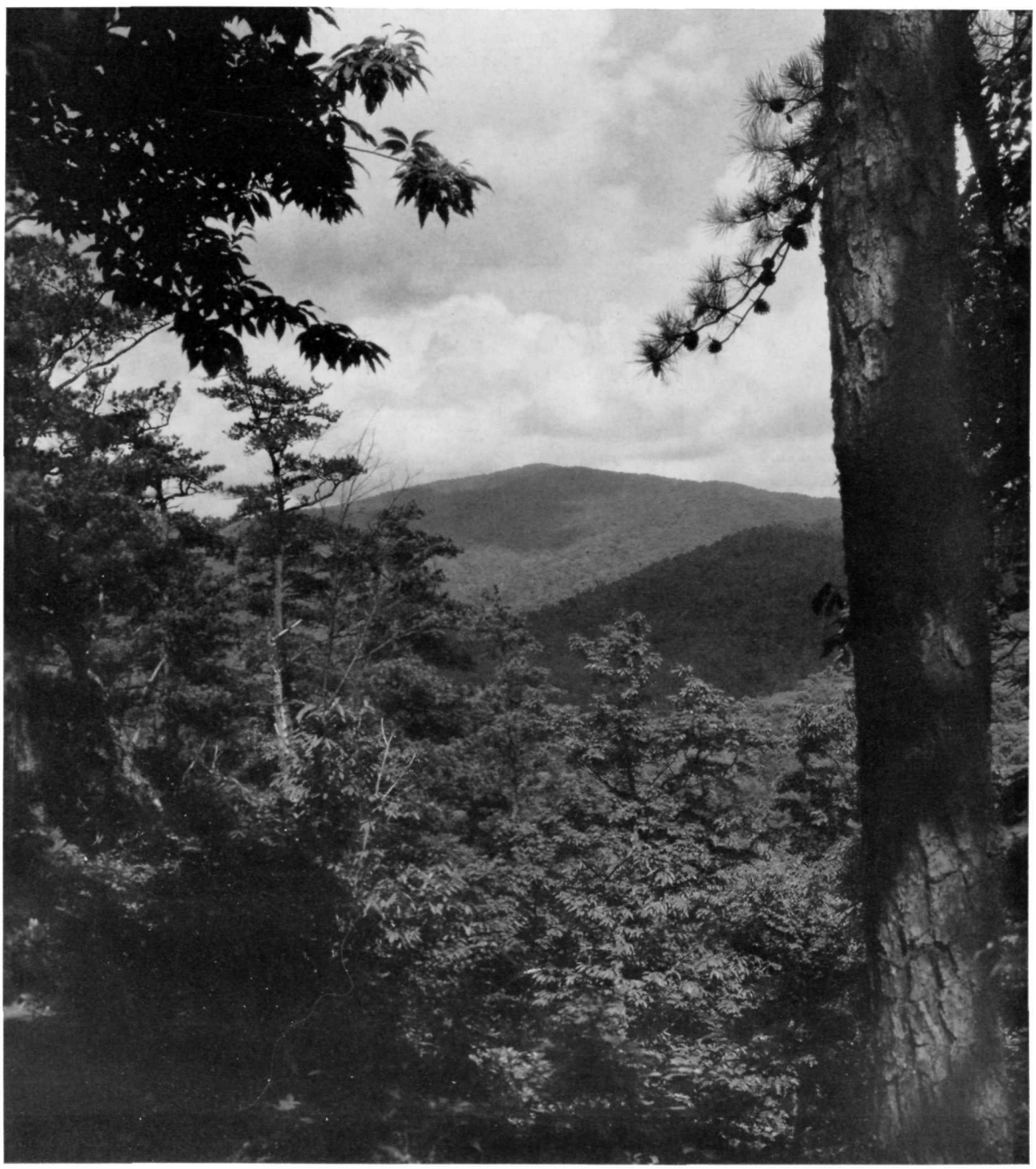
NATIONAL PARKS *Magazine*



Little Bald, in the Nantahala National Forest:
a typical scene in the Great Smoky Mountains

March 1965

The Editorial Page

The President's Message on Natural Beauty

CONSERVATIONISTS, AND THE FRIENDS of conservation in every walk of American life, have welcomed President Johnson's message to the Congress on natural beauty with enthusiasm and a sense of encouragement. And well they might; for the message was unique in the history of American conservation, dealing as it did, and at the highest national level, entirely with the urgency of the need for a reasonable accommodation between Americans and their natural environment; between man and his only true source of wealth and well-being. The message was not, however, one of recognition only; it detailed plans for reduction of many of the serious issues facing conservationists today.

The President urged the need for intelligent planning in the development of urban America, where a majority of the nation's people now pass the greater part of their lives. He actively supported establishment of several new national parks, seashores and lakeshores, recreational areas within both the park and forest systems, and a national wild rivers system. Roads, the President said, ought to be built with an eye to preservation of nature and natural beauty, reflecting respect for the integrity of the landscape. This will obviously mean that the shortest or least expensive distance between two points will not always be the controlling factor in road construction.

The President evidenced his concern over two of the nation's vital natural resources, air and water, and the manner in which they have been impaired by pollution of all kinds, pledging increased Federal efforts in dealing with the costly menace of pollution. He indicated his wish that the beautiful and historic Potomac River, flowing through the nation's capital, serve as a scenic and recreational model for the whole nation; and toward that end he requested the Interior Secretary to review the high-dam plan of the Army Engineers for development of the river basin and devise a plan which would clean up the river and protect its beauty and recreational potential by acquisition of scenic easements or by zoning.

Other conservation issues receiving the President's attention were the improper strip-mining practices which have laid barren wide areas of the nation's bituminous-coal lands, and which have added acid and silt to our already-polluted river systems; the disposal of the nation's vast and ever-increasing volume of solid wastes; and the contamination of the environment by pesticides.

The President was speaking in terms of a frontal attack on national conservation problems which have been dealt with in the past by mere raiding-parties, indicating during the course of his address that our society, in accepting the rewards of modern technology, must take the responsibility for control of the problems raised by that technology—that the new problems will require a new conservation.

In carrying forward this grand design for the protection of our natural environment, the President will need and deserve all possible support from the people.

—P.M.T.

> ***The President Needs Your Support***
>
> Many readers of this Magazine may wish to commend President Johnson on his message to the Congress on natural beauty and the protection of the natural environment. They may do so by addressing him at The White House, Washington, D.C.

Great Smokies Park and the Traffic

THE NEW MASTER PLAN FOR GREAT Smoky Mountains National Park which has been under consideration in the National Park Service comes too close, in our view, to being a street plan for the Smokies to be a good thing. We examine it in some detail elsewhere in this issue.

A favorable nod seems to have been given to a possible new highway across the mountains through the southern part of the park; a network of roads connecting watersheds; another network along the ridgetops; other roads looping and lacing the edges of the park; still others to be known as motor trails which will shortly multiply and broaden into highways.

Meanwhile a new super-highway is under construction around the north side of the park which could accommodate all the commercial traffic, the house trailers, and the faster and more cumbersome transmountain recreational travel, all of which should be diverted if the park is to serve its primary purpose, making the wilderness experience available to persons willing to accept wilderness on its own terms.

Outside the park are spacious national forests whose commercial timber areas, if properly managed on an ecological forestry basis, can accommodate many more outdoor campers without injuring the scenery.

And within or beyond the forests are the great reservoirs of the Tennessee Valley Authority. While impoundments of this kind, built for hydropower and not primarily for recreation, cannot properly be justified by recreational criteria because of the highly destructive effect of their deep drawdowns on the environment, they should be fully exploited for recreational uses of the mass and mechanical varieties, once they have been built, in order that recreation of the regenerative kind may be provided by the wilder and more natural areas which can be preserved in the parks and forests. The TVA recreational opportunities should be managed in such manner as to draw the crowds out of the Great Smoky Mountains Park.

In addition there are ample privately-owned lands in the communities surrounding the TVA-Smokies complex within which private business should be encouraged to embark on recreational enterprises, with or without Government assistance, subject to controls against recreational slums.

The development of such privately initiated recreational projects, which should include golf courses, tennis courts, swimming pools, and motels, the objectives of many vacationers, would be vastly stimulated by a clear-cut Government declaration against overdevelopment in the parks.

Greatly needed is a comprehensive regional plan for the TVA-Smokies which would zone most of the park and the wilderness portions of the national forests as roadless areas, the productive timberlands as natural or scenic areas with roads and campgrounds, the reservoirs for mass and mechanical sports, and private lands near the surrounding communities for the more bustling varieties of tourist enjoyment.

The Bureau of Outdoor Recreation would seem to have statutory authority to draw up such plans and coordinate the work of the Federal and State agencies involved. The Park Service should defer its replanning until such regional plans have been made ready in general outline, so that the parks may not be injured by launching multiple-use programs in areas too small for that purpose. *—A.W.S.*

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Front cover photograph courtesy James E. Thompson

In the Appalachians of the East, geologic time has smoothed away the harsh evidences of nature's mountain-building, and a friendly climate has drawn a lush green mantle over the ancient traces of earth-convulsion. Over the length and breadth of the Great Smokies, the Blue Ridge, and the companion Unakas there are myriad Little Balds, and the photographer can endlessly duplicate the essence of our front-cover picture. Only the detail changes; there is the same wildness, the same engulfing greenness, and, withal, the same friendliness, close by yet aloof.

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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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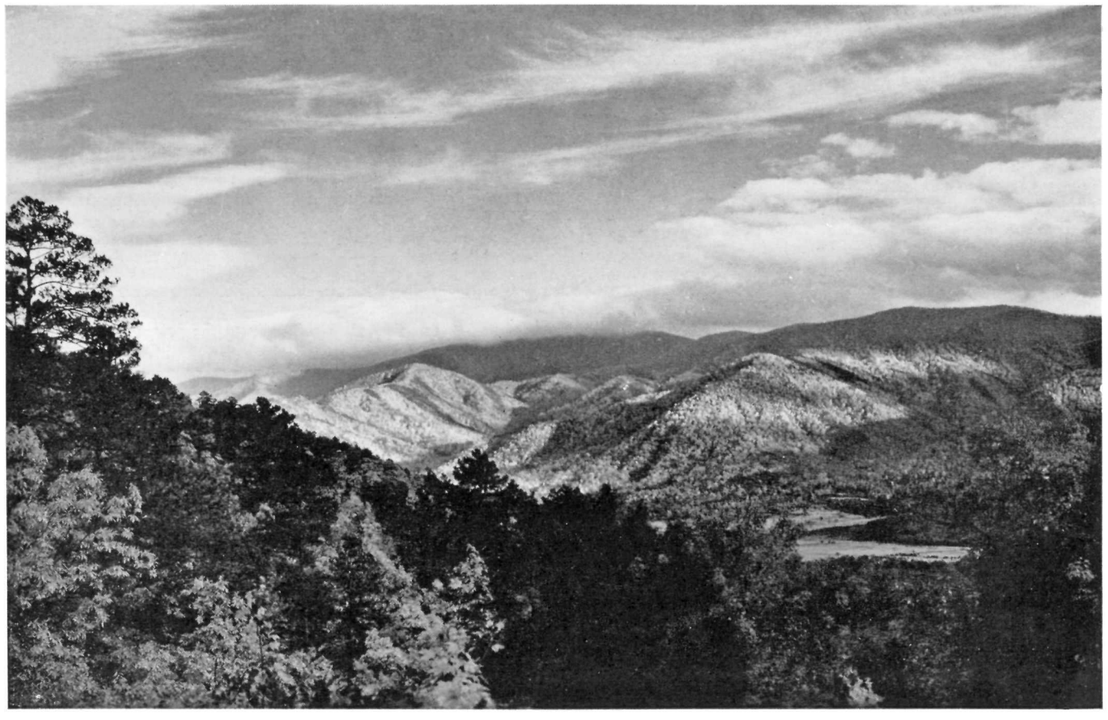
"Nowhere in the country, east or west, did we have in one locale such a concentration and range of forest types in virgin status . . ."

The Great Smoky Mountains National Park

By Harvey Broome

When the Great Smoky Mountains National Park in North Carolina and Tennessee came into being three decades ago, forty percent of it, or roughly two hundred thousand acres, was in virgin condition. Those two hundred thousand acres were, with a few exceptions, the last solid chunk of virgin forests east of the Mississippi River. The Quetico-Superior, Okefinokee and Everglades and, indeed, Isle Royale, represented limited vegetational types—as does Shenandoah Park. Acadia, the Linville Gorge Wild Area, the Joyce Kilmer Scenic Area, and the Great Gulf Wild Area, as well as Cape Cod and Cape Hatteras, are small. And the great Adirondack Forest Preserve is a northwoods forest type like Isle Royale. All but one or two of these have gone through numerous vicissitudes. Nowhere in the country, east or west, did we have in one locale such a concentration and range of forest types in virgin status.

My first acquaintance with the high Smokies occurred in 1917. I walked the twenty or so miles from Elkmont to Clingmans Dome. The trail along Miry Ridge was still a miry trough between endless walls of rhododendron. But from the ridge connecting Silers Bald and Clingmans Dome, I saw huge logging operations on each side of the divide. Other such operations were taking place at the same time in the eastern part of the Smokies. All were destined to continue nearly a decade longer. In another twenty-five years the whole park area would have been reduced to second-growth, with little to distinguish it from the remainder of the Eastern forest lands. That is how close we came to losing the heart of the Smokies and perhaps the entire park.



Then came the miracle of acquisition, which took nearly a decade to consummate and which led to the establishment of the Great Smoky Mountains National Park and the saving from logging of those precious two hundred thousand acres.

Just what this miracle accomplished was impressed on me anew a few years ago. Along a trail to Mount Le Conte I saw a down spruce from which a section had been cut. The cut was eighteen inches in diameter, and exposed at least three hundred annual rings. This modest tree—and there are thousands in the park which are larger—antedated the earliest explorations west of the Alleghenies. In age it reached far back in time toward the first settlements in America, and indeed toward the discovery of America. Older and larger trees on this same slope were undoubtedly standing hundreds of years before the arrival of the white man in this hemisphere. Not only were these trees standing, but the aspect of this extraordinary forest had remained basically unchanged since the last Ice Age. A few floods and slides, a few lightning fires and some areas of wind-throw, and the chestnut blight, among others, had made some changes, but essentially the forest had not altered in appearance for millennia.

There was nothing anywhere on the continent, or perhaps on earth, quite like that great southern hardwood forest which verged upward into an alpine type in the eastern half of the range. That virgin central core of the Smokies had an unspeakable grandeur not only upon the calendar of mankind, but on the infinitely older calendar of the earth. Without that stately and ancient forest the Smokies would have been second rate—a place for recreation—but lacking the penetrating distinction which goes with virgin country.

Superb though it was, this awesome forest did not exist in one contiguous tract. The Morton Butler purchase near Cades Cove contained an incomparable remnant which was, and is, removed from the main belt of virgin forest by many miles of cut-over land. And the main body, stretching roughly from Clingman's Dome to Old Black, had hardly been surveyed before an intensive-use highway (to New Found Gap) had been constructed up one major valley, the West Prong of the Little Pigeon, and down another, the Oconaluftу. (In the early 1920's, only forty years ago, the upper West Prong Valley was one of the most remote and wondrous places I have ever known.) Soon a spur road was pushed out to Clingmans Dome—a road existing for thirty years now on such an uneasy balance that it is closed several months of the year because of the danger to motor cars of rockfalls and blowdowns. Many miles of the costly Blue Ridge Parkway in and contiguous to

Photo credits: left, National Park Service; right, Joseph E. Thompson

Clothing the slopes of bulky Thunderhead, in the photo at left, is a portion of the 200,000 acres of virgin southern Appalachian forest that was saved from the ax with the establishment of the Great Smoky Mountains National Park. At right, the western peak of Mount Le Conte exhibits the Canadian flora that covers the park's higher summits.

Courtesy National Park Service

The richly varied hardwood forests of the Great Smokies cover lower elevations, giving way to balsam with increasing elevation. Above 5000 feet the forest cover is predominantly spruce, as in the winter photograph.

the Smokies are also closed several months of the year, and, like the Clingmans spur, have only part-time usefulness because of slides and rockfall.

The process of whittling at the virgin heart of Great Smokies Park goes on. At present a major road relocation, built to ever more mischievous standards, is subverting the magnificent forest along the top of Thomas Ridge near Newfound Gap. And despite the Clingmans Dome experience, and the shocking and expensive slides on Chilhowee, on the southbound road along the West Prong of the Little Pigeon and on the road to Monteith Point, there is now talk of another road down the matchless primeval forest on upper Sugarland Mountain.

The overnight facilities on Mount Le Conte are dependent for firewood upon the great blowdowns which have been such a provocative spectacle on the high summits. Where the blowdowns are undisturbed the young seedlings shoot up thickly—a remarkable demonstration of forest succession. But around the overnight centers the forest now has a tamed and grove-like aspect. I have not seen all of the new shelters, but one was accompanied by the felling of an acre of trees on a steep slope, presumably just for a view. Only six months after the dedication in June, 1964, of the new campground in the fine second-growth forest at Elkmont, foul blobs of detergent foam began to appear downstream on the shining pools of Little River.

Our country is less than two hundred years old. I have known the Smokies for a quarter of that time. The virgin core of this range is an infinitesimal fraction of the continent-wide first-growth forest of two hundred years ago. In the East there remains *nothing* comparable in size or content.

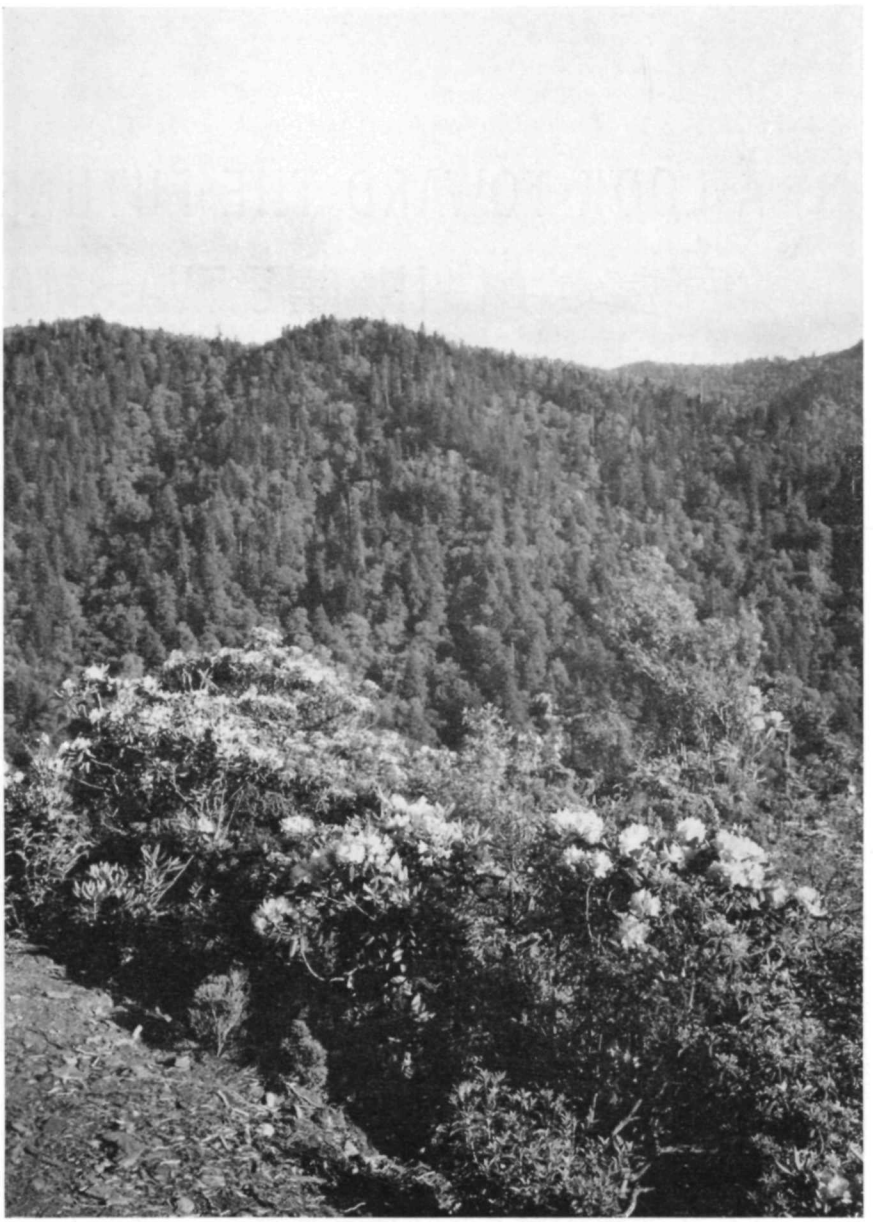
Fifty Years in the Smokies

My initiation to Clingmans and Silers was close to fifty years ago; my first trip to Le Conte was in 1920, and my most recent, this year. I was on Thunderhead and the Spence Field in 1922; on the Boulevard, Jump Off, and Charlies Bunion in 1926; on Guyot, Laurel Top and Mount Chapman in 1927; down Deep Creek in 1932; at Three Forks in 1936; and in later years have filled in the gaps between.

I have revisited all of these areas over the years, and many on frequent occasions. Slow attrition follows development. Almost without exception, wherever there is a road, or dug trail or shelter facility in the virgin forest, there is slowly-spreading damage. The areas contiguous to developments become littered, eroded, or threadbare from heavy use and abuse.

In the nearly fifty years I have known the Smokies, vast changes have taken place outside. Once almost inaccessible except to the lumberman, the Smokies are now unbelievably accessible to the motoring public of the entire country, with upwards of five million visitors in 1963. In 1930 the population of the country was 130 million. Today it is 190 million, and the prospects are for double that by the year 2000. In forty years there will be three times as many people in the country as there were in 1930, and their force will be multiplied countless times by increased leisure and mobility. Long before the year 2000, the impact upon the remnant virgin acres would be annihilating should the Park Service feel compelled

Springtime in Great Smokies Park brings more than 1300 species of plants into a memorable floral display; most striking to the visitor, perhaps, is the June bloom of the rhododendron, seen at right on Alum Cave Trail.



Courtesy National Park Service

to provide for the enjoyment of 350 million restless and foot-loose people. In the process new road would follow new road; new trail would follow new trail; new shelter would follow new shelter; and the virgin area would be doomed.

It must be clear that the demand which now looms over us can never be satisfied. Even modest annual changes will ultimately destroy the wilderness. The choice will have to be made between supplying facilities for everyone who asks, or adopting clear measures to preserve what is left. The decision to preserve should not be postponed.

To accomplish this, there must be a complete shift in development from the virgin areas of the park to the areas which surround them and even to non-park areas outside. No further developments of any character should take place in the virgin heart. No more trails; no more shelters; no more roads; no expansions, extensions, or additions to existing facilities. To protect what is left we must learn to live with facilities we now have. The hardest thing will be the decision itself.

Such decisions may ultimately entail rationing, and reservations before use. It will undoubtedly require more emphasis on contiguous portions of the park, which were once logged over or farmed, but which have been restored by time to a semblance of their former beauty and charm. But let not development even in these surrounding areas proceed hastily. They, too, can be blighted by overdevelopment. I particularly have in mind roads which would further sectionalize the park. One of the subtlest appeals in any preserve is the awareness that there are many miles intervening before there is another road.

Support for such decisions may involve the acquisition of additional lands outside of present park boundaries. The original taking-line for the park embraced most of the Chilhowees, Tuckaleechee and Wears Coves, much of the Pigeon Forge area, Webb Mountain, all of Eagle Creek, the area east of Mount Sterling to the Pigeon River, and the Plott Balsams. Already there are moves in the direction of outside acquisition. The Foothills Parkway will traverse a portion of the Chilhowees and Webb Mountain, and will connect with the Pigeon River; and the Blue Ridge Parkway is routed through sections of the Qualla Indian Reservation and of the Plott Balsams at Waterrock Knob.

Many of the areas excluded from the original taking-boundary are already heavily devoted to serving users of the park—as around Cherokee and U.S. 19; at Pigeon Forge; and in Tuckaleechee Cove. By indirection the area of dedication is thus expanding beyond the limits of the park; and the original grand design for a much larger boundary is being vindicated and to some extent realized.

The preservation of Great Smoky Mountains National Park will require cessation of all new developments in the virgin area of the park; restriction of new development to areas of secondary quality; and pursuit of every means of diverting use from the park by utilizing attractive and strategic lands outside. Such a program will spare this priceless remnant of the once untrodden continental forest and will still serve, and serve well, the American public. ■

A LOOK TOWARD THE FUTURE IN THE TVA-SMOKIES REGION

THOUGHTFUL CONSERVATIONISTS ARE beginning to agree that the philosophy of park management which views national preservations largely in terms of formal boundaries and their encompassed scenery and natural phenomena may have outlived the era of American history it has served so handsomely over the past century. They are beginning to wonder whether the old philosophy may not have been overtaken and overwhelmed by the needs and demands of a mushrooming population which is ever more mobile, ever more restless, and possessed of ever more leisure. And they are looking toward the pattern of Federal and private lands that lies beyond park and monument boundaries in formulating solutions to the increasing pressures on the parks for development of all kinds—development which, unchecked, must some day defeat the purposes for which the parks were created.

The course of events in one of the great wilderness preservations of the East, Great Smoky Mountains National Park, whose half-million acres lie athwart the North Carolina-Tennessee State line, supports the notion that national park planning in terms of only the parks themselves will no longer serve either the parks or the people. Great Smoky Mountains Park currently counts park visits at nearly 5½ million per year, and the figure spirals endlessly.

At the boundaries of the park and even within the park itself visitors often become embroiled in bumper-to-bumper traffic, racing motors, inching forward, bedeviled by exhaust fumes, caught in the very tension and congestion they sought to escape. Traffic-jams up to five miles long, and frustrating concentrations of vehicles and humanity at parking areas, campgrounds and picnic facilities, afflict the preservation more and more frequently.

Perhaps it was this overcrowding, plus the reputation of Great Smoky Mountains Park as the largest mountain park of the East—still containing more than 200,000 acres of wilderness forest—that prompted the National Park Service to initiate there, in 1964, one of two pilot projects looking toward new master-planning for the units of the national park system.

Master-plans, however, set general patterns of management that are likely to be followed by park administrators for decades; it thus would seem important that new plans should not be allowed to crystallize until ample opportunity is given qualified conservationists and conservation organizations for discussion and understanding. Contemplated major changes in park preservation and use policy should always be made known beyond a restricted circle in one governmental agency.

* * *

During this period of history, development, whether in or out of parks, almost invariably moves forward not in relation to the art of living but in the sense that if there is one building, there will very likely soon be ten buildings; if there is a narrow gravel road, there will be pressure for a wider, straighter road; then a blacktopped highway; eventually perhaps a freeway. Typical reaction of many motorists to traffic congestion is a demand for more road development; given the present rate of population growth and proliferation of the automobile, such a demand obviously could not be met in a national park, without sacrifice of the park itself. It seems clear that roadbuilding, and in fact all other park development, whether in Great Smoky Mountains or any of the other great parks or monuments, must be checked sharply at some point despite the pressure of an increasing population and its demand for outdoor recreation of various kinds. Extension of developments in an effort to meet all demands will lower the level of the national park experience for all visitors.

* * *

Last year Great Smoky Mountains Park celebrated its 30th anniversary. Since establishment it had received nearly 70 million visits. Within its 512,674 acres there were 367 miles of road, 151 miles of which were paved; 625 miles of trail; 134,835 feet of water-supply lines; 49,097 feet of sewer lines; 11.9 miles of park-operated primary power lines; 395 buildings, of which 62 were historical in nature; 13 developed campgrounds with a total of 1370 campsites; 20 trail shelters, 2 campground stores, 4 saddle-horse concessions, and a boat-dock. There were no restaurants, and there were no overnight accommodations other than a small lodge on Mount Le Conte, reachable only by hikers and horseback-riders.

In 1964, the permanent staff of the park stood at 125, and there were 135 seasonal employees; the annual payroll totalled $915,786. Visits during July and August of 1964 exceeded a million a month; during June and October, more than half a million a month.

Overnight camping was climbing to more than half a million people a year; around three-quarters of a million were picnicking. Hikers were registering at the rate of 167,000 annually, while 32,000 people were riding horseback, 67,730 were swimming (although no swimming facilities had been developed) and 30,800 were fishing. Park management was a big and complicated operation, and was rapidly becoming more so. The park, in the opinion of many conservationists, was taking on some of the characteristics of a populous settlement.

* * *

Studies, discussions and recommendations for the new Great Smoky Mountains Park master-plan have recognized the oustanding scenic, inspirational, scientific and recreational values of the pristine spruce-fir and hardwood forests of the park; of its mountains, coves and streams; and of the historical values of the mountain settlements. The importance of preserving the remaining 200,000 acres of real park wilderness has been stressed, and notice taken of the fine forests that are growing again on once-cleared lands. (So rapidly and well is this type of forest growing, in fact, that much of the land should be scheduled for wilderness designation as the master-planners apply Bureau of Outdoor Recreation zoning classifications to the park—the apparent intention now for all units of the national park system).

Both the need for preserving real national park experience opportunities and the asserted desirability of opening such opportunities to the greatest possible number of people, with their thickening flow of vehicles, have been mentioned by the Great Smoky Mountains Park master-plan study committee. Roughly, the central portions—perhaps half of the park—were seen by the committee as requiring primitive or wilderness (BOR Class V) designation; and the importance of classifying and preserving historic areas (BOR Class VI) has also been stressed. Quite properly, no high-density recreation areas (BOR Class I) were recommended by the study committee, which expressed the belief that such areas belonged outside the park; for example, in the Cherokee Indian lands, at Gatlinburg, in Maggie Valley east of the park, or on the Fontana reservoir along the park's southerly boundary.

Other BOR Classes

The fringes of the park and the lower parts of its valleys were envisioned generally as recreational areas in a natural environment (BOR Class III, allowing for roads, campgrounds, reservoirs and motorboats). Areas of the park lying at moderate elevations were seen as unique or outstanding natural areas (BOR Class IV, areas kept as nearly natural as possible, with minimum development), buffers for wilderness (BOR Class V, without roads or structures), places for major programs and facilities of the park's interpretive operation, including nature trails, walk-in campgrounds and so-called motor nature trails. Corridors for roads through unmarred natural scenery were seen as BOR Class IV, with only a small amount of BOR Class III, and were apparently conceived as much narrower than the miles-wide BOR Class III corridors a task force suggested in 1964 for Yellowstone National Park.[1] However, by placing the park in a larger regional context it would be possible to view almost all the park as BOR Class V and BOR Class VI, with only a small portion given over to BOR Class III for campgrounds, visitor centers, and administrative facilities.

The danger of too much development in Great Smoky Mountains Park has been recognized by the study team, together with the importance of working out capacity limits beyond which use could not go without diluting or destroying natural conditions and cutting the quality of the national park experience. For outdoor recreation of non-park kinds, discussion has recognized larger areas outside the park as suitable—a tentative pointer in the direction of wide regional planning and coordination of land administration for the preservation of the park.

Yet it would seem, in spite of theoretical recognition by the study committee of the basic need for firm park

[1] "A Yellowstone Regional Plan": *National Parks Magazine*, January, 1965, pp. 4-12.

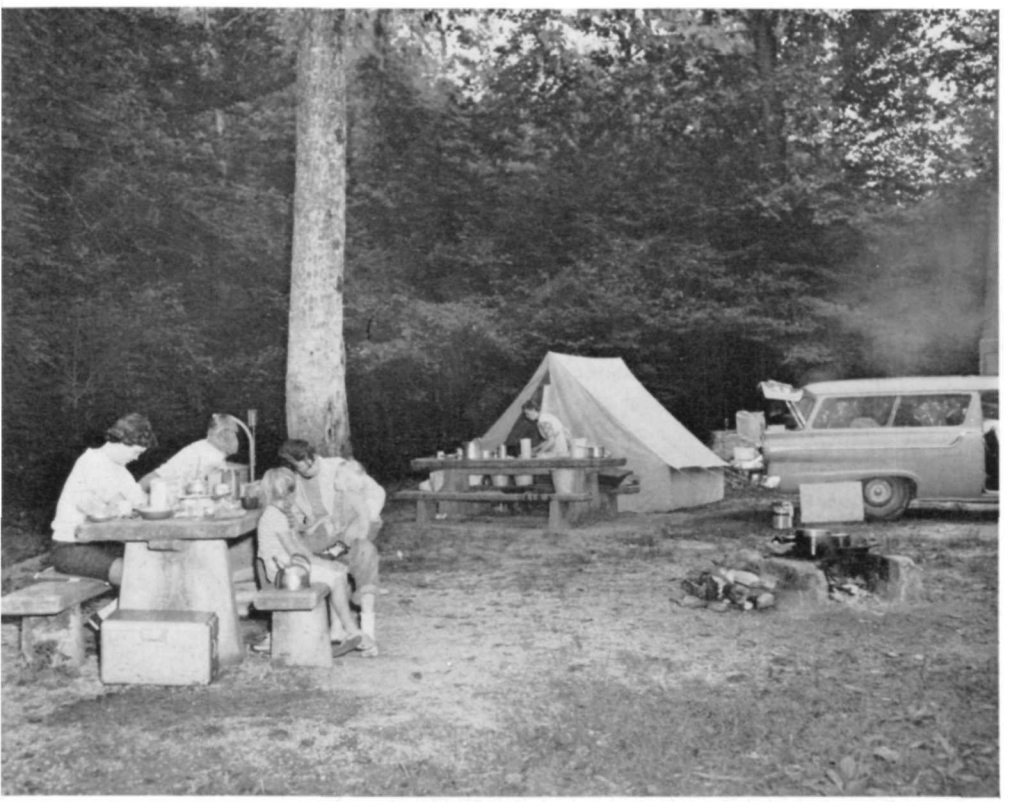
A beautiful mountain farm lends charm and character to the Great Smoky Mountains in the Nantahala National Forest west of Franklin, North Carolina. On the skyline is the long ridge of Dobson Mountain.

U. S. Forest Service photograph: Daniel O. Todd

protection, that excessive weight may still be given the apparent local demand for more development within the park.

Under consideration during 1964 was a retreat from the long-standing Great Smoky Mountains Park policy against overnight lodges accessible by road at locations deep in the forests, despite growing private accommodation development outside the park, which in the past has been encouraged by local feeling that the park would not compete in this respect. This retreat seems unwarranted in view of the wide range of excellent overnight accommodations available in the gateway communities. The town of Gatlinburg, for example, just adjacent to the park's northern boundary, has grown from a tiny mountain village to a small city offering overnight accommodations for 10,000 people. To impose such a change in the park's management philosophy, which has always been oriented toward day-use, would also, of course, cause a further reduction in the total area of the preservation's unspoiled or healed areas. If additional overnight accommodations were to be built within the park they should most certainly be of very small size, and access should be by foot- or horse-trail, not by road.

One of the long-term hopes of Great Smoky Mountains Park official planning—that the developing road system outside the park would relieve congestion within the park—is being voiced again. The system foreseen included the Foothills Parkway, which is to roughly parallel the northern boundary of the park, and which is now in various stages of land acquisition and construction; the Gatlinburg bypass (partly within the park) designed to prevent the piling-up of traffic in the park on Route 441 east of Gatlinburg, now under construction; Interstate Route 40 connecting North Carolina and Tennessee, passing east and northeast of the park; and a proposed extension of the Blue Ridge Parkway from Beech Gap south of Asheville, North Carolina, to Route 41 near Cartersville, in north Georgia, passing southeast of the park. Conservationists were sharply critical of the first route proposed for the parkway extension; original plans called for relocation of 17 miles of the Appalachian Trail in north Georgia to make way for the parkway extension; modifications of the original plan have somewhat reduced the contemplated damage.



U. S. Forest Service photograph: Leland J. Prater

There are many campgrounds in the national forests of the region surrounding the Great Smoky Mountains National Park, and many more are planned. Above, a family camping scene at Coon Tree Campground in the Pisgah National Forest.

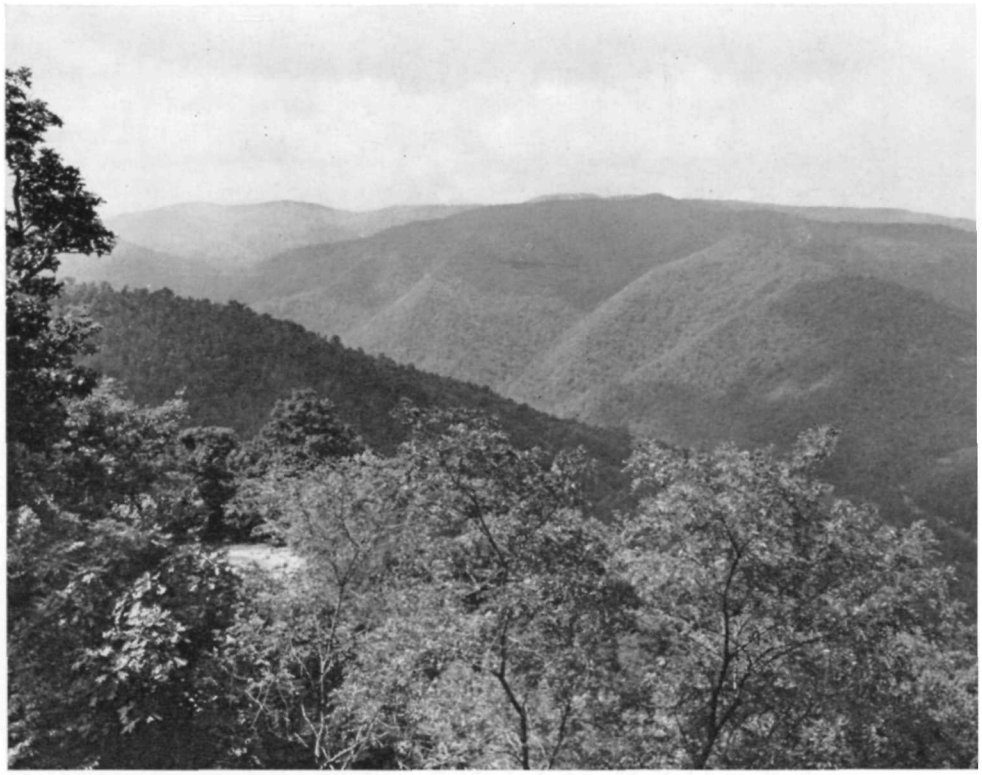
The study group has indicated some reluctance toward completion of the Fontana-Bryson City road, proposed to cut through the southern sector of the park, and has noted its severe scarring effects and high costs; the group has suggested, in its place, a system of water-access points to the park on the south shore of the Fontana reservoir. This would be a sound step. The proposed Fontana-Bryson City road, which would entail extreme cuts and fills through a splendid portion of the park, stems from a 1943 agreement between the Interior Department, the Tennessee Valley Authority, North Carolina, and Swain County in that State, whereby the Park Service agreed to build a road along the north shore of the Fontana reservoir (to replace a road inundated by the waters of the Fontana reservoir) in exchange for about 44,000 acres of fine forest lands for the park. Whatever the merits of the original agreement may have been, the need for such a destructive road no longer exists, since a State highway (Route 28) along the south shore of the reservoir has been constructed to first-class standards, and could be upgraded further if necessary. In the light of changed conditions, the National Parks Association several years ago recommended that the Interior Department renegotiate the old contract; the Park Service has constructed the north-shore road for a short distance into the park on the Bryson City side, aimed at contact with an arm of the Fontana reservoir; construction should certainly halt at that point.

One of the ominous aspects of the new planning studies is the apparent inclination toward substantial mileages of new highways in the park. Thus, a feasibility study has been suggested for an entirely new transmountain highway between North Carolina Route 28 and Tremont and Townsend in Tennessee. A bridge would carry this highway over the Fontana reservoir.

Connecting highways from Tremont to Elkmont, from Cataloochee to Heintooga, and loop roads in general, as opposed to dead-end access roads, are advocated to improve "circulation by automobile." One such loop road would penetrate pristine forest inside the park's southeast corner, and destruction of basic park values could hardly be avoided. Once a second transmountain highway existed it would probably be impossible to avoid still further connecting construction, including a link with the Newfound Gap transmountain highway, Route 441, along the crest of the Great Smokies via Clingmans Dome. Further, the study committee has felt a need for identifying within the park additional "targets" of visitor interest —an unfortunate term—and provision for access to them by trail or road.

Solutions to the intolerable traffic and visitor congestion in Great Smoky Mountains Park will not, however, be arrived at by construction of more roads within the park. This park already has ample road mileage—more than ample, in the opinion of many conservationists. The park needs no more roads.

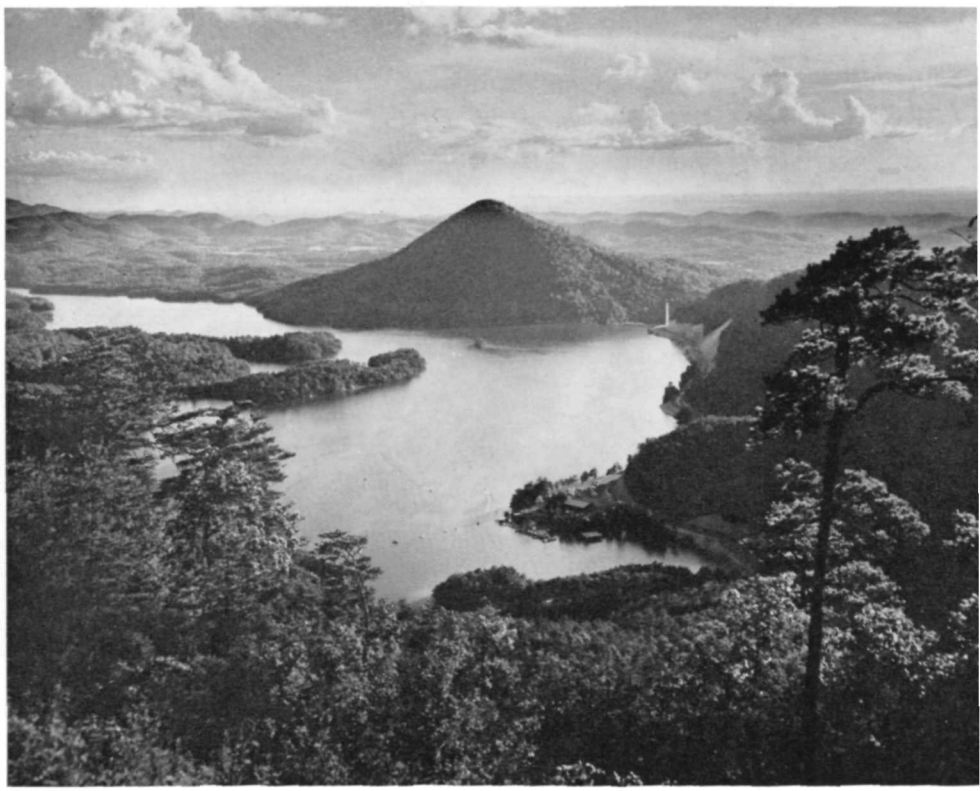
Interstate 40, which will cross the Great Smokies northeast of the park, is scheduled for completion in 1968, and is to be the required route for transmountain commercial traffic. Route 441 through the park should be subjected to severe traffic control to protect both people and the park; transmountain commercial traffic and house trailers should be barred immediately from use of Route 441 through the park, and routed either north or south of the park over existing high-standard highways. Transmountain recreational traffic should also be diverted to help free Route 441 from the crush of mere sightseeing; there are ample other roads in the region for this activity. Campers bound for the park should receive campground assignments and ticket arrangements from rangers at the park's entrances; when the campgrounds were full, use could be made of an accommodations referral system, described below. With the opening of Interstate 40, transmountain buses should be required to use that route. There should be sufficient public transportation in the form of small, quiet buses, avail-

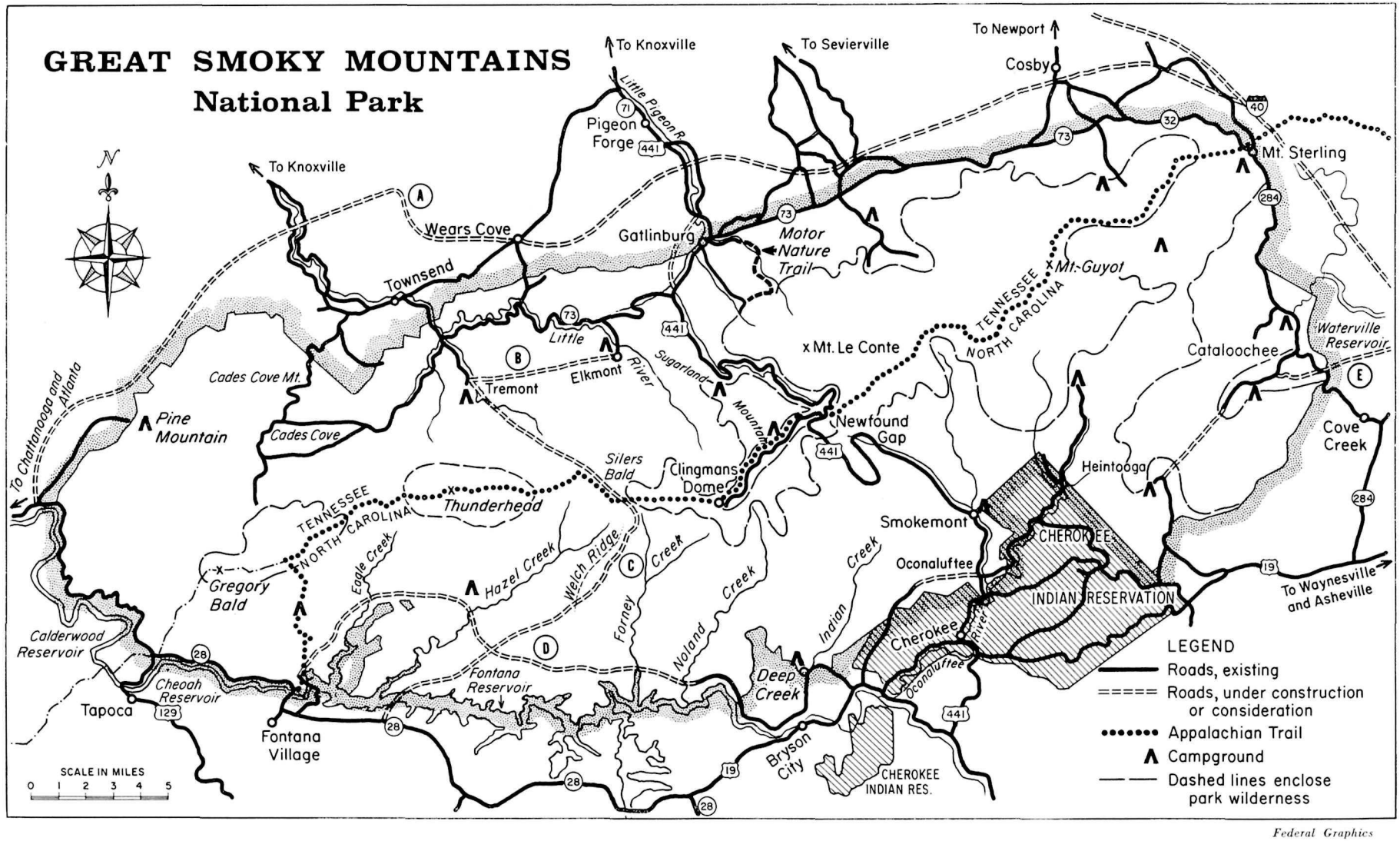


U. S. Forest Service: Daniel O. Todd

Sound plans for better distribution of the outdoor recreational load in the TVA-Smokies region would include maximum protection for specially-designated units of the national forests, like the Shining Rock Wild Area of the Pisgah Forest, above. For water-based outdoor recreation involving mechanical devices—motorboating and water-skiing, for examples—there are many TVA and other reservoirs in the region well suited to the purpose. Below, the Parksville reservoir on the Ocoee River in southeastern Tennessee.

Tennessee Valley Authority





Federal Graphics

Shown above is the existing road system in Great Smoky Mountains National Park, and additional roadbuilding either under construction or consideration. Paralleling the northern boundary of the park is the Foothills Parkway (A), presently in various stages of construction or land acquisition. Under discussion is a connecting road-link between Elkmont and Tremont (B). Also proposed for the park is a second transmountain highway (C) between Route 28 south of the park and Tremont, Tennessee, via Welch Ridge. The Fontana-Bryson City road mentioned in this article is shown as (D). A road now under construction (E) will connect the Cataloochee area of the park with Interstate Route 40, which runs diagonally across the upper right corner of the map. Connecting links between the Cataloochee and Heintooga roads and between Oconaluftee and a road entering the park from the south have been mentioned; such links would create loop-roads from dead-end access roads. There is a bypass under construction at Gatlinburg, while, nearby, the map locates the park's so-called motor nature trail. Narrow dashed lines enclose areas of the park considered by park authorities as wilderness.

able at gateway communities, to accommodate park visitors wishing to divest themselves of the burden of operating their own automobiles.

It would be difficult to imagine a more destructive recommendation for roadbuilding than that which contemplates a second transmountain highway through the park from Route 28 to Tremont and Townsend. This idea ought to be discarded immediately. There could be no justification for the expenditure of funds for an engineering study of such a road; the road itself would not only be excessively destructive of park terrain and park values, but also totally unnecessary, with the prospective opening of Interstate 40. Bureau of Public Roads funds to be expended in North Carolina should be released only in the event of an acceptable over-all plan for highway development in that State; such a plan certainly would not include the contemplated second transmountain highway through the park.

There is nothing to be said in favor of the other roadbuilding schemes projected for the park—construction of watershed-to-watershed roads like the proposed Cataloochee-Heintooga link, the various peripheral-loop roads, roads running along the spines of mountains, and further development of "motor nature trails." All of these proposals merely add up to a street-plan for the park. The recent opening of a so-called motor nature trail in the park, with considerable fanfare of publicity, was sharply criticized by conservationists on the grounds that such "trails" could serve only as invitations to eventual widening, straightening and blacktopping; that they might also serve as opening wedges for through highways; and that, in any event, the phrase "motor nature trail" seemed to be a rather silly contradiction of ideas.

A much more promising aspect of planning studies and discussions in regard to the park is repeated reference to the potential of gateway communities, and of places and highways farther outside the park, for taking some of the visit-load from the park, and with it pressures for roadbuilding and other development. These references look in the direction, at least, of broad planning for Great Smoky Mountains Park and the entire TVA-Smokies region.

A solid plan for this region would consider the great recreational potential of a terrain lying between a line west of Knoxville and Chattanooga in Tennessee and a line east of Asheville in North Carolina, and encompassing parts of Virginia, South Carolina and Georgia. The area would include all of the Nantahala, Pisgah and Chattahoochee National Forests and parts of the Jefferson and Sumter National Forests. The region contemplated covers about 40,000 square miles. It contains the outstanding mountains of the East, in which a great many peaks rise above 5000 feet, dozens above 6000 feet, all being topped by Mount Mitchell at 6684 feet, highest point east of the Rockies. It has wide forests, innumerable creeks, rivers, waterfalls and gorges. Within it are many reservoirs, most of which were created by the Tennessee Valley Authority. The Cherokee Indian Reservation borders the park on the North Carolina side; and there are vast, and so far but slightly developed, expanses of mountain and forest in private ownership.

National Forest Opportunities

Recreational development is accelerating in the national forests. There are, for example, 110 campsites (with varying numbers of family units) on national forest lands dealt with here, while a further 876 sites are proposed for development. An indication of the magnitude of coming development is given by the North Carolina national forest supervisor's estimate that 19,000 family camping units might exist in the Nantahala and Pisgah Forests alone by the year 2000, with a camping capacity approaching 100,000 persons per night. The largest single recreation complex in the national forests of the South is presently under development at Indian Boundary in the Cherokee National Forest, only a few miles from the southwestern corner of the park. It will include beaches, perhaps 1000 family camp and picnic units, boat-launching ramps, group campsites, nature trails, and one, or perhaps two, campfire theaters for night lectures, movies and slide shows.

As part of the Forest Service interpretive program launched in recent years, a full-fledged visitor center is now under construction in the Pisgah Forest at the "Cradle of Forestry in America" historic site of the nation's first school of forestry; it expects visitors at the rate of 1½ million a year. Construction is to start before July 1 on the Tellico-Robbinsville Scenic Highway in the Nantahala Forest; and in the Cherokee Forest, across the State line in Tennessee, a Cherokee Crest Scenic Highway is proposed. (Various opportunities for scenic motor tours already exist in the national forests of the region, and it would seem that the lacing of mountain terrain with more of these so-called "scenic highways" is not only extremely destructive of natural values but also unnecessary).

In looking at present and projected national forest outdoor recreational facilities in terms of lessened pressure on Great Smoky Mountains Park, conservationists would hardly advocate development of adjacent national forests beyond their proper capacity. They would also insist that wild and scenic areas set aside for undisturbed enjoyment of natural beauty—the Joyce Kilmer Memorial Forest in the Nantahala Forest, Linville Gorge Wild Area in the Pisgah Forest, Unaka Mountain Scenic Area in the Cherokee Forest, and others—receive maximum protection. However, Federal law decrees that national forests are to furnish opportunities for a wider range of activities than national parks; and, taken together, the two types of reservations could serve the people well.

Extensive outdoor recreational use is currently being made of TVA's power-navigation-flood control projects, such use being reported now at more than 45 million person-days a year on the agency's 26 major reservoirs, which have more than 600,000 acres of water surface and 10,000 miles of shoreline. About half of these reservoirs lie behind high storage dams on tributaries of the Tennessee River within the region dealt with here. The reservoirs (euphemistically advertised as "lakes" by TVA and the mapmakers) are surrounded by forested ridges and mountains, and water levels are usually satisfactory during early and middle summer months. However, reservoir waters built up during winter and spring are released to maintain navigation and power production in autumn; deep drawdowns are often a recreational handicap later in the season.

On the reservoirs within the TVA-Smokies region there were, in 1964, 167 recreational developments, offering for the most part boat-docks and boating services, but including 84 locations with camping, and more than a hundred with food or lodging (usually both). Hundreds of access points mark reservoir shorelines, and a substantial number of public parks have been developed, affording opportunities for picnicking, motorboating, fishing, swimming and hiking. Recreation facilities and services are operated by other public agencies or by private enterprise; none by TVA itself.

The TVA currently carries out economic analyses for civic groups interested in further development, including outdoor recreational development, in areas centered on tributaries of the Tennessee River. Such analyses look, so far as TVA is concerned, toward construction of further dams. This agency might well be encouraged to continue such studies; they should be oriented, however, toward proper use of the ample forest land and natural area opportunities presently existing rather than entirely toward reservoir-based outdoor recreation. TVA should not be planning any further reservoirs, either within or outside the TVA-Smokies region.

Adjacent to Great Smoky Mountains Park on the North Carolina side is the 56,000-acre Cherokee Indian Reservation, an outstanding travel attraction for many tourists. It has numerous points of interest and extensive tourist facilities. There are some 40 motels, a dozen gasoline stations, and 20 restaurants. About 40 craft or souvenir shops are operated either through lease or by the Indian possessory holders. During the summer of 1964 there were 9 public campgrounds with a total of 358 developed units, including a limited number of trailer hookups.

An arboretum with indigenous plantings has been developed near Cherokee Village, with a three-quarter-mile trail. There is a garden with many herbs and vegetables that have been introduced to the white civilization by the Indians. Museums and historical exhibits have been created. The Cherokees and two Federal bureaus—Indian Affairs, and Sport Fisheries and Wildlife—cooperate in a fish-management program on reservation lands, with weekly restocking of 57 miles of streams. The Cherokee complex, traversed by the Blue Ridge Parkway and Route 441, is growing rapidly in recreational capacity. The Cherokees should be aided, if they so desire, in the development of further proper outdoor recreational facilities.

A Communications Network

Any workable plan for spreading the outdoor recreational load and relieving the national park of its present intolerable traffic burden would require communication between the Federal agencies of the region regarding availability of visitor accommodations. The Forest Service has already taken a step in this direction. Tentatively planned near Topton, in the Nantahala Forest on one of the heavily-traveled routes toward the heartland of the Smokies, is a public information center where Forest Service personnel will be able to maintain radio contact with the national park so that up-to-the-minute information on camping space in both the Nantahala Forest and Great Smoky Mountains Park will be available; it is indicated that this information service may later be linked with similar services in the rest of the region's national forests and on the Blue Ridge Parkway. This is a step in the right direction. Expanding on this idea, other information might help visitors to the general region locate, without disappointment or retracing of route, the types of recreational opportunities they sought.

Similar information services at key points along all the major highway entrances to the region, operated in coordination by telephone or radiotelephone, would be vital to the information network plan; private enterprise should be tied into the Federal network through Chambers of Commerce and associations of private motel and campground operators.

There are many potential sites outside the park and forest lands well suited for substantial private recreational development. The Rand-McNally *Guidebook to Campgrounds* (1964) lists 22 private enterprise campgrounds in the region; 12 on the Tennessee side of the Smokies, and 10 on the North Carolina side. Three of these, within a few miles of the park, have more than a hundred tent-sites each. In regard to further private enterprise development of campgrounds, fishing and swimming opportunities, and improvement of farmsteads for additional income from the tourist trade, the small-watershed program of the Soil Conservation Service could make valuable contributions, both in creating new water-based recreational opportunities or in enhancement of those already existing.

The Bureau of Outdoor Recreation is involved in the TVA-Smokies region as part of its nationwide work. In July, 1964, it published a tourist and recreation-potential study of western North Carolina for the Area Redevelopment Administration—one of a number of governmental sources of financial and technical aid for private enterprise projects—placing "special emphasis on identifying specific recreation development opportunities."

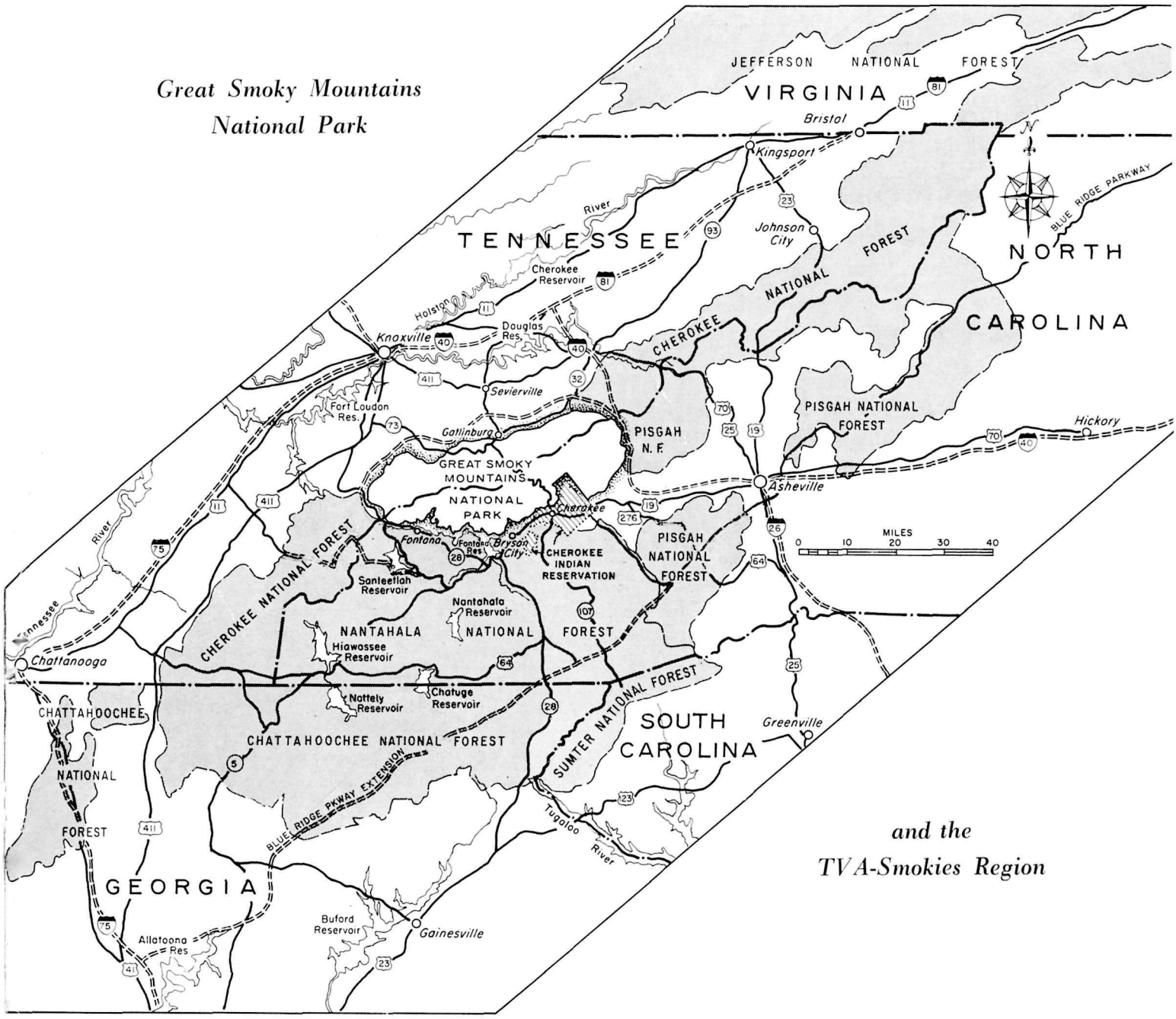
The primary orientation of the report is toward greatly expanded outdoor recreational facilities and services by private enterprise, a philosophy shared by many of the on-the-site administrators of the national park and national forests, as well as by TVA.

New fields for private outdoor recreation developments are being suggested, such as publicity on the region's wealth of semi-precious gem-stones, and other minerals—an appeal to "rockhounds"—and conversion of declining farms into guest ranches. Private enterprise should receive both State and Federal encouragement in this direction.

* * *

The 40,000-square-mile region in which Great Smoky Mountains National Park is situated already provides outdoor recreation for millions of Americans. It has potential for better distribution of visitors, and for greatly increased capacity. Many additional millions of recreation-seekers could enjoy in many ways that tremendous complex of scenic land and water with its refreshing climate, innumerable points of interest, and opportunities for active recreation.

But with over-all development unplanned and over-all use uncoordinated, congestion threatens destruction of the very qualities sought in the national park, while in by far the larger part of the region, recreational opportunities are but slightly known. ■



Great Smoky Mountains National Park and the TVA-Smokies Region

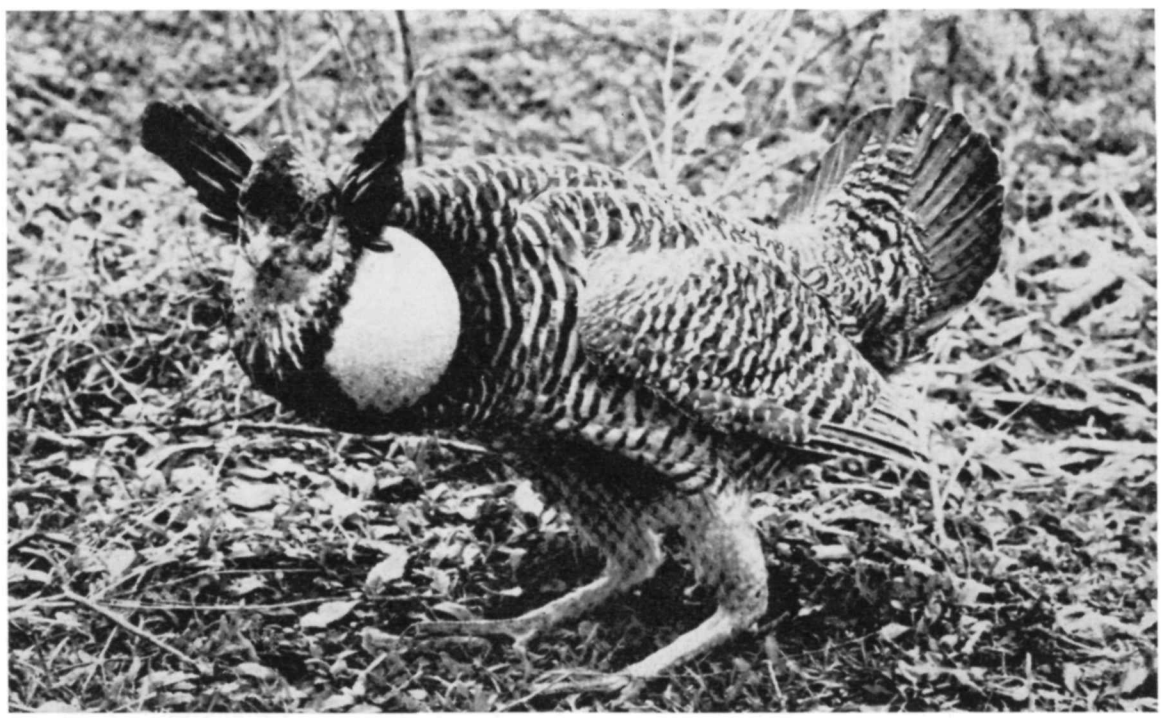
Federal Graphics

Today many conservationists see the parks and monuments as portions of much larger geographic regions, but specially protected both for their unique qualities and public enjoyment; they may, as in the case of Great Smoky Mountains Park, be partly embedded in a matrix of national forest lands. The beautiful mountain terrain of the Great Smokies possesses a great potential for absorbing today's increasing outdoor recreational demands without overdevelopment of any of its parts. Within the area outlined are the park, four national forests, and parts of two other national forests. There are many State and county parks; many TVA and other reservoirs (some not shown on map) and vast private holdings of farm and forest lands. Also shown are the major highways of the region; at key points on the highway network there could be coordinated information services for outdoor recreation seekers and the better distribution of the recreation load. In addition to existing highways, the map shows the routes of interstate highways under construction or projected; the Foothills Parkway adjacent to northern boundary of the national park; the proposed route of the Blue Ridge Parkway Extension; and the Tellico-Robbinsville Scenic Highway just below the southwest corner of the park, in the Nantahala and Cherokee National Forests.

A VANISHING AMERICAN BIRD:

THE ATTWATER PRAIRIE CHICKEN

BY WALTER S. BOARDMAN



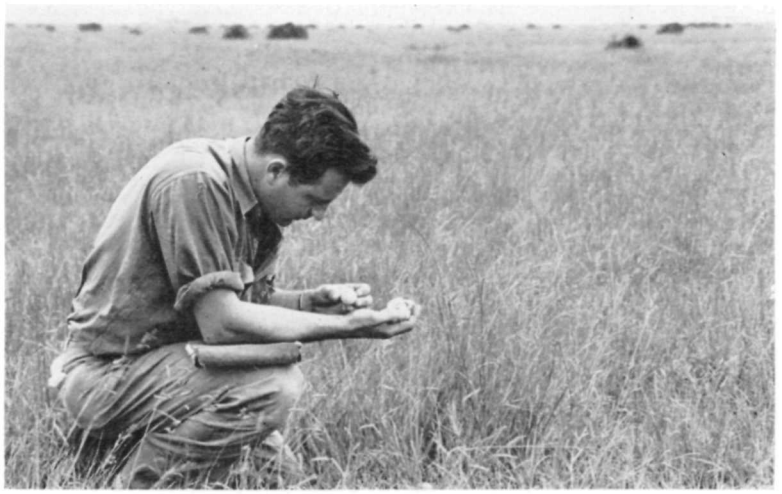
Texas Game and Fish Commission

Erect plumage and inflated orange gular sacs are displayed by this male Attwater prairie chicken as he performs his mating dance. The wings are beaten rapidly to produce a loud booming noise.

Since the United States emerged as a brash young nation climbing to power on the strength of its natural resources, many of these resources have been permanently destroyed, either willfully or as a result of biological ignorance. Within the span of this nation's history, approximately forty species of animals native to the North American continent have become extinct; an alarming number of mammals and birds are now listed in the preliminary report of the United States Fish and Wildlife Service as wildlife in danger of extinction. One of these is the Attwater prairie chicken, *Tympanuchus cupido attwateri*, the strutting, striped "boomer" of the coastal prairie of Texas.

This Texas relative of the now-extinct heath hen was once counted in the millions along the coastal plains of Louisiana and Texas. The population is now down to little more than a thousand birds. Each year the numbers decrease as needed prairie habitat is altered by man. Farmers are converting the prairie into ricefields; as each natural area is invaded, the rare birds are placed in a more precarious position. Conservationists fear that the Attwater prairie chicken will eventually disappear if immediate steps are not taken to insure preservation of a portion of its prairie habitat—a portion large enough to support a viable population of birds.

In the October, 1963, issue of *The Journal of Wildlife Management*, it was noted that ". . . eight upland farms totalling 3795 acres at the northwestern fringe of the Bernard Prairie constituted good chicken environment in 1937. All of the operators left grain in the fields for prairie chickens, planted shrubs for summer shade, controlled predators, protected chickens from poaching, grazed pastures moderately, and otherwise showed a deep concern for the land and its products. Five of these operators are now dead. Little or



A wildlife biologist kneels among the tall grasses of the Texas coastal prairie to examine the nest and eggs of an Attwater prairie chicken. Habitat like the grass area pictured here is rapidly disappearing; a fact cited as the main cause of the bird's decline. Photograph by Texas Parks and Wildlife Dept.

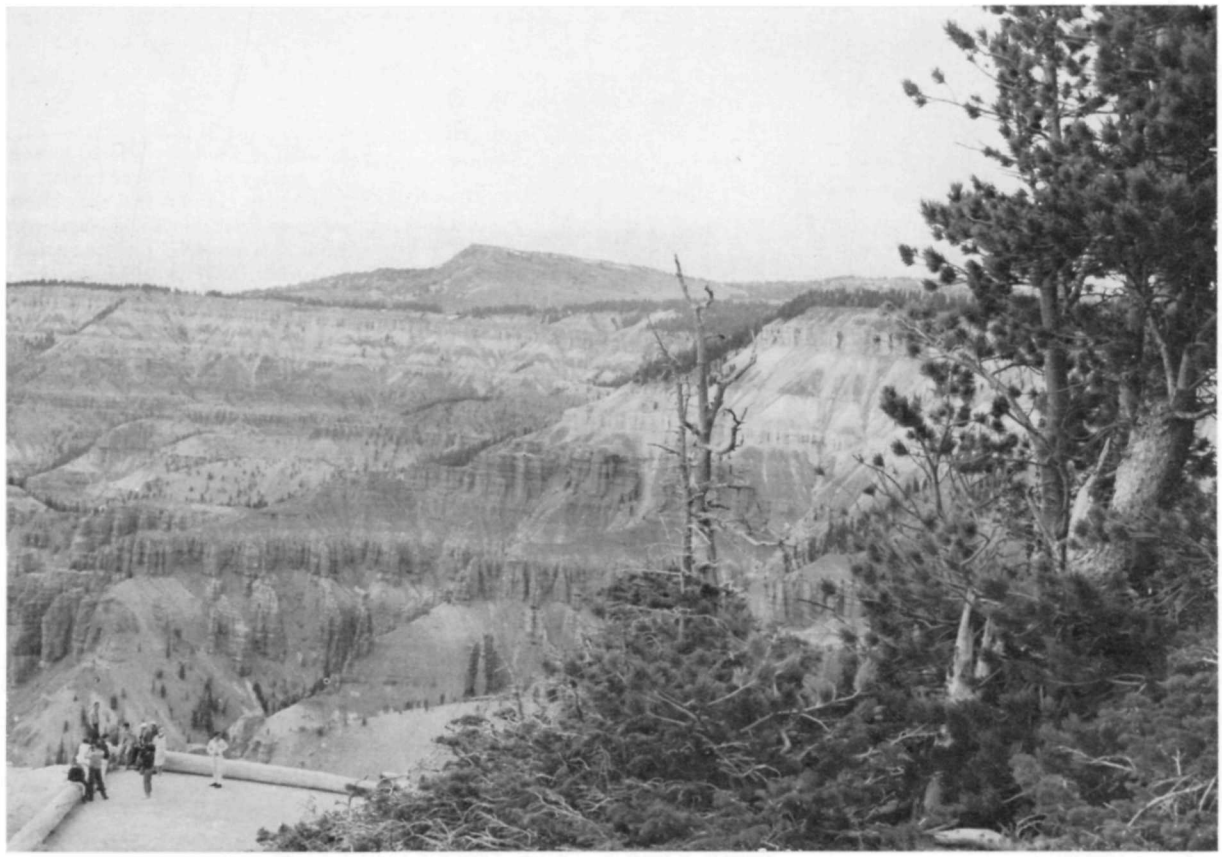
Huddled together in their nest of grass, two young Attwater prairie chicks await the return of their mother from a food-hunting trip. The birds nest on the ground, and are dependent on the tall prairie grass for shelter from predators and harsh weather. In recent years rice farming has all but destroyed natural prairie chicken habitat; conservationists fear the species may become extinct. Photograph by Texas Parks and Wildlife Department.

no grain is produced, mowing is extensive, less effort is made to control human and animal predators, and overgrazing is general and serious."

The report also states that the most serious threat to the survival of this rare bird is the extensive expansion of rice farming, which has been greatly encouraged by government support of prices. In addition to this intensive agricultural program on prairie chicken habitat, farmers also undertake aerial spraying with chemicals and the dissemination of poisoned seed-grain to rid the area of insects and animals harmful to rice crops. Both the air-spread chemicals and the poisoned grain are lethal to the prairie chicken.

In a joint effort to save the birds The Nature Conservancy, the National Wildlife Federation, the National Audubon Society, and the World Wildlife Fund have interested themselves in the purchase of some 3428 acres of near-virgin prairie land, to be set aside as a permanent sanctuary for the Attwater prairie chicken. The habitat area is on two adjoining Texas ranches, both owners of which are interested in the eventual fate of the vanishing species. Alteration of prairie chicken habitat has been so severe that flocks of the birds have been forced to seek shelter in the tall grass surrounding a runway at Ellington Air Base in Texas. Several recent incidents of bird-plane collision have aroused the consternation of the Air Force; the base is the site where an astronaut was killed when his plane collided with a snow goose.

Lack of suitable habitat is forcing the last remaining birds to inhabit dangerous areas; conservationists can only hope that these combined farming and other hazards will not significantly reduce the already dangerously small population of these native birds until a permanent refuge of sufficient size can be obtained. ■



Photos courtesy National Park Service

Just outside the northwest corner of Cedar Breaks National Monument in southern Utah stands Brian Head, summit of which rises more than 600 feet above meadows of the Hudsonian life-zone. Above, Brian Head is seen on the skyline over the colorful cliffs of Cedar Breaks; at left, a closer view. The peak has been considered worthy of addition to the monument.

BRIAN HEAD

By Natt N. Dodge

"IF YOU HAVE TIME," CONCLUDED the ranger-naturalist at the Point Supreme visitor center in southern Utah's Cedar Breaks National Monument, "when you reach North Point, the last overlook on the rim drive, continue on the dirt road to the top of Brian Head. It is only two and a half miles farther, but it gives you the most extensive view in southern Utah. You'll enjoy it!"

The "dirt road" proved to be just that; but by progressing in low gear we managed to dodge most of the rocks and high centers and were soon following its ruts northward and upward across the eastern slope of the long tableland called Brian Head, which looks down on the national monument. Below, a verdant subalpine meadow dotted with clusters of conifers appeared to be the grazing ground of a large band of sheep; at the far side of the meadow a herder's tent indicated that this was a permanent summer pasture for the woolies.

We continued on our slow way, the so-called road making a 180-degree turn to the left and continuing, now southward, across the upper slope of the tableland toward its highest point, 11,315 feet above sea-level at its extreme southern end. At the turn of the

road there were several large spruce trees, but as we progressed toward the summit, tree growth became noticeably dwarfed and stunted. Before we had reached the end of the road, trees as such had disappeared entirely, and had given way to low, sprawling thickets of what we found to be prostrate alpine, or corkbark, firs marking the extreme upper limit of tree growth. Here, on the southern end of Brian Head, overlooking Cedar Breaks National Monument, is a small but highly significant acreage of arctic-alpine terrain with plants and animals typical of the heights above timberline.

Loftiest point of land in southern Utah, the summit of Brian Head offers an unsurpassed view in all directions. The outlook is especially spectacular to the south and southeast, with the subalpine meadows and colorful cliffs of Cedar Breaks in the foreground. Beyond, the land drops away with heavily-forested uplands in the middle distance and the rugged, canyon-cut plateaulands of Zion National Park on the southern horizon. The striking difference between the deeply eroded "pink cliffs" of Cedar Breaks and the dark and somber rock mass of the alpine promontory that is Brian Head aroused our curiosity. For geologists, especially, the following excerpts from the United States Geological Survey's *The Geology of Eastern Iron County, Utah*, by the late Herbert E. Gregory, will be of interest:

"The Wasatch formation, in which have been eroded the spectacularly colorful cliffs and terraces of Cedar Breaks National Monument, was deposited in Eocene times. This formation is covered by a sequence of volcanic debris, breccia, siliceous limestone, and coarse sandstone; a group of distinctive rocks for which the name Brian Head formation has been adopted. These rocks are dacite prophyry, perlitic vitrophyre, andesite, ryolitic tuff, and white-and-pink chalcedony (jasper, an outcropping of which may be seen near the southeastern base of Brian Head). Brian Head marks the southern limit of the thick, broad sheets of Tertiary rhyolite and closely related rocks that give prominence to the high plateaus of central Utah. The Brian Head formation is conspicuously capped by thin sheets of acidic lava, but its base is generally concealed by talus and products of disintegration."

The fact that the rocks of Brian Head are considered by geologists to be of sufficient importance to give its name to the entire formation wherever it occurs should impress even the casual visitor with the geological significance of the promontory.

The talus slopes, boulder fields, and other "products of disintegration" mentioned by Dr. Gregory are of special interest to biologists because they provide niches and micro-habitats for many species of subalpine plants, and ideal den-sites for families of yellow-bellied marmots, or rockchucks, as well as a considerable population of tiny rock rabbits, also called conies, pikas, tailless hares, or little-chief hares.

Ways of the Cony

Active and alert, shy yet brimming with curiosity, the cony is one of the most attractive small animals of the high country. Inhabiting rock-slides and talus accumulations, the little pika, somewhat resembling a small, brownish-grey guinea pig, lives in the labyrinth of intricate passages among the rocks. During the short alpine summer it scurries about gathering grasses and herbs, which it places in small piles in the sunshine to dry. When the "hay" is cured, it is carried into the rock-maze as food for the winter months. Unlike the chipmunks, ground squirrels, marmots, and other rodents that spend the winter in hibernation, the cony (not a rodent but classified as a lagomorph) remains active during the long period of cold, traveling about in the dark tunnels that honeycomb the talus and feeding on the "hay" stored during the short summer. When disturbed or alarmed the cony produces a loud, harsh squeak. Its muffled voice is often heard deep within the jumbled rocks of a talus. Brian Head supports among its many rock-strewn slopes a relatively large population of pikas more or less isolated from other areas of pika habitat.

In addition to animals, many plants typical of the arctic-alpine life zone grow on the slopes of Brian Head. Among the more spectacular is the Parry primrose, with its reddish-purple blossoms that brighten moist locations; the pink-tinged ground cover of alpine phlox, and a dwarf columbine with its large, white flowers. Because of the very short growing season (July-September) at these heights, plants must move quickly into the blossoming stage in order to mature fruit before the storms of early winter cover the terrain with an icy armor of sleet and snow. The stunted, twisted, and prostrate timberline firs add a touch of the bizarre to the scene.

Brian Head should, in the opinion of many conservationists, be joined administratively to Cedar Breaks National Monument, if only for geological and biological reasons. Its addition would enhance the present scientific values of the monument by the inclusion of the largely volcanic Brian Head formation. It would also bring into the monument a small but typical sample of the arctic-alpine life zone needed to illustrate the effects of altitude upon plant and animal life. ■

On the boulder-strewn slopes of Brian Head's alpine zone lives the cony or pika, little mammalian farmer which does its "haying" during the short summer months against the long winter. At right, a cony shows both curiosity and caution in the entranceway of its home among the rocks.

News and Commentary

Everglades Water Hearings

During its 88th session, Congress authorized the Army Engineers to make a study of the fresh-water needs of Everglades National Park to find out if the Central and South Florida Water Project ought to be modified to provide the park with more water, and to determine the advisability of earth-barrier construction in the southwest part of the park to conserve fresh water. The study was authorized after Interior Department and Everglades Park officials pointed out that the ecology of the park is being jeopardized by lack of normal water-flow from the north because of water-project development. (*National Parks Magazine*, Feb., 1964; March, 1964).

During January the Engineers held pubic hearings in the matter, and in response to an invitation the Association presented a written statement of its views. Some 20 years ago, NPA said, Americans, acting through Congress, decided that an Everglades Park should be established for protection in perpetuity of an area of unique semitropical flora and fauna for the enjoyment of the people; and today, adequate water deliveries through the sluices along the north boundary of the park are the only way in which the integrity of the park can be maintained. Other water demands that are being made in Florida must yield to the extent necessary to provide the park with this water. Impoundments within the park will not serve the necessary purpose, the Association said, because the natural regime of the park's coastal embayments demands a normal exchange between salt and fresh water.

Finally, the Association made the point that the issues at stake do not lie primarily in the field of engineering, and respectfully suggested that the Engineers are hardly in a position to develop the comprehensive plans required to reduce the Everglades water problem. The issues of the situation lie in the field of the social sciences, the Association said, since they involve questions of agricultural policy, drainage policy, water delivery to cities and industries, and questions of Federal budgetary planning.

Saline Water Program

Less than a month after President Johnson ordered an accelerated research program late last year to find a practical and inexpensive method of converting large amounts of saline water to fresh water for human and industrial consumption, Secretary of the Interior Stewart L. Udall began an intensive plan to assure sufficient fresh water for the future. In mid-December the Metropolitan Water District of Southern California, the Department of the Interior, and the Atomic Energy Commission joined forces to conduct a feasibility study aimed at development of a dual-purpose electric power and water desalting plant. Such a plant will, it is hoped, be capable of producing about 150 million gallons of fresh water daily.

The cost of such conversion is presently about one dollar per thousand gallons—a figure much too expensive for practical use, except in the most arid regions. One goal of the research program is to find ways of cutting conversion costs to about twenty-five cents per thousand gallons.

Secretary Udall has invited private industry to join and supplement government work in desalting water; six private research firms each signed $50,000 contracts to work toward the desalting goal, and many more are expected to sign in the future.

The United States presently consumes approximately 300 billion gallons of water daily, and is expected to use an estimated 600 billion gallons by 1980. A breakthrough in the conversion of saline water would go far toward assuring adequate water supplies for the future use of our rapidly-growing population. In addition, it would probably represent a major technique for obtaining needed water without construction of deep-drawdown reservoirs of the type which are so destructive of natural resources and recreational areas.

Toward Quieter Trails

From time to time *National Parks Magazine* has reported on the verbal battle currently raging between hikers and motor-scooter owners over proper use of back-country trails in national forests and other wilderness areas. Hikers, horseback riders, naturalists, and others who enjoy quiet and unobtrusive activities in an unspoiled natural setting contend that owners of scooters and other noisy, gas-sputtering vehicles should restrict themselves to areas where they and their machines do not conflict with the solitude and character of wilderness trails. A recent test case involving the Boise National Forest in Idaho (see January, 1965, Magazine, p. 21) upheld the right of the Secretary of Agriculture to ban the use of motor scooters in a designated primitive area of the forest.

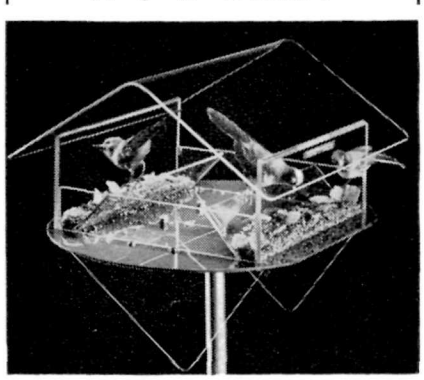
A new conservation group to "curb the encroachment of vehicles upon trail systems that lie outside designated wilderness zones" has recently been formed by individuals from all parts of the nation who hope to coordinate the activities of established conservation groups to solve the problem of hiker vs. scooter. Titled the "National Committee for Protection of Trail Country," the group is headed by regional chairmen representing various geographic sections of the country.

In addition to working for protection of back-country trails from vehicular travel, the committee will attempt to secure protection of basic trail systems against destruction by roads and other man-made developments, and to promote standards of trail maintenance and construction "that are in harmony with values of an outdoor wilderness experience."

Tribute to Dr. Goethe

Conservationist, philanthropist, humanitarian, and counselor to a variety of civic and public-interest groups, Dr. C. M. Goethe of Sacramento, California, regarded as the father of the Park Service interpretive program, will soon be celebrating his 90th birthday. As a mark of respect and affection for the man who has inspired conservationists and others for so many years, a civic committee in Sacramento has declared a "C. M. Goethe National Recognition Day" on March 29th. Chairman of the committee on arrangements for the event is Rodger

"IT'S A DILLEY"



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C. Bishton, National Recognition Day Committees, P.O. Box 9010, Fort Sutter, Sacramento, California.

New Ohio Wildlife Refuge

A new national wildlife refuge in Ohio has been presented to the Department of the Interior by the North American Wildlife Foundation, a private organization, with headquarters in Washington, D. C., which sponsors wildlife research through cooperating conservation groups. The refuge was the property of the Cedar Point Club, and comprises 2300 acres of natural marshes, sloughs, timber, and cropland on Lake Erie, seven miles east of Toledo. The ten member-owners of the Cedar Point Club have been managing the area as a waterfowl marsh since such management was established in 1882; last year the Club presented the land and the buildings on it to the North American Wildlife Foundation.

Many species of waterfowl, approximately 300 species of birds—some of which are considered rare by the Interior Department—and a variety of large and small mammals inhabit the area. The new refuge is expected to provide outdoor recreational opportunities for residents of surrounding areas; the Bureau of Sport Fisheries and Wildlife, which will be responsible for management of the land, is currently considering whether or not to allow public hunting and fishing in the refuge "to an extent that will not interfere with the basic refuge purposes of the area."

Redwood Damage & Causes

Aside from the loss of life and the enormous property damage of the recent floods along the Pacific Northwest coast, preliminary reports show that there has been a substantial loss of redwoods in the drainage basins of the northern California redwood counties. It is known that nearly 300 of the trees were toppled in the Bull Creek watershed within the 25,000-acre Rockefeller Forest of the Humboldt Redwoods State Park. Siltation of redwood stands along streambeds also has apparently been heavy, and there has been damage to understory growth. The Magazine will print further reports on damage in the redwood country as it becomes available.

Aside from the destruction of trees and terrain by floodwater, which is sent churning down the redwood streams by lumbering practices like those shown on pages 6 and 7 of the February Magazine, the northern California redwood counties will apparently face another menace related to the storm; that of pressure for large dams on rivers like the Eel, Russian, Van Duzen and Smith to slow down the rush of runoff water from areas devastated by improper lumbering techniques. In this regard, one West Coast conservationist has written: "What dams offer is dangerous complacency toward the real cause of floods in northern California: the reckless logging that has stripped the land of its native ability to retard, absorb, and contain rainfall . . .

"Dams on the coastal streams would constitute perhaps the worst blow of all to the beauty of the redwood country," the California conservationist has said. "Giving the land a chance to recover from the tractor surgery of loggers can greatly reduce the intensity of flood; meanwhile—while the land is healing, if we let it—stop-gap measures can be taken, but they should not be in the form of costly monuments to 'damism'."

Interior Personnel Changes

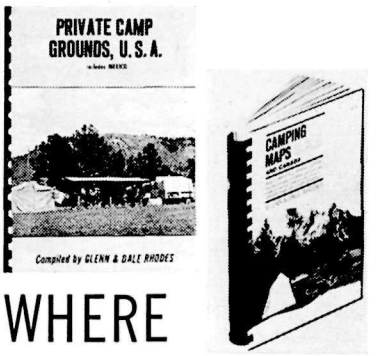
John A. Carver, Jr., formerly Assistant Secretary of the Interior, has been appointed to the second most important post in the Department: Under Secretary of the Interior. Mr. Carver, an attorney from Boise, Idaho, began his Washington political career in 1957 as administrative assistant to Senator Frank Church of Idaho. His responsibilities in the Department of the Interior have included administration of the Bureau of Land Management and the National Park Service.

Another prominent Interior official, Assistant Secretary for Fish and Wildlife Frank P. Briggs, has decided to return to private life and his home in Macon, Missouri, where he is publisher of the Macon *Chronicle Herald*, and owner of a cattle ranch.

Expensive Habit

The title "conservationist" may well fit not only individuals who claim the subject as their profession but all persons who understand and respect the ways of nature, and who appreciate a pleasing environment in cities, neighborhoods, near industrial centers, and along the roads they travel both to get to work and to begin a vacation trip. If one accepts this definition, it appears that conservationists all over the country are paying enormous sums to clean up the scattered, ugly trash left in both urban and rural areas by non-conservationists, sometimes better known as "littterbugs."

According to "Keep America Beautiful, Inc.," national public-service organization working for the prevention of litter, the untidy habits of some Americans are not only a menace to health and unpleasant to look at, but expensive as



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well. Taxpayers surrender approximately five million dollars yearly to clean up the litter tossed on streets, highways, national parks, forests, and recreation areas.

The national program of Keep America Beautiful is aimed at educating the public to understand—and display—the need for control of litter; to insure adequate collection and disposal facilities in vital areas; and to seek ways of penalizing habitual litterbugs.

Mountain Ecology Seminars

The towering peaks of Rocky Mountain National Park, Colorado, will be the site of outdoor classes this summer in plant taxonomy, alpine tundra ecology, and mountain ecology. The classes, which will run from June 28 to July 17 in three different sessions, are sponsored by the Park Service, the Conservation Education Division of the Colorado Department of Education, and others. Both experienced biologists and beginners are welcome, since the seminars are geared to group discussion and sharing of knowledge and ideas; field work within and around the park; and expert guidance by well-known ecologists and botanists. Participants will meet at Hidden Valley Lodge in the park and will travel to chosen sites for outdoor study. For further information on fees, activities, and instructors, write to Mr. Merlin K. Potts, Executive Secretary, Rocky Mountain Nature Association, Box 147, Estes Park, Colorado.

Remaining California Condors Menaced by Dams

Centuries ago, when the Western American Indian heard the rumble of thunder, he looked to the skies for the great bird whose large wings were believed to cause the awesome noise. Usually the Indian could see his "thunderbird"—the giant California condor—soaring on currents of air above the high cliffs of a silent forest domain. But with the encroachment of the white man's civilization the shy, hawk-like bird retreated farther and farther into the wilderness, and it became increasingly difficult to spot the condor's gliding form above the forests. For the past several decades ornithologists have watched with alarm as the condor population declined steadily; today, according to reports by Dr. Alden H. Miller, of the University of California's Museum of Vertebrate Zoology, there are about forty birds left. They live in the Sespe Wildlife Refuge, which comprises 53,000 acres in California's Los Padres National Forest. Sespe was set aside as a condor refuge in 1951 after scientific studies showed that condors could survive and reproduce only in areas devoid of human activity.

The condor, *Gymnogyps californianus*, is the largest of all American birds, and one of the largest land birds in the world. Its body feathers are black, and it has a light-colored head and underwing. From nests built high on the jagged faces of the forest's cliffs, condors swoop down to glide along air currents in search of carrion. They nest only once every two years, laying—and, hopefully, hatching—only one egg. At the slightest noise or disturbance by humans, the birds flee their nests; an unhatched egg or starved nestling is the result of the intrusion.

Under auspices of the National Audubon Society, Dr. Miller has completed a two-year study of the condors; he discovered that indiscriminate hunting, accidental poisoning by chemical pesticides, and the sensitivity of the condors to human activity were contributing factors in the dangerous decline of the condor population. An even more serious threat to survival of the species is the water plan of the California United Water Conservation District, a private corporation chartered by the State to sell water in the Santa Clara Valley and Oxnard coastal plain. The District advocates construction of two dams and a public recreation center on the Sespe River in the Los Padres Forest. One such impoundment, the Topatopa dam, would be built on the edge of the condor refuge, about one-quarter mile from the nesting area.

Topatopa dam is considered a major part of the Sespe Creek Project, for which local interests hope to obtain Federal funds. The Sacramento Regional Office of the U.S. Bureau of Reclamation is now doing a feasibility study of the project; preliminary reports calculate the cost as slightly less than $67 millions. To qualify for Federal aid, project planners claim recreational benefits from the dam impoundments for high-density recreational uses. To facilitate easy access for construction crews and later for visitors to the recreation areas, proponents of Topatopa dam propose construction of a public highway from the city of Fillmore northward to the dam-site. The highway would cut through the middle of the condor nesting sanctuary.

Local interests in favor of the project claim that if the road is built some precautions, such as artificial feeding, would be taken to protect the condors. Audubon Society President Carl W. Buchheister has pointed out, however, that "this species cannot stand human intrusion or activities in the vicinity of its nesting area, which the Sespe sanctuary was established to protect. Heavy public use of the proposed Topatopa reservoir . . . would be extremely dangerous to the condor. A public road through the refuge could well prove fatal to the species."

Local developers in the Sespe River area are pressing for construction of the dams, and already have the approval of the California Water Rights Board to begin the project no later than November 1, 1967. After completion of studies by the Bureau of Reclamation and review by various cabinet members, the project may be authorized for Federal aid.

The threatened California condor, which lives and nests in a protected area of the Los Padres Forest north of Los Angeles.

National Audubon Society: Carl Koford

YOU CAN HELP

Public officials like to know how people feel about things. You can help them and conservation by writing to them. If you wish to help save the California condor, read the article on this page and write your own views to:

Governor Edmund G. Brown, Sacramento, California.

Honorable Stewart L. Udall, Secretary of the Interior, Washington, D. C.

Honorable Orville L. Freeman, Secretary of Agriculture, Washington, D. C.

Book Review

THOREAU ON BIRDS. Compiled and with commentary by Helen Cruickshank. McGraw-Hill Book Co., 330 W. 42 Street, New York City. 331 pages. $7.95.

Naturalist-poet Henry David Thoreau was criticized by his contemporaries for lack of ambition when he went to live in his little hut near Walden Pond. But he had, on the contrary, set himself the highest of assignments: to "suck out all the marrow of life." Today's naturalists know that Thoreau accomplished his aim. The marrow is the same, everywhere and always; and so, the world over, men who have never heard of the White House claim fourteen acres of briar patch and pine woods near Concord as their own.

From the twenty volumes of Thoreau's writings, Mrs. Cruickshank has gathered his observations on birds into this one book. She also has added a chapter on his sources, which inadvertently serves to heighten our esthetic regard for Thoreau. Thus, while Thomas Nuttall, Thoreau's contemporary, sees the belted kingfisher as an abstemious bird feeding on small aquatic animals which it assiduously observes, chases with celerity, and dexterously catches, Thoreau sees the kingfisher as a "bright buoy."

Thoreau's comments are presented bird-by-bird. It is therefore difficult to trace his growth as a naturalist; but all of the key entries are here. We see him studying the feathers of a dead merganser, and analyzing the droppings of a crow; watching a barred owl until twilight; and breaking open galls on blueberry bushes to find "the little white grubs that lie curled up in them." We share his moment of rapture when, after listening to a crow calling in winter, he cries, "I am part of one great creature with him." We see him come to ecological theory: ". . . The seed of the cherry is placed in the very midst of a tempting pericarp, so that the creature that would devour the cherry "must take the stone into its mouth . . . Thus a bird's wing is added to the cherry stone which is wingless and does not wait for winds to transport it . . ."

At times, Thoreau's perception is blurred by his transcendentalism. At times, as in the celebrated piece upon the Death of the Young Hawk, his tenderness borders on sentimentality. But always he is saved by his poetic sensibility. In a passage from *Walden*, he describes how he comes upon a ruffed grouse and her brood. She flutters off; the chicks freeze. He finds one. He holds it in his hand, then places it back on the earth. It lies there motionless. He wonders how long it will lie still if the hen does not return. In this passage, he is at first precise, then fanciful, then almost foolish. Then, at the end, in his fantasy, he sees the hen killed and the chicks never moving until "they gradually mingle with the decaying leaves they so much resemble." The image, perhaps, is poetic license; but in all the rich heritage of American poetry, is there any image more touching than this? —*Michael Straight*

THE CONSERVATION DOCKET

THE 89TH CONGRESS HAS BEFORE IT A heavy schedule of conservation bills, many of which have been reintroduced from last year's docket. One of these, *S. 295* to create a Guadalupe Mountains National Park in Hudspeth and Culberson Counties, Texas, has been reintroduced by Senator Ralph Yarborough. The proposed park would preserve 71,000 acreas of mountain country.

On January 15, 1965, a bill to establish a Great Basin National Park in Nevada was referred to the Senate Committee on Interior and Insular Affairs. Reintroduced by Senators Alan Bible and Howard W. Cannon of Nevada, the bill, *S. 499*, calls for preservation of a 123,000-acre area within which there would be mining and grazing with certain restrictions. According to Senator Bible, this bill represents a compromise between conservationists and local mining and grazing interests.

The bill proposing an Assateague Island National Seashore has been reintroduced as *S. 20* by Maryland Senator Daniel Brewster and co-sponsors. Included is a provision to develop 600 acres of the proposed seashore for commercial facilities. While preliminary hearings on the bill were being held late last summer, local developers attempted to erect residences on the island; construction has been temporarily halted by the Maryland State Health Department, which contends that wells and septic tanks necessary for permanent habitation of the island would constitute a health hazard. The bill is now before the Senate Interior and Insular Affairs Committee.

Last October, Washington State Senator Henry Jackson introduced a bill to establish an 11,700-acre Indiana Dunes National Lakeshore between Gary and Michigan City, Indiana. A new bill, *S. 360*, has been introduced by Senator Jackson to establish the lakeshore. The bill is identical to last year's *S. 2249*, which passed the Senate in September; it is now before the Senate Interior and Insular Affairs Committee.

Oregon Senator Maurine B. Neuberger has again introduced a bill to establish an Oregon Dunes National Seashore, to preserve a beach, forest, and fresh-water lake area along the coast of Oregon. The bill, *S. 250*, has been referred to the Senate Interior and Insular Affairs Committee.

New Mexico Senator Clinton B. Anderson and co-sponsors have introduced *S. 22* to insure a more adequate national water research program, based on steadily-increasing appropriations for grants to institutions, foundations, or individuals for water research. *S. 22* would bring the national water research program in line with the Senate Water Resources Research Act of the 88th Congress. Another of Senator Anderson's bills, *S. 24*, would expand and accelerate the Interior Department's program for converting salt water into fresh water through the development of large saline water conversion plants. Both bills are now before the Senate Committee on Interior and Insular Affairs.

A bill to control and limit air pollution caused by vehicular discharge of toxic substances has been introduced by New York Representative Seymour Halpern. The bill, *H.R. 463*, would authorize the Secretary of Health, Education, and Welfare to determine and prescribe safe standards for automotive discharge of gases into the atmosphere. *H. R. 463* was referred to the House Committee on Interstate and Foreign Commerce.

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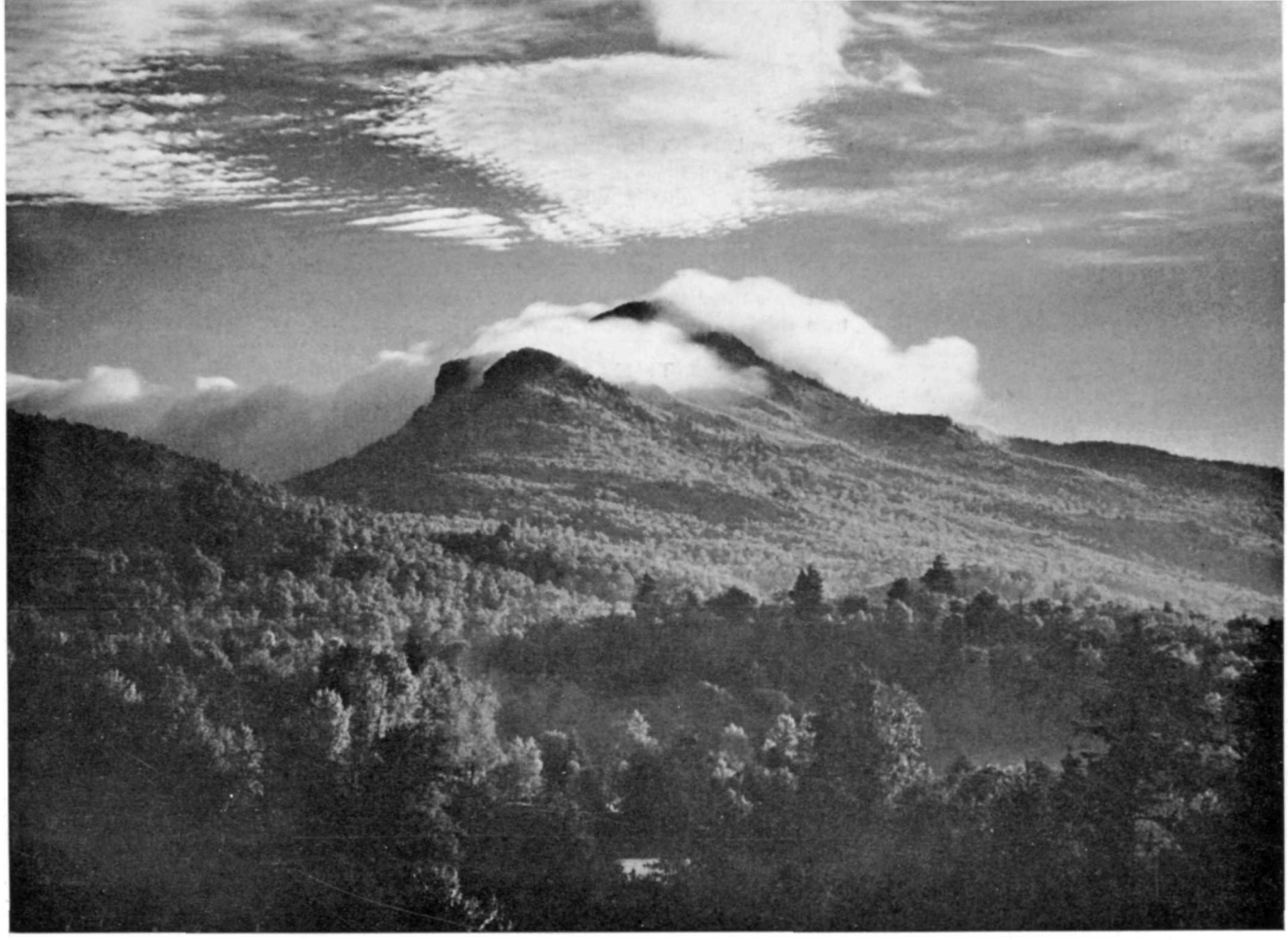

Great Smoky Mountains National Park, sitting astride the North Carolina-Tennessee State line, is flanked by thousands of square miles of scenic, historic, and scientifically fascinating terrain. In the photograph, the ancient rocks of the summit of Grandfather Mountain frown down through a cloud-cap over the mixed hardwood-conifer slopes of the Pisgah National Forest northeast of the park.

As America's leading conservation organization concerned primarily with the protection of the national parks and monuments the National Parks Association has pioneered in the conception and development of plans for helping to relieve these areas of the mounting pressures for overdevelopment. Thus, in the January Magazine the Association outlined a plan for Yellowstone National Park and the Yellowstone region which looked toward solution of the parks "protection and public enjoyment" mandate; this month we present a similar plan for Great Smoky Mountains Park and the TVA-Smokies region.

The Association needs your help in such park planning and protection work. You can assist in any of several ways; by raising your membership class; by contribution to the general funds of the Association over and above regular dues; perhaps by remembering the Association in your will; by helping to secure new Association members. All dues over and above basic annual dues, and all gifts and bequests, are deductible for Federal income, gift and estate tax purposes.

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