and this Watershed Congress, in our judgment, should say so.

Another center for policy reformulation, such as we have advocated on invitation on several occasions, would be a National Water Commission, composed of persons having no connections with the operating agencies, concerned with general policy and the broad national interest. If ever established, such a commission should examine into the deals, old and new, between watershed management and big downstream engineering, and into the reasons why the headwaters movement has not been adequately financed, while riches have been poured into the coffers of big engineering and big contracting concerns, without adequate regard for the benefits and costs to the American nation. —A.W.S.



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Front cover photograph by M. Woodbridge Williams, National Park Service

Some notion of the wilderness quality that marks the North Cascades of Washington, currently being considered as the site of a national park, national recreation area and new Forest Service wilderness area, may be gained with a glance at the front cover picture, which was taken by a member of the joint Interior-Agriculture team that studied the region a number of months ago. View was taken over the Chilliwack Group, close to the U.S.-Canada border, looking southwest to Mount Baker on the skyline with Mount Shuksan just in front of Baker. Mount Redoubt rises behind the lake. The area forms the wild northeastern corner of the proposed North Cascades National Park.

The Association and the Magazine

The National Parks Association is a completely independent, private, non-profit, public-service organization, educational and scientific in character, with over 32,000 members throughout the United States and abroad. It was established in 1919 by Stephen T. Mather, the first Director of the National Park Service. It publishes the monthly *National Parks Magazine*, received by all members.

The responsibilities of the Association relate primarily to the protection of the great national parks and monuments of America, in which it endeavors to cooperate with the Service, while functioning also as a constructive critic; and secondarily to the protection and restoration of the natural environment generally.

Dues are \$6.50 annual, \$10.50 supporting, \$20 sustaining, \$35 contributing, \$200 life with no further dues, and \$1000 patron with no further dues. Contributions and bequests are also needed. Dues in excess of \$6.50 and contributions are deductible for Federal taxable income, and gifts and bequests are deductible for Federal gift and estate tax purposes. As an organization receiving such gifts, the Association is precluded by law and regulations from advocating or opposing legislation to any substantial extent; insofar as our authors may touch on legislation, they write as individuals.

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Glacier Peak, in the existing Glacier Peak Wilderness Area of the North Cascades. View over Lime Creek across Fire Mountain.

Photograph by M. Woodbridge Williams, National Park Service

THE NORTH CASCADES

By Stephen F. Arno

DURING THE PAST FEW YEARS the "North Cascades" of Washington State has been discussed frequently in conservation circles; but perhaps "confusion" best described public knowledge of the region. Few Americans—indeed, only a tiny percentage of Washingtonians—have more than a vague idea of what this mountainous tract is really like. Part of the area is being considered for a big national park, yet the public, as well as many of those involved in the debate, pro and con, does not know the character of its topic. That is, "Just what is the North Cascades?" Perhaps the sketch that follows can help clarify the nature of this superb and mysterious domain.

Weldon Heald described the North Cascades in a 1949 book, *The Cascades*, as: ". . . packed solidly with hundreds of square miles of soaring peaks massed together in lines, groups, and knots. They rise steeply thousands of feet from narrow valleys clothed in a jungle-like growth of huge evergreens and tangled underbrush . . . Hundreds of glaciers mantle the summits, hang high in cirques under rocky ridges, and stream down the mountainsides into the valleys. . . . And hidden away among these twisted, convoluted mountains are enough lakes, meadows, waterfalls, alpine basins, and sweeping panoramas to keep the lover of the outdoors busy for a lifetime."

The North Cascades is the entire width of the Cascade Mountain System in Washington between Stevens Pass on U.S. Highway 2 and the Canadian border, about 85 airline miles. Although the Cascade Chain is 700 miles long, extending from northern California to British Columbia, the North Cascades is its only extensive stretch of spectacularly high and jagged peaks. The mountains here are precipitous granite alps more like the European Alps than other ranges in the United States proper. Although other mountains in the 48 adjacent States are often advertised as being our "finest alps," those which are as rugged or as expansive as the North Cascades have few if any glaciers—an outstanding feature of the European Alps. About half of the roughly 1000 glaciers in the United States proper are in the North Cascades. The Skagit River drainage alone harbors about 270 active glaciers.

The high Sierra Nevada and ranges of the Rockies extend in two directions, leaving lowlands visible to the east and west, but from a point amidst the North Cascades the traveler beholds a vast sea of peaks extending to the horizon in all directions. North Cascade summits jutting above

timberline extend across an east-west distance of almost 100 miles near the International Boundary, and the high part of the system is 70 miles wide near Stevens Pass. Thus the North Cascades is a rugged block of country larger than Connecticut and Rhode Island together and, although 3 million people live within about 70 miles of this area, it is relatively little known and there is yet no road across it (the cross-state scenic route is just being constructed through the area).

Weldon Heald and several other naturalists have recognized these icy heights as the "finest alpine country in the United States." Geography, climate, and flora and fauna combine to make this region one of splendid scenic and scientific value. Most of the lofty alps here are between 8000 and 9000 feet in altitude, but many of the intervening valleys are about 2000 feet elevation; so the average relief of the tall mountains is around 6000 feet—more than a vertical mile. This compares with average relief of about 4500 feet for the mountains in Glacier National Park. Moreover, the North Cascades are mostly granite, providing solid footing for mountaineers and presenting an appearance that contrasts with the sedimentary mountains of Glacier Park and elsewhere.

Volcanoes and Glacial Ice

Two huge volcanoes, Glacier Peak (10,528 feet) and Mount Baker (10,750 feet), rise out of the North Cascades, long glaciers streaming down their flanks. These, and several of the alps, have local relief of 7000 to 8000 feet, more than the Grand Teton of Wyoming. Lake Chelan, on the east side of the Cascade Divide, is a 50-mile-long sinuous ribbon of deep blue, like a fiord pinched beneath mountains whose summits rise up to a mile and a half above its cool water. The lake is natural, and it rests in a glacial trench whose bottom is 400 feet below sea level.

The Cascade and Olympic "rain shadows" in Washington are the most pronounced of any in the 48 States. Much of the charm of the North Cascades is in the diversity provided by the unusual climate. Storm systems sweep in from the Pacific via the Straits of Juan de Fuca and Puget Sound, dumping great quantities of precipitation on the maritime slope of the North Cascades. But this mountain system is so high and wide that it milks most of the moisture out of the storms by the time they are half-way across it.

Mr. Arno is a graduate student in forestry (University of Montana) specializing in recreation, with a particular interest in the field of natural history interpretation.

Deep valleys on the west side of the North Cascades receive about 130 inches of annual rainfall; mountain slopes here get up to 190 inches, according to Weather Bureau estimates. This precipitation, much of which comes as snow, is thought to be topped in the adjoining States only in parts of Olympic National Park. In contrast, equally high peaks on the east side, or Okanogan Cascades, get just 30 to 40 inches of precipitation each year. Desert-like country at the base of these eastern Cascades receives under 10 inches of annual rainfall.

The steepness of the North Cascade mountains coupled with their rain-shadow effect has allowed a great variety of environments to develop in close proximity, both horizontally and vertically. For instance, glaciers up to three miles long coat the high country of the maritime mountains. Sometimes they lie entirely within the forest belt, below tree limit. The regional snowline, or lower limit of perpetual ice and snow, is as low as 6000 feet. The weather station at Paradise, just south of this region on Mount Rainier, recorded the North American record seasonal snowfall of 1000.3 inches (83+ feet) a decade ago. Large drifts of snow still blocked the road below 4742-foot Austin Pass in the maritime North Cascade in mid-August of the comparatively mild 1966 season!

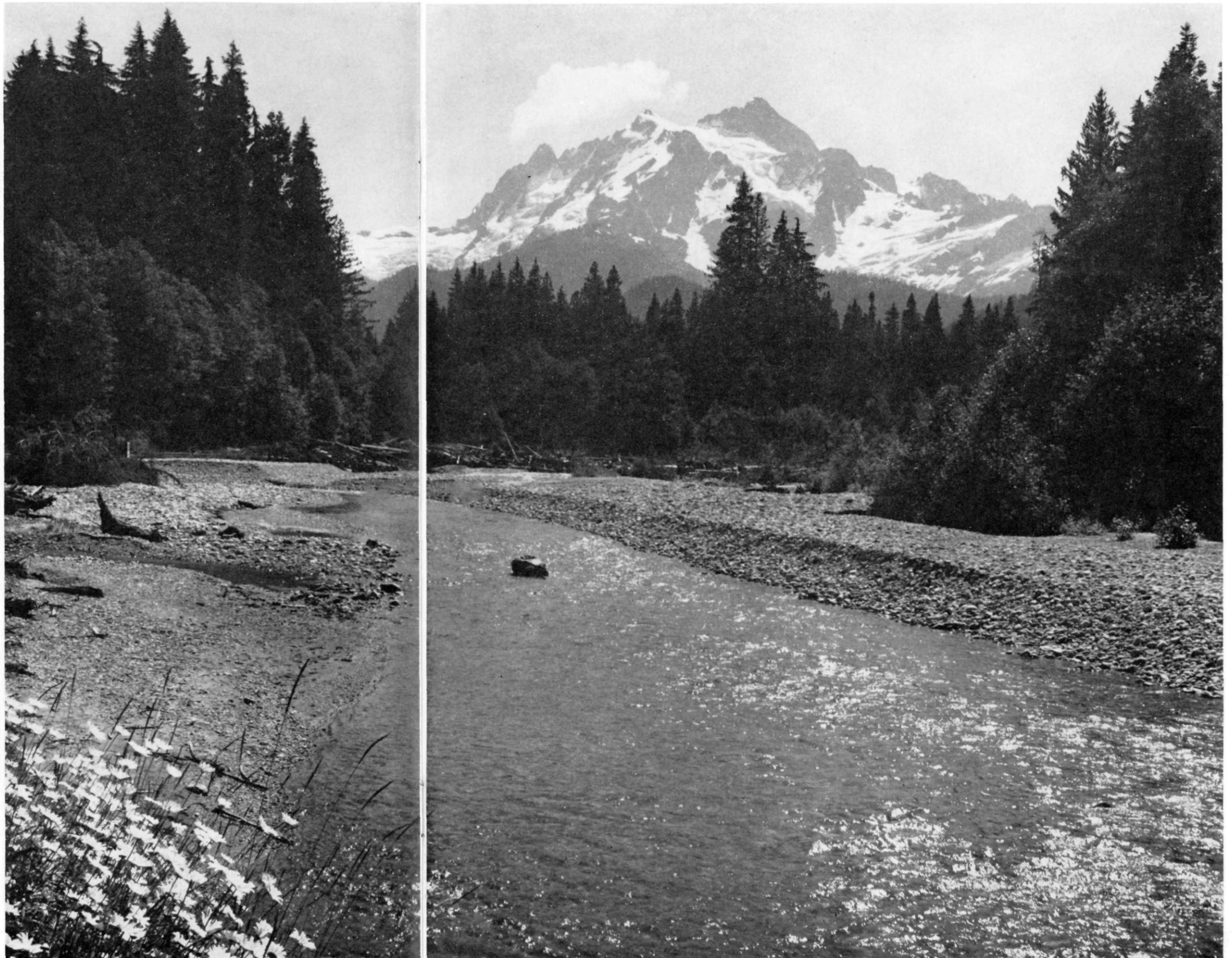
At the same time motorists could easily drive up the highest road in the State to 7488-foot Slate Peak, on the Cascade Divide in the center of these mountains. Dozens of miles farther east among this ocean of peaks there are not even any glacierets, and permanent snow patches are rare though the mountains are up to 8800 feet high. A climber standing atop the eastern Cascades in sunshine can often see a bank of clouds 50 miles to the west dissipating itself over this expansive barrier.

Forest line—upper limit of the contiguous forest—is about 4500 feet on northern exposures in the maritime North Cascades, near 6000 feet in the main divide region, and at about 7000 feet on similar exposures in the rain-shadow mountains.

The vegetation of the maritime slope is lush, even "rank," with stands of massive Douglas fir and other trees. The timberline flora is similarly luxuriant, with the North Pacific's graceful mountain hemlock and Alaska cedar as abundant trees. The rain-shadow vegetation, however, is scattered and characteristic of semi-arid country. Sunny stands of ponderosa pine occupy the valleys, and the timberline zone is composed of spreading whitebark pine, the rare conifer called alpine larch, and others. Alpine larch

Photograph by M. Woodbridge Williams, National Park Service

Mount Shuksan, in the northwestern part of the proposed North Cascades National Park. The view looks up the North Fork of the Nooksack River into the park from outside the proposed boundary.





Photograph by M. Woodbridge Williams, National Park Service

Looking north down the Middle Fork of the Pasayten River in the proposed Pasayten Wilderness east of suggested park.

occupies the highest crags and turns golden before shedding its needles in early autumn, giving the mountains special beauty.

The alpine habitat (above tree limit but below regional snowline—the tundra zone) of the North Cascades is extensive. One contiguous area above timberline just north of Cascade Pass covers roughly 50 square miles, and another, in the vicinity of Glacier Peak, is close to 100 square miles. Dozens of square miles of glaciers, many of which are holding their own or even growing, are found here. The snout of the Chocolate Glacier on Glacier Peak advanced an average of 200 feet per year for a five-year period in the last decade.

Animals abundant in the North Cascades include black bear, hoary and yellow-bellied marmots, pika, coyote, cougar, bobcat, and others. Approximately 3000 mountain goats, about half of those in the 48 adjacent States, live in the Cascades between Mount Rainier and the International Boundary. Bighorn sheep inhabit an area of the rain-shadow zone and mule deer are abundant there. Columbian black-tailed deer occupy the maritime mountains. There is

a wide variety of birds highlighted by ptarmigan and eagles.

Despite the region's similarity in many respects to the European Alps, it has attributes superior to them. The North Cascades are at a more comfortable elevation, have more favorable summer weather, richer wildlife, more diverse forests, and have been less disturbed by civilization.

Just as the mountain goat, more than any other animal, symbolizes the North Cascades, the technical mountaineer is perhaps more at home here than any other human. That is, only he can cope with the excellent ice and rock-climbing terrain off the several hundred miles of trails. On the trail, this is country for the backpacker, photographer, fisherman, hunter, and anyone else who enjoys nature at her scenic best. Commercial interests have had very limited effect upon the heart of the North Cascades, since the remote and generally broken forests here cannot compare with those on either flank of the Cascades, and there is little else of merchantable value at present. The future of this big area is being shaped through current discussion among various groups of conservationists, the general public,

federal and state governments, and lumber and mining interests.

There has been some confusion about the "uniqueness" of the North Cascades, particularly compared to the present Olympic National Park. Olympic is similar in several respects to the maritime side of the North Cascades, but there are also great differences between them. Olympic goes from wilderness seacoast to maritime mountaintop, has the temperate rain forests, and is the stronghold of the Roosevelt elk. The North Cascades are superb glacierized alps, with both maritime and intermountain climates and accompanying flora and fauna; Lake Chelan and the volcanic snow-cone Glacier Peak are outstanding natural features which add frosting.

Currently under consideration is an Administration measure which would create a national park in the North Cascades, in two units separated by a national recreation area; and a wilderness area east and north of the national park, plus two additions to the existing Glacier Peak Wilderness Area south of the proposed park. Boundaries of these areas are outlined in the map on page 20.

However, there is at least one urgent problem in connection with any plan for protection of a truly significant portion of the North Cascades. This is the problem of mining. One leading conservationist has observed that "any very extensive commercial mining operations in any of these regions will destroy them"; at the same time, however, a large copper company has announced that, in spite of a plea from the Secretary of Agriculture that it abandon its plans, it will soon commence work on a very large open-pit copper mine on Miners Ridge north of Glacier Peak in the Glacier Peak Wilderness Area, an operation that another conservationist has viewed as "comparable to strip-mining Yosemite Valley or filling the Grand Canyon with cement."

Nature has done her utmost in detailed landscaping of the North Cascades. The result is a mountain realm more "high" (great relief), "wide" (70-100 miles), and "handsome" (granite alps, lush vegetation, glaciers, diversity) than any other in our nation. Mankind must try to match this creation with an extraordinary job of management for the present and future. ■

The Southern Pickets, in the proposed North Cascades National Park: a view from the northeast.

Photograph by M. Woodbridge Williams, National Park Service



HIGH HORIZONS

By Marie B. Mellinger

Photographs by the author

THE GREAT SMOKY MOUNTAINS National Park, astride the North Carolina-Tennessee border, has high areas that are known as "heath balds"—mountain ridges, open to the sky, which are covered with a shrubby growth of almost uniform height. These are known locally as "laurel slicks." One of the most spectacular of the laurel slicks is to be found along the Alum Bluff trail at an elevation of about 4600 feet. You ascend through richly green hardwood forests and, turning a corner, come out upon the open bald and an arresting view of Mount Ana Heesta.

Scientists are by no means unanimous in their opinions on the nature of the heath balds, which have variously been attributed to windfalls, landslides or fires caused by lightning. The balds are the *mis-mas-i* of the Shawnee, or the *u-da-wa-gan-ta* of the Cherokee. The Shawnee say that there was once a great bearded giant who terrified the Indian tribes. All the bravest warriors had tried to overcome the giant in battle, but all had failed. Finally the giant demanded the chief's daughter, fairest maiden of the Shawnee, as his bride. The chief did not want to sacrifice his daughter, but the giant vowed vengeance on the whole tribe, and the maiden said she would go to save her people if she could first visit the far-off wind-cave in the mountains.

In the wind-cave the maiden prayed to the guardian spirit and was given a vine of muscadine grape and an amethyst knife. Following the spirit's instructions, she waited until the giant was sleeping and then bound him with the grapevine and cut his beard with the knife. The giant turned into a mountain, and his scrubby beard became a growth of bushes bearing amethyst-colored flowers.

Almost all the shrubs that make up the heath balds are evergreen except the winterberry, *Ilex montana*, and the

witherod, *Viburnum cassinoides*. The *Ilex* is rather inconspicuous in spring, but in autumn its bright red berries add a note of color to the background of evergreens. The witherod has fine clusters of cream-white flowers in June, which attract high-flying swallowtail butterflies.

Most common shrub is the mountain laurel, *Kalmia latifolia*, blossoming here somewhat later than on the lower elevations and keeping company with the catawba rhododendron, *Rhododendron catawbiense*. There is also a dwarf rhododendron, with deep rose-colored flowers and leaves rusty on the undersides. Botanists can not seem to agree as to the taxonomic identity of this shrub, but at present *Rhododendron minus* seems the preferred name. The flowers of the laurels and the rhododendrons make a great showing in mid-June. The white morning-sphinx moth is seen on these high ridges and is credited with cross-fertilizing the

flowers of the catawba rhododendron.

In low clumps along the trail grows the mountain myrtle, *Leiophyllum lyoni*, formerly *Dendrium*. This is also called mountain-box, or huger's myrtle. The shiny evergreen leaves resemble those of boxwood, and in June the bushes are covered with pink or white flowers with bright red anthers. This little shrub is endemic to the southern Appalachians.

The shrubbery creates almost impenetrable tangles along the trail that continues on to Alum Bluff and eventually to Mount LeConte. This is the trail "with the continuity of thrills," as a park ranger described it; the trail that comes through the Arch Rock and beyond the open heath bald follows the sides of the cliffs on its way toward LeConte. On these cliffs grows the mountain saxifrage, *Saxifraga michauxii*, with reddish basal leaves and a spike of fairy-fine flowers.

The open heath bald is a place to

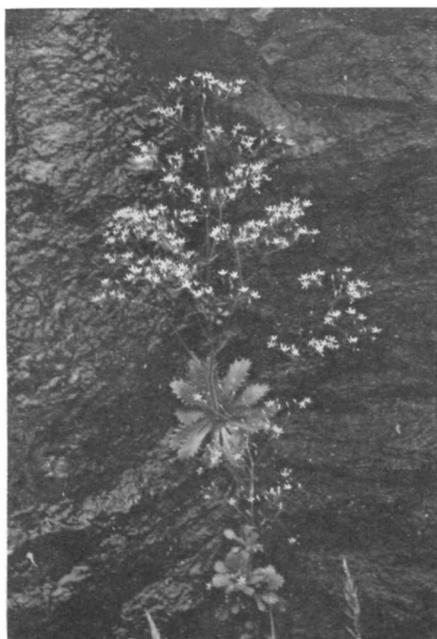


stop and enjoy the flower-clad ridges and the elusive fragrance of blossoms. Sit quietly on a rock and watch the friendly red squirrels scurrying along the shaly trail, gathering seeds of *Carex* and the thin grasses that grow between the rocks. Sometimes a scaly gray fence lizard may be seen darting across the trail. Bees hum in the bushes and flower spiders spin their webs across the blooms. Listen to the songs of towhee and catbird, or watch a chestnut-sided warbler flitting through the shrubs.

There is a deep contrast between the coziness of the sun-warmed, heath-lined trail and the wide expanse of view from the rocky ledge. Look out over the vast panorama of mountains framed by a few gnarled and cone-clad red spruce. This is the land of the raven and the peregrine falcon, for these majestic birds may nest on nearby cliffs. This is the place to absorb the feeling of earth and sky, to enjoy the pure air and warm sunshine. These are the high horizons Goethe might have meant when he said, "on every height there lies repose." ■



Above, a heath bald in Great Smoky Mountains National Park, predominant cover of which is a shrubby evergreen growth of rather uniform height. The underlying causes of such balds or laurel slicks have never been convincingly explained; fires, windfalls and landslides have variously been invoked as contributing agents. Below, a park visitor looks out over a wide expanse of Great Smoky Mountains Park forest from the lower limit of a bald.



One plant among the assemblage that clothes the "balds" or "laurel slicks" of the Great Smoky Mountains Park is a viburnum called the witherod, seen at the left. Above, the mountain saxifrage maintains a foothold in the mossy fissures of cliffs on the Alum Trail.





*Along the waterways of Virginia's Mason Neck
the endangered bald eagle finds a roosting place . . .*



. . . water birds search the shallow Potomac shoreline . . .

Photographs by Nicholas Dean

. . . while beyond a quiet, natural scene lies the confusion of a great metropolis.



"We Expect to Win"

By Maxine A. Rock

FIFTEEN MILES FROM THE TRAFFIC and urban confusion of the nation's capital lies a small oasis of wilderness called Mason Neck. This thirteen-square-mile, boot-shaped peninsula which juts into the Potomac River in Fairfax County, Virginia, is the last really natural wildlife refuge in the Washington area. Here, just minutes from a great metropolitan community, is the area's only discovered summertime communal roost of the country's now-endangered national symbol—the bald eagle.

A small group of tight-lipped naturalists have known for more than fifteen years that eagles roost along the winding waterways of Mason Neck, and nest in its dense oak and maple forests. As many as 37 eagles have been counted in the Neck's Big Marsh in one day. At the edges of Mason Neck's shallow creeks and in its quiet marshes more than 200 other species of birds visit or make their homes; in spring and fall, ducks and whistling swans use the Neck as a resting spot on their migratory journeys. White-tailed deer nibble on lotus flowers along lazy streams, and in the past some residents have seen bobcats prowling the forest at night.

The area remained safe from intrusion until early in 1965, when 1800 acres of prime Mason Neck marshland was suddenly sold to subdividers. Plans were immediately announced for mass housing developments along the banks of the Potomac. Residents banded together at once and formed the Conservation Committee for Mason Neck, and a heated verbal, political and financial struggle began which continues today.

After a year of sharp local fighting the battle for Mason Neck reached the White House. With Presidential support for protection of the Potomac shoreline, conservationists hastened to shelter the Neck in a Federal program by making it a park and wildlife refuge. Meantime, developers were drawing up plans to slice away the forests, dredge the channels for industrial use, and install private sewage treatment plants in the heart of the marshland.

Finally, in January, 1966, the Potomac Interim Report to the President, prepared by the Federal Interdepartmental Task Force on the Potomac and the Potomac River Basin Advisory Committee, approved preservation of the Neck. "In order to rescue the extremely valuable recreation and conservation resource . . . we recommend that the Federal Government and the State of Virginia act together promptly to take such steps as may be necessary for the complete preservation of this area against further development and for its dedication to public use."

Almost as soon as the report was issued the State Water Control Board set a hearing to "determine the public interest regarding proposals to construct sewage treatment plants in the Mason Neck area." Builders got the green light for construction of a county pilot treatment plant on nearby Pohick Bay; and a plant at the edge of the Great Marsh, where the eagles roosted, was given a one-year extension of preliminary approval.

Federal help might take too long, but could a state park on the Neck be established in time? The Conservation Committee went to see Virginia's Governor Godwin. Yes, he said, Virginia would buy the land—but only if the State Board of Conservation and Economic Development selected the area as a park site. The Committee sent out urgent requests for support, and letters poured in to the Board. On April 21 the Board gave priority to establishment of a Mason Neck State Park.

Mason Neck was still protected only on paper, however. While conservationists worked to save the Neck, local land owners pushed for development.

Weary after a summer of debates, meetings, and deferred decisions by local officials, the conservationists in August took their request for a park to the newly formed Virginia Outdoor Recreation Commission. Almost at once funds were approved to establish a small state park on the Neck, and during the same month newspapers reported that land acquisition would begin in the fall. Simultaneously, conservationists were jolted by a notice from

the Water Control Board: full approval for a sewage treatment plant in the Great Marsh. Said the Conservation Committee, "The location of this plant in this vital area will completely destroy all conservation values of the Great Marsh . . . [making it an area of] lifeless, malodorous waterways . . ."

One last hope remained. A general election was scheduled for November 8. On the ballot was an \$18 million bond issue for parks. If the voters approved money for a Mason Neck park, development could be stopped. Members of the Conservation Committee mailed letters, talked to residents, and worked through a new committee called PEP—People Endorse Parks—for passage of the bond issue. On election day the voters approved money for purchase of the Neck's Great Marsh and other important areas as a park.

The battle was seemingly won. But not long after the election the Northern Virginia Regional Park Authority met again. This time it approved a proposal by the developers to substitute "scenic easements" on a 156-acre grant of land for the thousand acres supposedly protected by the bond issue. This meant that developers would still be able to construct dwellings on Mason Neck and build the sewage treatment plant in the Great Marsh. Acceptance of the proposal would be a "breach of faith," declared conservationists. One member of the Conservation Committee put it more bluntly. Said she, "If this goes through, the voters have been 'took'."

Nineteen sixty-seven is the third year of struggle for the protection of Mason Neck. Almost within sight of Congress, where discussions of national importance echo daily, this small but significant grassroots battle to protect a splendid natural area in the shadow of a great metropolis serves as inspiration to all layman conservationists. "Although there are other questions to be resolved; more problems to be solved; more crises to be surmounted, we are prepared for another year, and more if necessary," said a member of the Conservation Committee for Mason Neck. "We expect to win." ■

Recreation Land Management and the New Forestry

By Lawrence C. Merriam, Jr.

MANY PEOPLE STILL THINK of forestry primarily in terms of fire fighting or logging. Yet forestry is concerned today with a broad range of activities involving forest and associated land management. Prominent among such land-using activities, and becoming more important each year, is recreation.

Yet it was not always this way. In the early days of this century, when the forestry profession was getting its start under Gifford Pinchot, Henry S. Graves, and others, concern was being expressed for scientific management of forests for wood products, forest protection, and perpetuation of the forest resource to avoid an inevitable timber famine. Range and water problems were also of importance. Little concern was expressed for recreational use of forests. Technology had not advanced to the stage of recreation competition with other forest uses, and there was generally adequate land to avoid direct competitive action.

Training in forestry emphasized an understanding of forest management for timber or range production. Graduates of forestry schools were mostly employed by the embryonic Forest Service, or by state agencies. Work included fire protection and control, timber volume and growth estimation, range and timber sale inspection, forest inventory inspection or evaluation studies, and similar work. Those who worked for industry usually went into the woods as logging engineers, being concerned with wood production in all its phases, from tree to landing to mill. Consultants, of which there were few—and these the elite—made inventory, production, and related studies for lumber and timber companies.

With much land, it was possible in those days (up to 1929) for some foresters, without too much conflict, to be production-oriented on the job and still be interested in the preservation of forest land for educational or rec-

reation purposes. Today, with less land and heavy resource competition, lines understandably are more sharply drawn, particularly for the industrial forester. A comparison of the past and present may help to explain some of today's challenges and problems.

In a comparative historical context, let us consider some aspects of recreation users, technological and social change, and forestry. Let us start with two points in time, 1917 and 1967, to observe the forester's changing recreation land management role. Then we will discuss some of his problems and challenges. We will view this from a recreation standpoint, rather than from that of timber production, water or range management, although these are also possible approaches. Thus we will be concerned with the tree as an esthetic object—a thing of beauty in and of itself. The author's background will give this discussion something of a Western flavor.

In the summer of 1917, my grandfather and my two uncles left Berkeley, California, by touring car for the family summer home on private forest land near Mt. Shasta, a distance of some 280 miles. The highway, now partly freeway, consisted of two ruts across the country once town limits were passed, and the trip took three and a half days. One would cover the whole 280 mile trip today in five hours by car.

In the summer of 1966, even with a time-zone lag of two hours, it was possible for me to fly from near Berkeley, California, to St. Paul, with stops at Los Angeles, San Diego, Phoenix and Denver, and be in St. Paul in five hours, elapsed time.

The 1917 travellers saw very few people—California's population was then slightly over three million, and people were still rurally oriented. Travellers were closely related to their environment as they "dusted" along the road; but

they could stop and view crops and trees, and accost occasional passing parties en route. Today's air traveller goes a long way in a hurry, but he is insulated from what he passes, and really sees only the take-off point and his destination. His interests are largely urban in character. He will be among throngs of people at both start and finish. Departing California, he left a land-devouring human population of over 19 millions.

Forest recreation activities in 1917 included fishing, hunting, camping and picnicking, and there were lodges and summer homes on public and private forest land. In the West there was much undeveloped land. Few people travelled far from home, and family overnight camping trips were limited in number. Competitive pressure for various forest uses was slight. Access to forest lands was crude for automobiles.

During that same summer of 1917, my grandfather and two other men—Madison Grant and Dr. Henry Fairfield Osborn, both of New York—travelled to the redwood region in California, where they developed the idea of acquiring private tracts of virgin redwood for park purposes. From this trip to the Humboldt Redwoods emerged the Save-the-Redwoods-League, and several major California state parks. In early years, cooperation was obtained in this park effort from the redwood lumber industry. Over the years a sort of symbiotic relationship existed between the Redwood League, the redwood industry, and the State of California in redwood preservation. The concern was more inspirational and educational than recreational. Some prominent foresters (including my father, Dean Walter Mulford, and Professor Emanuel Fritz, and the eminent consulting forester David T. Mason) took part in these efforts, which involved key tracts of redwood forest in four main areas—Humboldt Redwoods, Prairie Creek Redwoods, Del Norte Coast Redwoods and Jedediah Smith (Mill Creek) Redwoods. State parks presently exist in all these areas.

In this period, recreation management was not considered a major segment of forestry generally. Then Frank A. Waugh, a landscape architect collaborating with the U.S. Forest Service, wrote a bulletin published in 1918 by the Department of Agriculture—*Recreation Uses on the National Forests*. He described various recreation uses of the national forests, stressing that recreation should be considered on a par with other major uses—timber production, grazing and watershed protection.

Forest Accommodations of 1918

Among other uses, recreation on the national forests then included hiking, horseback riding and automobile trips. Trails constructed primarily for administrative purposes, such as fire protection, were available for horse and hiker use. Simple campgrounds with fireplaces, latrines and a generally free choice of tent and car campsites were provided in many forests. Picnickers were accommodated in some areas with tables and sanitary facilities. Also, provision was made for some municipal camps on near-urban forests, as at Seeley Creek Flats in the Angeles National Forest of California; and summer home leases of up to one acre were allowed.

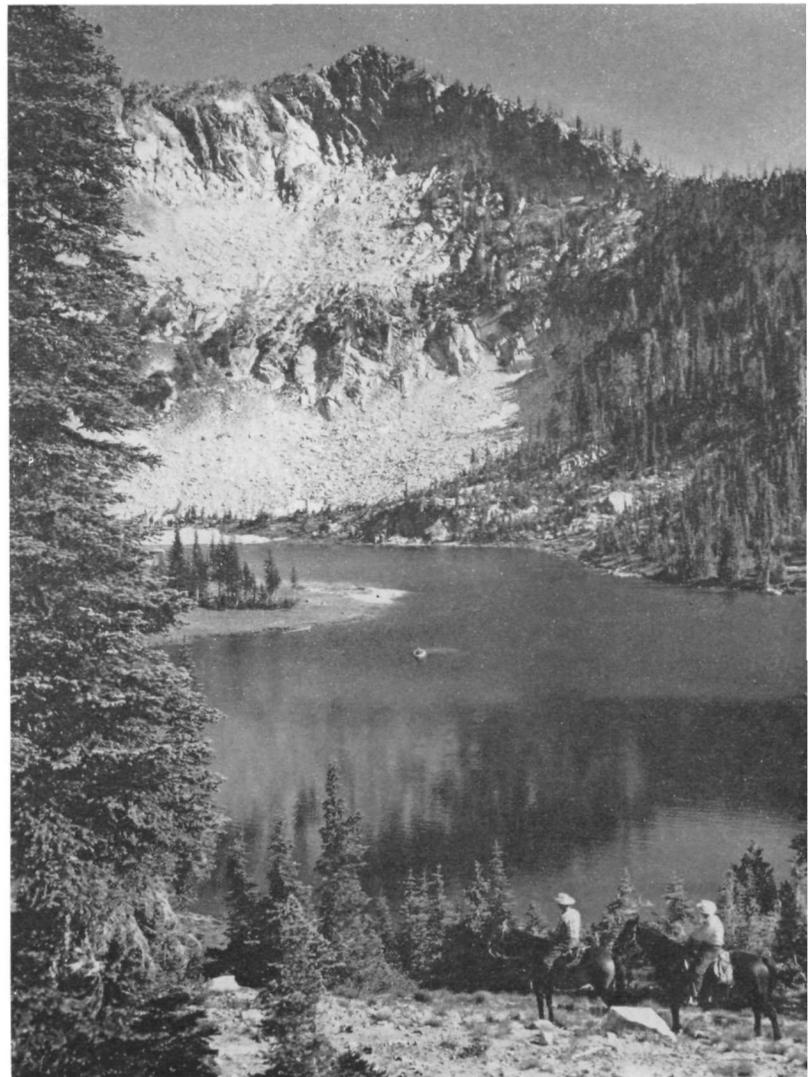
Waugh also voiced the concern of many foresters that

users should be accommodated in forest areas where the likelihood of their starting fires was minimal. In fact, he said: "Campers, once their interest and cooperation is aroused, become a volunteer fireguard (sic) of no mean efficiency." Although some people had suggested that areas of special recreation value be transferred from the national forests to the national park system, Waugh opposed this. He stressed the future recreation value of the national forests, and insisted that several uses could be carried on harmoniously by the Forest Service on its lands.

Waugh continued, "On the principal areas of the National Forests recreation is an incidental use; on some it is paramount; on a few it becomes the exclusive use . . ." Events of recent years have made Waugh a prophet; but his thoughts were then viewed as institutional advertising, and were not taken seriously by most Forest Service foresters or by the industrial and other groups of the profession. In the West, at least, where people could still venture freely on private as well as public lands with minimal conflict, few

Some fifty years ago a Forest Service collaborator was writing on the importance of outdoor recreation as a major use of the national forests. Below, modern horsemen enjoy the Wallowa National Forest's high country in northeastern Oregon.

Photograph courtesy Oregon Highway Department



foresters could foresee any real problems for the future.

Since 1917, there have been many changes in the forester's approach to land use and management. From a recreation standpoint, such men as L. F. Kneipp, Aldo Leopold, and Robert Marshall were largely responsible for the establishment of the wilderness concept of forest land use. These men were concerned that, in the management of forest land, some natural, undeveloped areas should be reserved without roads or permanent inhabitants. The primitive environment of this wilderness land would be preserved, and its users would depend primarily on their own efforts for survival.

Many other people, both in public and industrial forestry, were influential in providing recreational developments on forest land. Particularly during the Depression of the 1930's, much work was done in recreational management on public forest lands. Some of this was make-work effort and not too well conceived; but, in the aggregate, it provided a base of development without which our present problems would be far greater.

What do these past reflections mean to us in 1967? Forestry today includes management of forests and related

lands for a variety of goods and services needed by society. Dana and Johnson, in *Forestry Education in America Today and Tomorrow* (the 1963 study sponsored by the professional Society of American Foresters), say that forestry ". . . Includes a wide variety of activities. Management always implies use, but 'use' does not necessarily require the harvesting of a crop. It can provide also for recreation activities, conservation of water supply, scientific studies in natural areas and the enjoyment of scenic wonders." Recreation has become, in fact, a major forest use, and is the dominant use on some private as well as many public forests. We find a society with more money and free time, shorter working hours, better transportation and roads, more completely urban oriented, and knowing little about the forest or forestry.

Not everyone, fortunately, will visit forested areas during spare or vacation time. A 1963 interview survey of the Twin Cities Metropolitan Area, conducted for the Metropolitan Planning Commission, indicated that a great many people spend their free time at home, gardening, watching TV, visiting friends or relatives, and taking part in group activities. Despite this, the "few" who go to the forest are increasing in number. Forested recreation areas of all types have increasing use each year, and there are even occasional horse-hiker "traffic jams" in secluded places, like the Bob Marshall Wilderness in Montana. Today the urban recreationist often carries fancy equipment, expects urban facilities in remote areas, and acts about the same way whether in Yellowstone National Park or in Como Park in St. Paul—only the souvenir shop replaces the peanut stand. The mass media are ever present, including portable TV. In 1964 we found people carrying portable radios in the wilderness (trail) portion of Glacier National Park.

Views of the Modern Forester

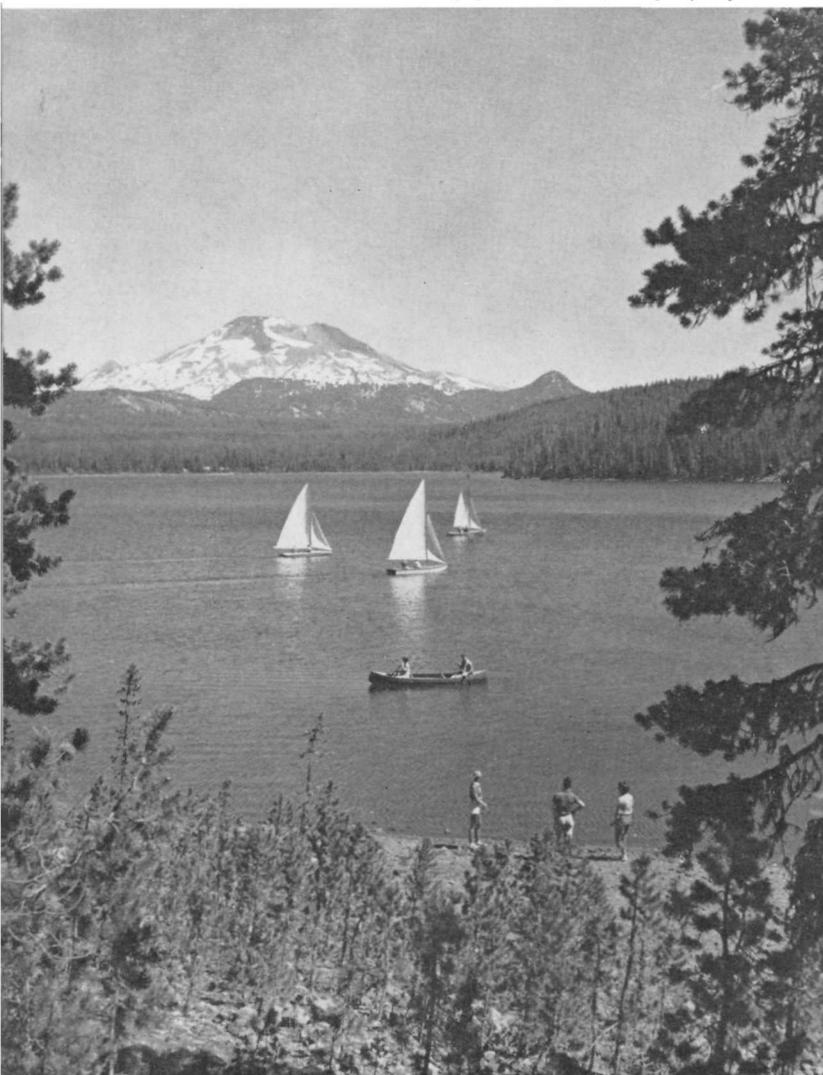
What challenges does recreation land use pose for the new forester, the forest land manager? There is a change in his attitude toward the forest itself. Now he views the tree not simply as an item of production for wood, plywood, pulp and other products, but as part of a complex biotic community providing many types of goods and services. Problems involving recreation are seen not alone in terms of timber or forage production foregone, but also from the standpoint of an esthetic backdrop for human non-work activities. This means, of course, that the new forester's job is quite complex.

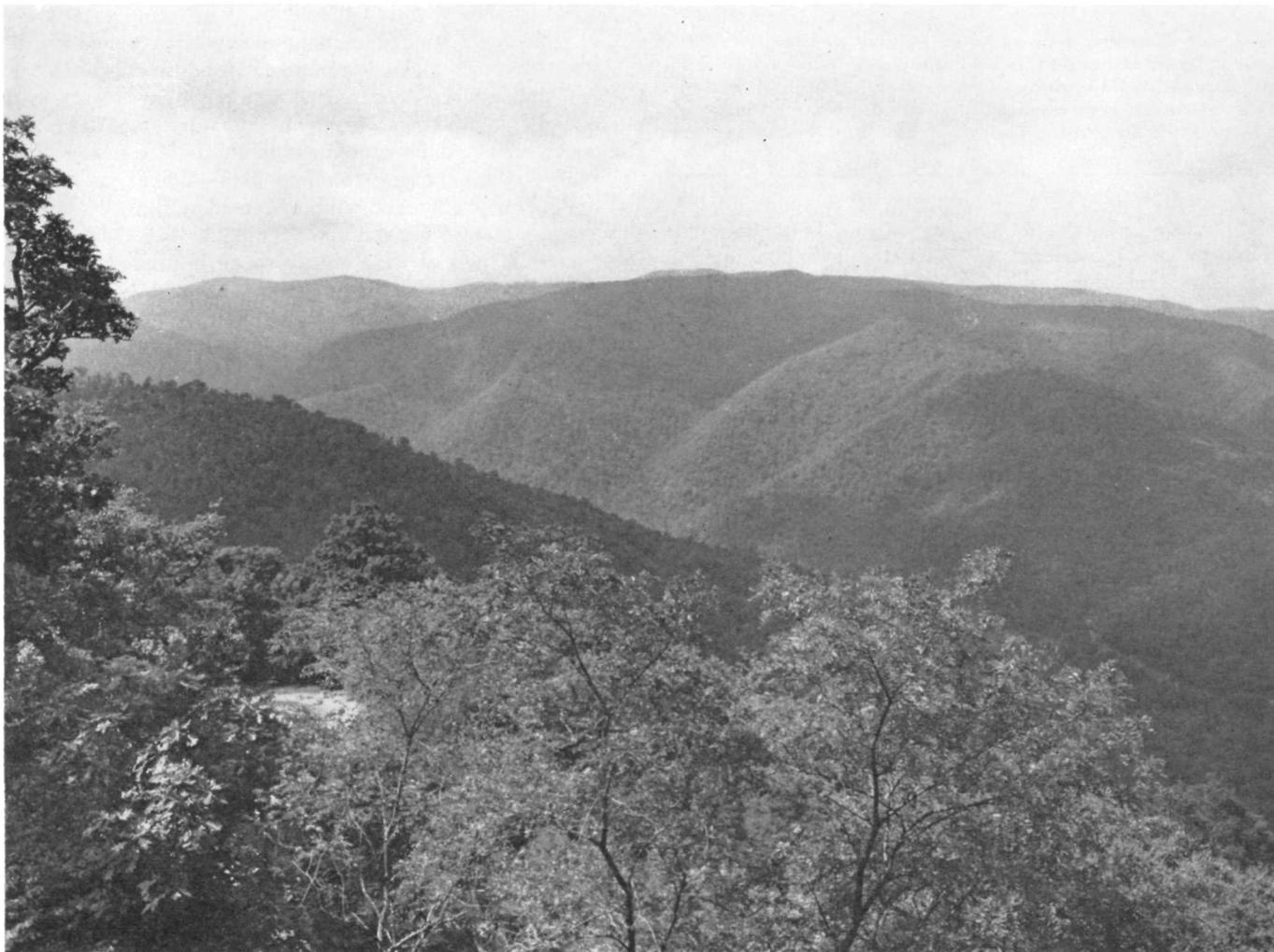
In the second place, he is more concerned with people's interests and demands—not only where he is a servant of the people managing public lands but also on private lands where his "customer image" is all important. Thus, we have the Chief of the Forest Service carefully explaining national forest timber harvest in the multiple-use concept to the National Council of State Garden Clubs in terms of restoring beauty and use to the land after cutting.

Many private forest managers have provided simple

Just east of the Three Sisters Wilderness Area of the Willamette and Deschutes National Forests in Oregon is Elk Lake, in the Deschutes Forest, where one may enjoy boating, swimming and picnicking. Peak in the background is the South Sister of the Three Sisters. The cameraman was looking north across the lake.

Photograph courtesy Oregon Highway Department





National Forest Service photograph, by Dan Todd

Among the numerous specially managed areas of Eastern national forests is the Shining Rock Wild Area of the Pisgah National Forest in North Carolina, seen above from the Blue Ridge Parkway.

camping and picnic facilities on their lands for some years, and have allowed use of their lands for hunting. While some of this has been primarily for public relations and advertising purposes, an attempt has been made to educate users about the forest and the management objectives of a private forest. Interpretive trails and publications and even visitor contact centers have been added to explain the owner's forestry program.

In recent years many of these interpretive facilities have been opened to the public in California's coast redwood region—probably in response to the heated controversy over a proposed Redwood National Park. Hopefully, these demonstration forests and exhibits will remain after the park question is settled. The issue in the redwoods is no longer that of the 1920's. With demand for redwood products and parks competing for the same receding supplies of virgin redwood, the controversy grows bitter.

Not every forester understands the changes wrought by increased population pressure, and changing demands for land use. To some men, trained twenty or thirty years ago, the classification of productive private forest land near

California's Lake Tahoe for recreation residence, rather than timber production, is difficult to accept. Yet the Tahoe area has been booming as a recreation lake for over 40 years, and forested lots there command a higher price for recreation homes than for timber production (and perhaps for public use for county or state recreation facilities).

A few years ago I participated in a panel discussion on wilderness management, which ostensibly accepted the rather obvious fact of wilderness reservations. All of the panelists were foresters, and we should have had a good discussion; but it turned into an argument over whether any wilderness reservations were needed. A few months after this meeting, the Wilderness Act passed Congress after some eight years of debate and with general public support. It became apparent that not all the panelists were in tune with the times.

Technical experts do not like to be told what to do with the lands under their supervision. Still, on public land, this can and will happen. Groups of Americans representing an organization point of view may often be influential in helping to shape national policy. The new forester might well

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join some of these groups as a participant; they might help him over some of his old biases and perhaps offer an opportunity to educate others. Nor are these groups, such as the National Parks Association, National Wildlife Federation, and the Sierra Club, concerned alone with a contest between wilderness protection and timber production; but rather also with many kinds of esthetic and recreational land uses. Their ranges of concern go beyond forest and wildland and beyond recreation. In addition to these organizations, the new forestry is concerned with a multitude of outdoor recreationists of various classes, origins and interests. Many of these users indulge in activities that are competitive—for example, the new breed of motor scooter enthusiasts versus the horsemen. In any case, most of these users repair to the forests firmly entrenched in an urban orientation.

The Outdoor Recreation Resources Review Commission, in its 1962 report to President Kennedy, suggested six broad classes of resources for outdoor recreation, covering the range from high density urban recreation area to unique natural area and the primitive (wilderness) area. These classes have since been widely adopted in recreation land inventories of all categories of public lands. Forest lands overlap many of these classes, and general classifications of forest lands within these classes are not particularly complex. The real complexities, however, are the inter-relationships of recreation with other uses of these lands. For recreation alone, whose value system is used in deciding locations of public-use sites like campgrounds and picnic areas? In some areas the summer homes of the 1917 period must now be replaced by campgrounds serving more of the public. For example, in Montana, on the Lolo National Forest at Seeley Lake, 1920-vintage summer homes were removed to allow for a public camp serving more people. The new forester must work out these intricate details, being alert to results of user preference studies and new design and development techniques relating to user objectives.

A pressing question in the management of the forest for recreation will increasingly be how much the government should lead in providing facilities and manipulating users to follow certain helpful practices. Some people feel that only the government—preferably the Federal government—can do an adequate job in planning and development for recreation users. Others feel the effort should stem primarily from the private sector and local groups working together. The new forester will be part of these controversies. He should always remember who is being served, rather than who is serving.

There are several approaches to the education of the new forester. From a recreation standpoint, the new forestry training for land management includes a background

in biological and physical sciences with ecological stress, and with a few traditional courses involving the forest, its vegetation, uses and environment. In addition, courses in the social sciences—economics, sociology, psychology—are included, as well as courses in managing the recreation environment and its user. Beyond this, of course, will be work related to other resource uses—timber and range management, water and wildlife considerations.

In preparation for the new forestry as broad land management, a man of wide ability range is needed, one who loves and appreciates the land and the forest, but who also understands and likes people. Obviously, no one can be highly qualified in all these at one time, or be suitably trained for them at the undergraduate level. The manager will have to view problems objectively and broadly, but not too clinically. The fact that he may have an urban background may help his objectivity. He will recognize that forestry is an applied field which maintains viability by innovation of ideas from many disciplines—engineering ideas, aerial photogrammetry, and the like.

In addition there will be specialists in recreation resource management alone. These men will have a base in key forestry and ecology courses, plus work in social sciences, land planning, recreation activity, landscape design, and resource analysis courses. Beyond this a man's own personality and developing interests will lead him to his chosen niche.

Forestry has changed much in the past fifty years, but society and technology have changed even more rapidly. Growing pressure for recreation use of forests has been one of the major symptoms of change in public concern for forest land. Despite the criticism foresters have received in their response to this pressure, most of them try to understand its causes and work for change to meet new social demands from the direct consumers of the forest scene. There will continue to be controversy over forest land management questions, and the new forestry will not provide all the answers. But the new forester will welcome reproaches and learn from them—knowing that, when all is calm, the forest and its foresters will have been by-passed in the evolution of social concern. ■

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In a continuing anti-litter program, youngsters of the 4-H Clubs and Boy and Girl Scout organizations of Teton County, Wyoming, pick up trash strewn about by visitors on the shores of Jackson Lake in Grand Teton Park.



On Policing a Lakeshore

By Martin W. Payne

Photograph by Willard Dilley

THE YEAR 1966 COULD, WITH SOME justification, have been called the Year of the Tourist. It could also, perhaps with equal accuracy, have been called the Year of the Great American Litterbug.

Visits to our national parks, monuments, and other units of our national protective and recreational system increase each year, in some places at astronomical rates. While this elicits smiles of satisfaction in many quarters, apprehension about its meaning to the areas visited is usually confined to conservation magazines and other publications read mainly by those already aware of the magnitude of the visitation-protection dilemma.

What is badly needed is a realization on the part of all the American people as to what is happening in their parks and monuments. In the park system, for example, littering is as serious and widespread a problem as is air and water pollution elsewhere.

In 1965, the 4-H Clubs of Teton County, Wyoming—with the Boy and Girl Scouts and other interested citizens—joined forces with Grand Teton National Park personnel to stage a clean-up of the shores of Jackson Lake. This may well have been the first in a continuing series of such campaigns.

Bear in mind that Grand Teton Park, in which Jackson Lake lies, is undergoing a tremendous increase in visitation each year. Compared with some areas, however, the shoreline of this lake is not readily accessible; much of it is approachable only by boat or

on foot. Here, also, the tourist and open-water season is relatively short because of climatic conditions. In spite of such limitations, the clean-up of 1965 resulted in the filling of a dump-truck to overflowing with a great assortment of trash.

Cleanup Is Repeated

The success of this cooperative venture—if the results really ought to be classed as a success—resulted in repetition of the operation in 1966, and enlargement to include policing of the shores of String and Leigh Lakes. On September 24, 1966, 140 people using 23 boats and canoes patrolled 72 miles of shoreline around the three lakes. While some comfort might be gained from the fact that a smaller dump-truck full of trash was collected this time than in the previous year, it must be remembered that 1965 was the first time the task had been attempted. One may wonder how much trash would have been recovered had the policing been extended another 100 to 200 feet inland from the shoreline.

This kind of clean-up would not be feasible in many parks or monuments because of their remoteness, although remoteness does not seem to spare any area its quota of beer cans, now beginning to be made of aluminum, which is well-nigh impervious to the elements. It is also a certainty that the task could not be performed in any area solely by resident Government personnel using the limited equipment at their disposal.

This endeavor was a voluntary effort on the part of the citizens of Teton County working through volunteer organizations. It involved considerable planning, the use of leisure time on the part of the adults involved, an actual out-of-pocket cash outlay in providing transportation for people, the operation of power boats, and the securing of food for all concerned. Most important of all, it could not have been accomplished without adequate manpower—or, in this case, childpower.

It is a sad commentary on the habits of travelling America that the people of one area find it necessary to resort to such a program as here described. It is disheartening to realize that such a program appears to be an annual necessity.

When the adults who participated in the program were asked why they had done so, some stated that they were not so much concerned with cleaning up the lake shores for the benefit of next year's visitors as they were in trying to preserve one of the nation's great outdoor wonderlands for its own sake. It would appear that the local citizens of the Jackson Hole area are more appreciative of their country than are its myriad visitors.

It would seem desirable for all Americans, no matter where they live, to become infected with the same constructive selfishness shown by the people of Teton County in wanting to keep part of their country beautiful—and to continue in this frame of mind when they themselves are travelling. ■

News and Commentary

The North Cascades

The pattern of land management in the wild and scenic North Cascades of Washington State commences to crystallize in 1967 after years of controversy in the conservation movement, in Government, and between both. The Administration has recently proposed establishment of a national park, a national recreation area, and a new Forest Service Wilderness in the mountain region just south of the U.S.-Canada boundary, as shown on the accompanying map, and has requested the Congress to consider a measure to move the plan forward.

There is probably no one solution to the North Cascades question that would ever wholly please conservationists, lumbermen, miners, and the National Park and National Forest Services. The Administration's projected pattern of land management is, however, the tangible result of a joint study of the North Cascades by

the Interior and Agriculture Departments which, after years of hardly concealed interdepartmental warfare over the matter, represents something of an achievement in itself. The study was ordered by President Kennedy several years ago, and encompassed more than 6 million acres of North Cascades mountain country. The study team, chaired by Dr. Edward C. Crafts of the Bureau of Outdoor Recreation, produced in late 1965 the historic volume titled *The North Cascades*, out of which was finally developed the current plan for the region.

In late April the Senate's Interior and Insular Affairs Committee held public hearings in Washington on the North Cascades proposal and, on invitation, President A. W. Smith of this Association submitted his views concerning it, his statement being presented to the Committee by Dr. Walter S. Boardman, NPA's consultant on conservation matters.

Below, the Administration's proposal for land management in the North Cascades of Washington. The two units of the North Cascades National Park would total about 570,000 acres, separated by the Ross Lake National Recreation Area of about 100,000 acres. A 500,000-acre Pasayten Wilderness to the east of the park would be created, and two extensions on the west side of the existing Glacier Peak Wilderness (on the Skagit and White Chuck Rivers) would add some 10,000 acres to that unit. Headquarters of the park would be at Newhalem.

President Smith commended the development and presentation of the Administration's proposal, terming it an outstanding act of statesmanship. At the same time, he offered a number of suggestions as to how, in his opinion, it might be strengthened and improved. Some of these suggestions were:

That the western portion of the old North Cascades Primitive Area, scheduled to become part of the new national park, might well be designated as legal wilderness on establishment of the park because of the current unsatisfactory nature of Park Service procedures and criteria for designating park wilderness.

That proposals for aerial tramways and other mechanical transportation facilities in the park be abandoned.

That boundaries of the Picket Range portion of the park and of the Pasayten Wilderness to the east be pulled down to the shores of the Ross Reservoir, and that establishment of a large Ross Lake Recreation Area along both sides of the reservoir seems unwarranted.

That the recreation area along the transmountain highway might be extended into the national forest to the east on both sides of the proposed transmountain highway.

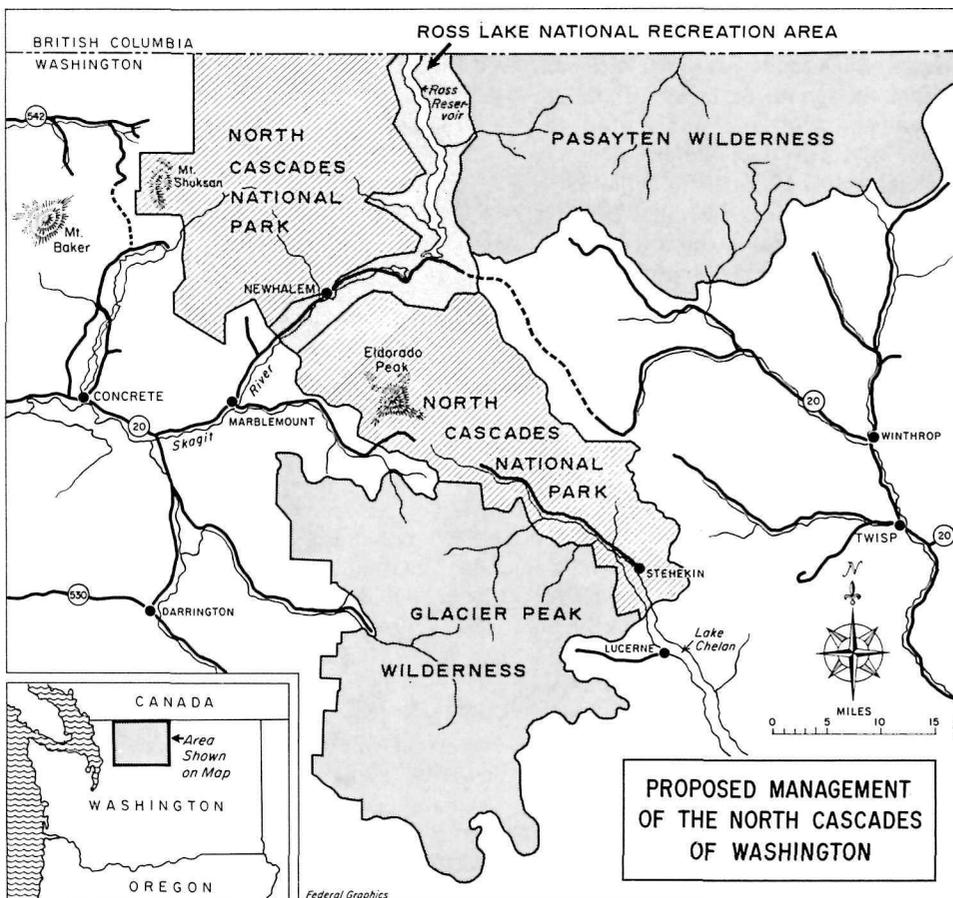
Mr. Smith noted that confirmation of the Glacier Peak Wilderness, as planned, seemed highly desirable, and that the projected additions to it were good as far as they went; the additions might, however, be much more extensive, as recommended by many conservation organizations, he said.

"It now becomes quite essential that the problem of mining in the proposed park wilderness areas, and recreation area be firmly faced," Smith said. "Any very extensive commercial mining operations in any of these regions will destroy them . . ." He suggested elimination of relatively small operations on the grounds of their unimportance to the nation, with fair compensation.

Finally, Smith suggested that thought might be given to the possibility of establishing the new park as an international venture with Canada, as in the case of Glacier Park and the Quetico-Superior canoe country of Minnesota. "The instrumentality of a treaty might well be employed to afford additional permanent protection to the natural scenic and recreational qualities of this region," he said.

Apostle Islands Lakeshore

In early May the Interior and Insular Affairs Committee of the Senate held a public hearing on the proposed 57,500-acre Apostle Islands National Lakeshore on and adjacent to the Bayfield Peninsula on the south shore of Lake Superior in



Wisconsin. Members having a copy of the December, 1965 Magazine will find a map and description of the lakeshore on page 23, with Park Service plans for development there.

On invitation, President A. W. Smith of the Association submitted a statement on the measure, S. 778, to authorize the lakeshore; his views were presented to the committee by Dr. Walter S. Boardman, consultant to the Association on conservation. In brief, the statement made these points:

Americans strongly support the current program for additional lakeshores, seashores and riverways, and want our shorelines protected for scenic and scientific reasons and for public outdoor recreation. The units help relieve pressure on major parks and monuments, which in places have tended to become slum-like from over-use during the tourist season—as at Yosemite and Yellowstone, for two examples.

When new shore units are acquired, a concern for land owners ought to be shown; where present uses harmonize with protection, it may often be possible to leave land ownership undisturbed for the present through arrangements for retention of occupancy, as in the Apostle Islands case, or through covenants supported by easements, in other cases.

At Apostle Islands, it will be particularly important that the land rights of the Indian bands there be respected. (Referring to a recent dispossession of Indians from their ancestral lands despite the terms of a treaty [the Senecas, in New York] Smith noted that "this is a field within which the non-Indian has all too easily persuaded himself that he was doing justice when there was no justice; substitute lands often appear to be commensurate, and may actually be so in monetary terms, but may be quite inadequate in terms of intangibles. This is a place to lean over backward . . .")

Hunting in the lakeshore should be very carefully controlled by the Secretary of the Interior, and overdevelopment of the lakeshore could be avoided through recreational planning for the whole region. Planners are currently handicapped by failure to establish a national policy embodying regional planning principles.

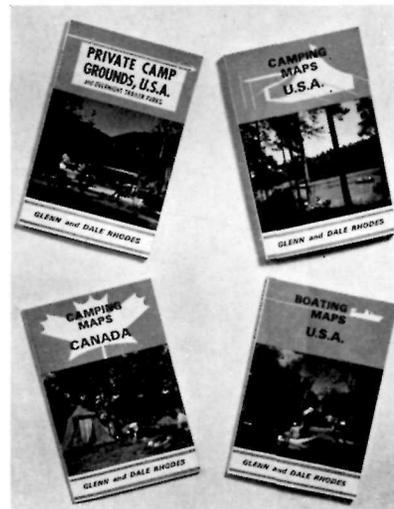
Middle Fork, Feather River

Three departments in the California Resources Agency have recently recommended that the Middle Fork of the Feather River be set aside as a wild river and be included in a Federal system of wild rivers.

The Departments of Parks and Recreation, Water Resources, and Fish and Game made the recommendations in a report to the California Assembly. The Assembly had previously requested the departments to investigate the desirability of designating the Middle Fork as a wild river.

(The May, 1966, Magazine had a general article on the Middle Fork of the Feather by Dewey Anderson, of the Institute of Public Affairs, describing this unspoiled river and the controversy that has focused upon it).

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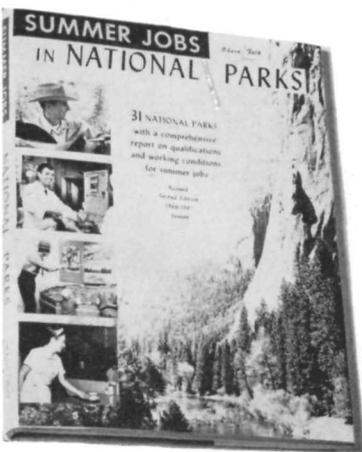
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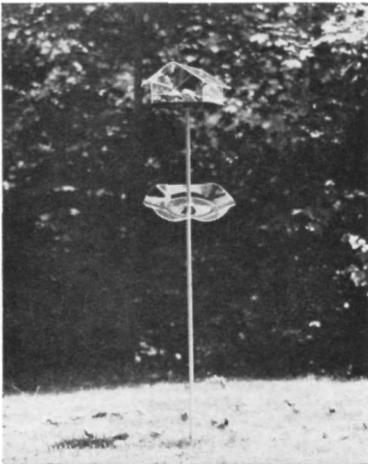


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Reviews

A PROPOSED PROGRAM FOR SCENIC ROADS AND PARKWAYS. U. S. Department of Commerce. 1966. Government Printing Office, Washington, D.C. 196 pages in paper cover, illustrated. \$2.75.

"The Past Is Prologue" well describes the new program of 'scenic' roads and parkways that has been proposed. Unless some major upheaval changes the course of events, those who have lamented the taking of city parks for expressways, the loss of prime agricultural land to highway interchanges, and the general sacrifice of beauty to the idols of speed and convenience in motoring will truly find that "we have not seen anything yet."

An expensive, beautifully illustrated book has been published by the U. S. Department of Commerce and blessed by the President's Council on Recreation and Natural Beauty. The study begins with the premise that driving for pleasure is America's most popular form of outdoor recreation, and then presents a plan for roads totaling 97,000 miles by 1976. What this means for parks and natural areas can be evaluated on the basis that these highways are intended to make fast, easy access to such areas by the motoring public.

The sociologist should be interested to note that plans are justified on the basis on making parks and scenic beauty available to 'all the people,' yet completely ignore the very substantial number which does not own cars and whose only access to open space is in the local parks. In some cases, the city and near-city parks are to be taken for the proposed access roadways. This is well illustrated by the plans shown in the proposed program for Washington, D.C.

It is also noted that the plans have many excellent features. Foremost of these is the potential for a better distri-

bution of the park visitor public. There has been recognition that our national parks can not stand the increasing numbers of visitors, and that means must be found for the dispersal of the multitudes into recreational lands outside the parks. The proposed road plan recognizes this situation, and offers means of providing new places where people may go for a day or longer. This feature could be the means of protecting the more fragile areas from destruction through over-use.

These roads will very likely become a reality. The only hope of those who would keep our parks as they were intended when the system was established is in starting now to persuade the road engineers and planners that specific changes in road locations should be made so as to spare some of the fragile and lovelier places. It is particularly important that road plans for areas in or near the cities should take into account those who either do not have private cars, or do not wish to use them as the means for getting to the outdoors. A city park should clearly have a higher priority than a high-speed access road.

Most of all, it should be recognized that these plans for roads are not plans that have been dreamed up in a Washington office, but have been suggested by the state and local highway people. They reflect the local tendency to sacrifice the nearby park or natural area to the interests of commercial development. While it is important that the new Department of Transportation knows what the public feeling may be, it is more vital that the local and state officials be called upon to justify the roads they now have or may in the future suggest under this road construction program.

—Walter S. Boardman

DOWNSTREAM: A NATURAL HISTORY OF THE RIVER. By John Bardach. Harper & Row, New York, 1964. 278 pages, illustrated, \$5.95.

This book could be considered a specialized publication presented in a non-specialized way. Written in a clear, practical style, it introduces a wealth of scientific material for both the professional scientist and the amateur natural historian.

The author, a trained biologist at the University of Michigan, possesses a wide range of knowledge on many aspects of natural history which he translates into fascinating detail of the chemistry, physics, physiography, and biology of water on the move. The theme of the book is a lesson in aquatic ecology. As the author states in his Introduction: "Throughout the world, the patterns taken by moving water, from their moun-

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tain sources to their meeting with the oceans, show a notable similarity. The animals and plants of a glacial brook, or a mountain torrent, or a meandering lowland stream, will display certain typical adaptations in whatever part of the globe they may be found. The nature of these communities of living things will be a major concern of this book as it traces the downward journey of water on the move."

Not only does the author exhibit catholicism in his treatment of the subject matter, but he also possesses the ability to transport the reader on a detailed fact-finding journey from the headwaters to the mouths of rivers. Numerous and lengthy pauses during the trip examine many large and small features of streams and rivers.

Any volume that attempts to portray a natural history of so vast a subject, in a limited space, is destined to suffer certain weaknesses. In this case, the treatment of river physiography, although adequate, is rather superficial and at times misleading. On the other hand, the treatment of biological phenomena is refreshing and accurate. Refreshing, because it goes beyond a mere taxonomy of organisms to a full description of their morphology and economy, often accompanied by excellent photographs and diagrams. Accurate, because Professor Bardach speaks with the authority of a trained aquatic biologist who knows first hand the life forms discussed in the text.

Approximately one-third of the book is devoted to the interrelationships between rivers and man. The author gives a brief but concise historical picture of the early courtship of man and water from the days of early agriculture to the first hesitant steps of navigation.

The author examines the adverse effects of rivers on man and man on rivers. The former cases involve the significance of floods; the latter review the imbalances resulting from man's exploitation of fisheries resources, and the fearful pollution resulting from industrial-household activities. The problem of water needs and conservation is also raised, and development schemes, along with remedial action are reviewed and discussed.

The great variety of material available in this book should please even the most difficult reader. The work should be considered a valuable reference which offers a great deal of factual information on river ecology and the complex interrelationships between man and nature.

—E. J. Wilhelm, Jr.
Visiting Professor
University of Virginia
Charlottesville, Virginia

THE

CONSERVATION DOCKET

In 1967 all Federal land managing agencies will use one official sign to designate Federal recreation areas where entrance and user fees are charged. The sign will display a golden eagle and a family of humans, presumably bent on outdoor recreation. The sign will be displayed at Federal recreation areas where the \$7 Golden Eagle Passport and short-term permits are valid for entry by private automobile, and at areas that charge admission and user fees. The 1967 annual permit is valid an unlimited number of times between April 1 and March 31, 1968. Federal land administering agencies responsible for posting the official sign at all entrances to designated fee areas are: U. S. Forest Service, National Park Service, Army Corps of Engineers, Bureau of Sport Fisheries and Wildlife, Bureau of Land Management, Bureau of Reclamation, and Tennessee Valley Authority.

The Bureau of Land Management has recently requested of the Secretary of the Interior's office a 3691-acre public land withdrawal order in southern New Mexico for protection of a number of uncommon birds and mammals. The Bureau would manage the tract as the Guadalupe Canyon Natural Area, and prohibit mining and such other activities as would adversely affect wildlife habitat. Among the species of animals making use of the area are: Ridgeway's whip-poor-will, the fan-tailed warbler, Aplomado falcon, whiskered owl, violet-crowned and broad-billed hummingbirds, coppery-tailed trogon, rose-throated becard, thick-billed king-bird, and olivaceous flycatcher.

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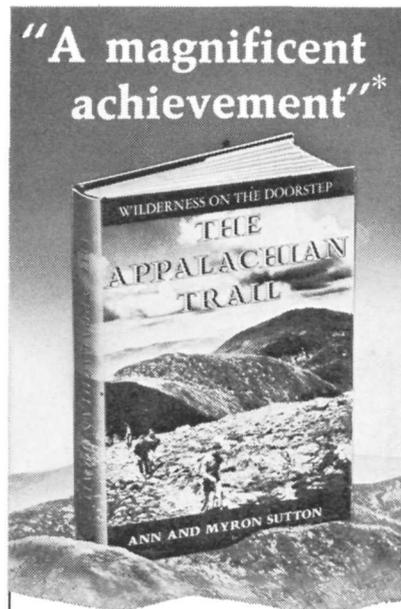
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