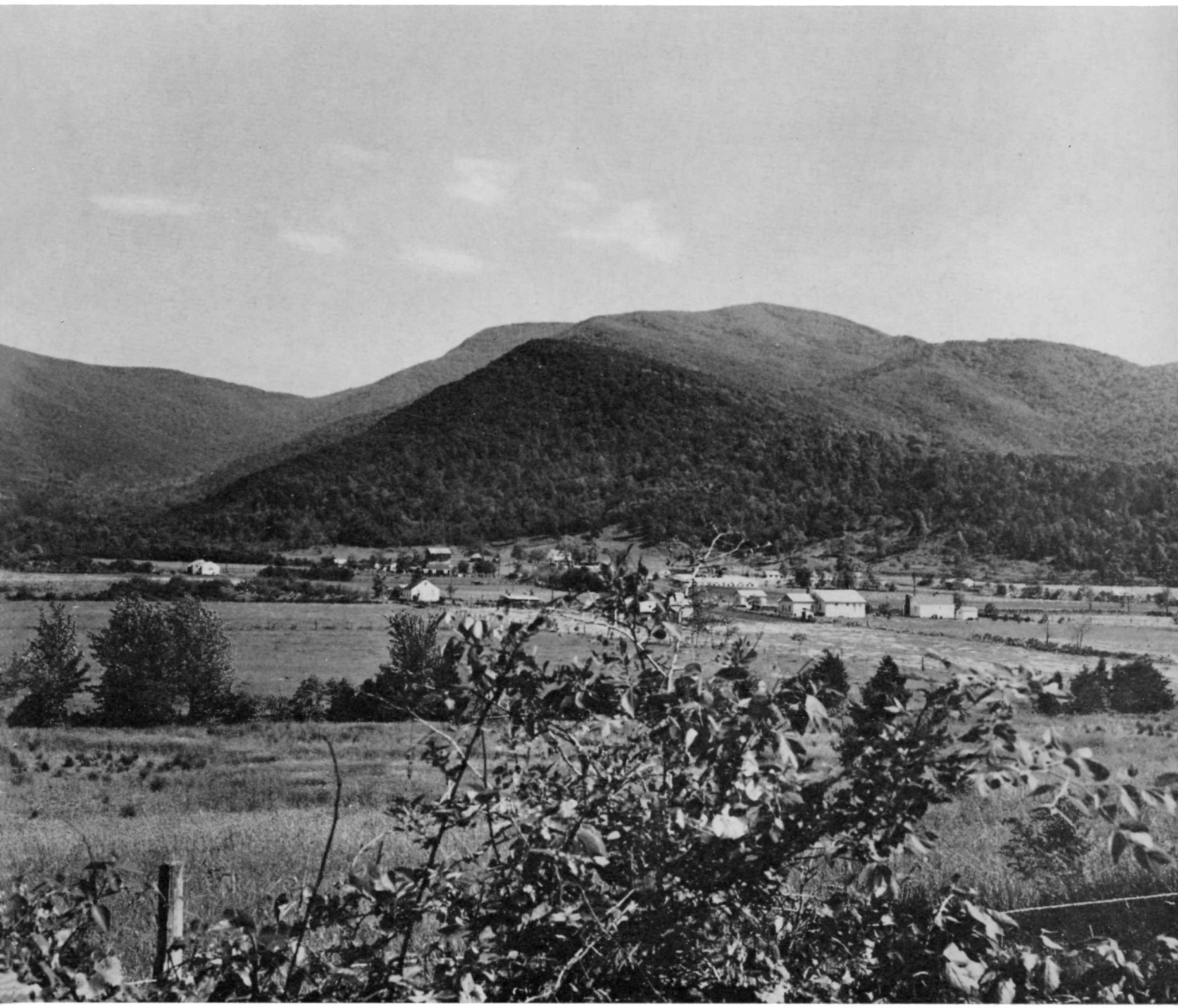
NATIONAL PARKS *Magazine*



Beyond the verdant fields of the Shenandoah Valley a national park climbs the western flank of Virginia's Blue Ridge

November 1965

Pure Water for America

An Editorial

PRESIDENT JOHNSON'S POWERFUL call, embodied by now in many public statements, for an end to water pollution throughout America, will have the unwavering support of all conservationists. A sweeping revolution, humane and democratic, is in prospect in the management of our water resources and river basins.

An intense concentration of research and development in water purification, which has been in progress for a half a dozen years, promises that very shortly all municipal and industrial waste water will be returned to the streams and rivers in even better condition than before diversion. Industrial plants will abandon the extravagant once-through technique for cooling, and substitute inexpensive cooling towers. Processing water will be purified and recycled. Municipal treatment plants, using methods like coal filtration and adsorption, will purify effluents completely and return them for use downstream, or recycle directly into the municipal system. Fresh-water estuaries will be drawn upon by coastal cities in droughts and emergencies. The rivers and the bays will become hospitable once more to human recreation, including even swimming, and wildlife will flourish there again.

The small headwater impoundment system, closely linked to careful watershed husbandry, will become the model for impoundments for flood control, siltation reduction, and high-quality outdoor recreation. The big reservoir will be abandoned as a tool of pollution abatement by storage, dilution, and flushing; it will serve a merely supplementary function in unusual situations for flood control; the pretense that it affords superior recreation will be dropped. The major inundations, the mass-evictions of human beings, and the deep and ugly drawdowns will be recognized as too destructive to communities, ecologies, and the outdoor environment to be tolerated.

The use of such reservoirs for hydroelectric power production, a practice with dwindling potentialities, will be subjected to hard reappraisal; the preference accorded the publicly and cooperatively owned electrical utilities will either be extended to other sources of power, eliminating an unwarranted pressure for hydropower facility construction, or it will be abandoned.

The subsidy to reclamation, whereby irrigators pay no interest on the public investment in reclamation works, and may not even repay the investment, will also come under close scrutiny, particularly in relation to national efforts to reduce agricultural surpluses by retiring millions of acres of crop land from production. The problem will be viewed in the light of existing subsidies to sugar-beet production by tariffs, quotas, and income subsidies; also in the light of the removal of crops like cotton from the Southeast to the Southwest, aided by domestic and overseas cost-sharing and price manipulation; upon all of which reclamation subsidies pile additional waste and confusion.

Water projects like the so-called Central Florida Flood Control Project, actually a drainage and irrigation project which mainly benefits municipal and agricultural land speculation, at the expense of the national interest in Everglades National Park, will have a severe re-examination, for both budgetary and policy purposes.

Absurd proposals like the use of hydropower at the cost of some of the world's most famous scenic canyons, for water supply in central Arizona, when coal-fired thermal plants can do the job less expensively, will be abandoned; likewise extravaganzas like the proposed water diversions from the Pacific Northwest, Alaska, and so forth, *ad nauseam*.

The rapid progress being made in desaltation, by a wide variety of techniques, and using a wide variety of fuels, promises abundant water for arid regions like the lower Colorado Basin and southern California in a few decades. If official attention can be turned toward the potentials of sunpower in such regions, progress can be expedited mightily.

Programming in these areas should be done on the assumption that this nation will shortly begin to stabilize its population by the voluntary decisions of millions of people. The intolerable pressures of the big cities on their inhabitants and on the surrounding countryside are driving home the conviction that the population explosion must be curbed. This will all require time, a matter of decades, but in the meanwhile the new technologies, coupled with a re-examination of a number of fundamental national policies, provide ample intermediate solutions.

The proposal of the Bureau of the Budget for the establishment of a National Water Policy Commission composed of policy-minded persons outside the government assumes an increasingly attractive mien as these problems are considered in perspective.

One of the functions of such a commission might well be a re-examination of the place and functions of the Army Engineers and the Bureau of Reclamation in the Federal Government power structure; a spotlight might be turned on the combinations of construction contractors, building and machinery supply manufacturers, municipal and agricultural land speculators which are part of the vicious circle which perpetuates these agencies, to say nothing of the self-perpetuational propensities of the bureaucracies themselves, military and civilian. The result might be the abolition of these agencies or their firm subordination in a purely operational function to some such national policy agency as the new Water Resources Council.

The President's vigorous summons to the protection of natural beauty and the natural outdoor environment, which has paralleled his proposals in water management, will supplement and strengthen his efforts to formulate a sane water management policy for the nation. These are monumental milestones in the establishment of sound goal-values on the road to a Great Society. —*A. W. S.*

NATIONAL PARKS *Magazine*

OFFICIAL PUBLICATION OF THE NATIONAL PARKS ASSOCIATION

VOLUME 39 NOVEMBER 1965 NUMBER 218

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Front cover photograph by E. Ray Schaffner

In December, 1924, the five men comprising Interior Secretary Work's Southern Appalachian National Park Committee—Temple, Gregg, Kelsey, Smith and Welsh—reported the results of their eight-month study of the southern Appalachians. "The two-thirds of our population living east of the Mississippi," they said, "has contented itself with a few State parks, not knowing that in the southern Appalachian Ranges there are several areas which fill the definition of a national park, because of beauty and grandeur of scenery, presence of a wonderful variety of trees and plant life, and possibilities of harboring and developing the animal life common in the precolonial days but now nearly extinct. . . . We therefore recommend the creation of a national park in . . . the Blue Ridge Mountains of Virginia. . . ." Little changed since the Committee's tour of inspection are the pleasant farmlands and foothills that today lead visitors into Shenandoah Park.

The Association and the Magazine

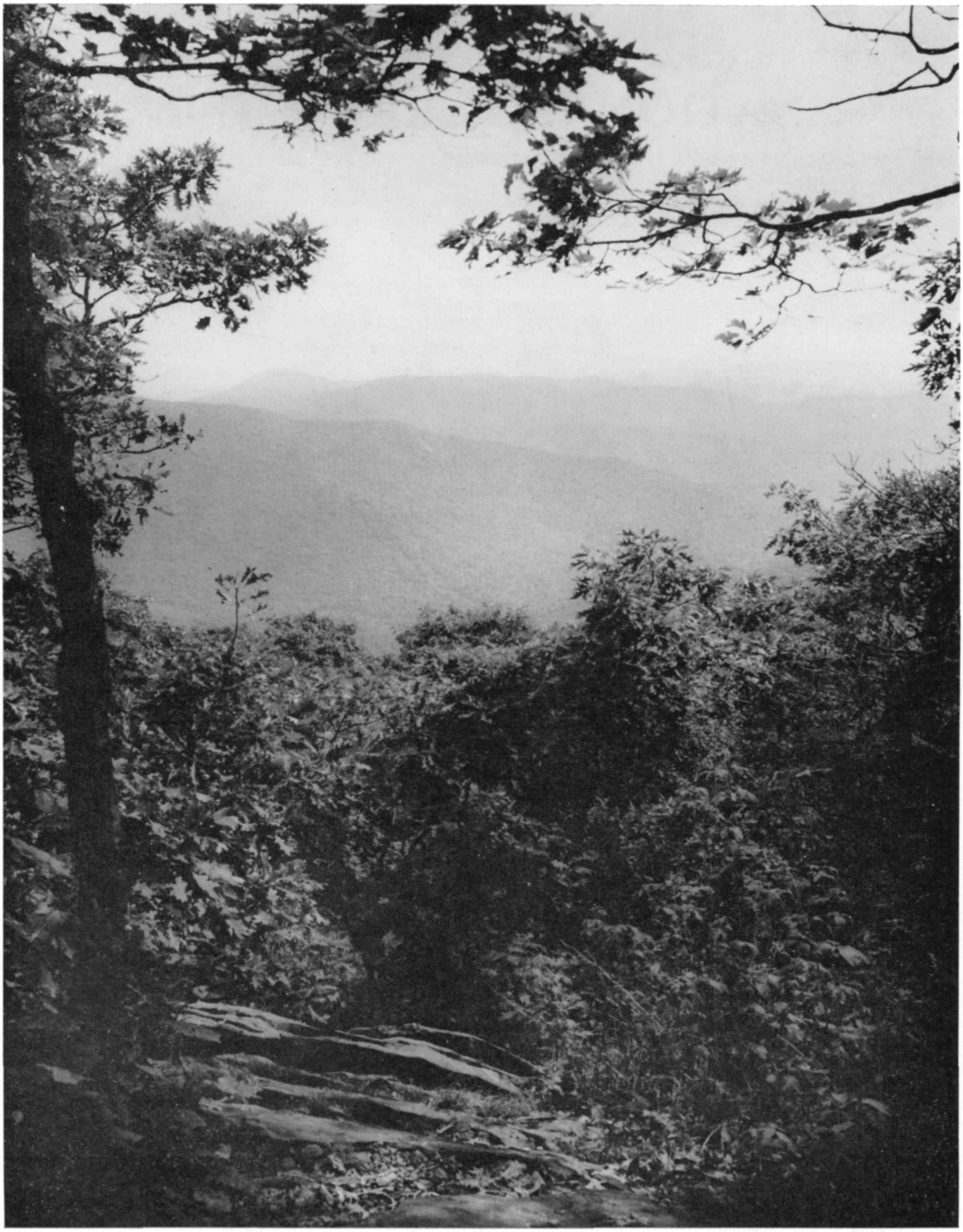
The National Parks Association is a completely independent, private, non-profit, public-service organization, educational and scientific in character, with over 28,000 members throughout the United States and abroad. It was established in 1919 by Stephen T. Mather, the first Director of the National Park Service. It publishes the monthly *National Parks Magazine*, received by all members.

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

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

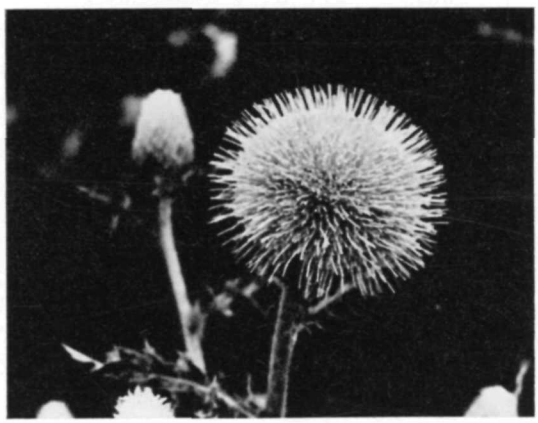
Membership in the Association carries with it subscription to *National Parks Magazine*. School and library subscriptions are $5 a year; individual copies 50 cents. Letters and contributed manuscripts and photographs should be addressed to the Editor at Association headquarters. The Association is not responsible for loss or injury to manuscripts and photographs in transit. Return postage should accompany contributions. Title Registered U.S. Patent Office. Indexed in the *Reader's Guide to Periodical Literature*. Printed in the U.S.A. Second-class postage paid at Washington, D. C.

NATIONAL PARKS ASSOCIATION, 1300 NEW HAMPSHIRE AVENUE, N. W., WASHINGTON, D. C. 20036



National Park Service photograph

The intense green of Shenandoah Park's ridges and valleys is mantled by a perpetual blanket of blue haze.



"Along the meadow trails grows the well-armed thistle . . ."

Shenandoah National Park

By Dorothy Boyle Huyck

In December of 1924, the editor of *National Parks Bulletin*, predecessor of *National Parks Magazine*, reported on the work of a Southern Appalachian National Park Committee, which had just recommended creation of a park in Virginia to be called Shenandoah—Indian for "Daughter of the Stars," according to local tradition.

The committee, appointed while Dr. Hubert Work was Secretary of the Interior, had been charged with responsibility for a search covering "the southern Appalachian system wherever areas existed primarily of scenic magnificence, size and other qualifications necessary to admission to the National Park System." The initial proposal of the committee called for a Shenandoah National Park sixty-six miles long and from eight to eighteen miles wide, stretching south from Front Royal toward Waynesboro in the Old Dominion State.

The author of the *Bulletin* article, Robert Sterling Yard, noted that too much emphasis is often placed on altitude when mountains are appraised, but at the same time he pointed out that Stony Man Mountain in the Blue Ridge towers over the Shenandoah Valley as high as El Capitan over the Yosemite Valley. He also called attention to the qualities of "lofty Eastern summits . . . protected from disfiguration by blankets of forest," and philosophically concluded that these Eastern mountain tops and the "bald and splintered summits" of the West were each one "beautiful in its own admirable and different way."

The arguments in favor of a national park in "close proximity to the teeming millions of the East" proved persuasive, and citizens of Virginia began raising funds for purchase of lands to be transferred to the federal government. A gift of $6.00 bought an acre of potential park; such an acre is available today at prices that range as high as $100. The May, 1926, Act of Congress providing for establishment of the park envisioned a maximum size of some 521,000 acres.

The interest, efforts and dollars of many people preceded the actual day—July 3, 1936—when park dedication ceremonies were held at Big Meadows, just south of massive Hawksbill Mountain. The Shenandoah National Park Association had campaigned for funds, while the Virginia Department of Conservation and Development had surveyed potential park lands. Individuals like George Freeman Pollock, colorful owner of Skyland (known for his custom of arousing resort patrons with early-morning bugle-calls) lent enthusiasm and energy. And into the new park had gone contributions, large and small, from generous people all over the nation.

Even a President's personal landholding became a part of the park. Camp Hoover, built as a fishing retreat for President Herbert Hoover and his guests, was situated at the point where Laurel Prong and Mill Prong join to form the Rapidan River, on the eastern flank of the Blue Ridge. The first permanent building of the camp was erected around five wooden-floored tents; with the installation of roof, partitions, doors, windows, porch and fireplace, the original tents lost their identity; but the name "Five Tents" remained. The Hoovers' own cabin in-

National Park Service photograph

Upon establishment of Shenandoah Park, the lands and buildings of the Hoover Camp on the Rapidan River were deeded to the United States. Above, President Herbert C. Hoover's living-room at Hoover Camp; Mrs. Hoover is seated at left (wearing a hat and white collar). Below, a photograph taken in the then-proposed Shenandoah Park for publicity purposes by NPA Secretary R. S. Yard; appears to be on modern trail near Big Meadows.

National Parks Association photofiles

cluded a porch built around several trees, in line with the family's concern for disturbance of the natural setting as little as possible. Upstream was a row of cabins called "The Slums," set aside for guests. Other structures included the "Prime Minister's Cabin," occupied on various occasions by England's Prime Minister Ramsay MacDonald, and "Ishbel's Cabin," named for the Prime Minister's daughter. With the establishment of Shenandoah National Park the land and buildings that had been the scene of the two statesmen's discussions on disarming the navies of the world were deeded to the American people.

Some five hundred families, whose existence was closely tied to the plants, animals and thin, stony soil of the Blue Ridge, lived on lands that were to become part of the new park. Most were of English ancestry; a few were descendants of Hessian soldiers. Their forebears, settling on the ridges and in the "hollows," had hunted and trapped elk, bison, bear, deer, cougar, wolf and beaver to the point of extinction for many species, and the mountain people of the Twentieth Century eked out an existence on a land long since overhunted, with its topsoil, sterilized by long years of corn, beans and cabbage with little by way of repayment, only too ready to follow torrential summer showers down branch and run to the big rivers of the valleys below.

Other changes in the traditional elements of a simple economy had also occurred. The introduction of new methods of tanning leather had largely eliminated the need for oak and chestnut tanbark, and mountain tanneries had ceased to operate. The coming of the railroads and availability of steam-powered saws resulted in the eventual replacement of mountain men by professional logging crews and mill-hands in the lumber industry. And the chestnut blight, brought to America from the Orient just after the turn of this century, eliminated a species of tree that had played a vital role in the economy and lives of the Blue Ridge people; the passing of the American chestnut was a human and botanical disaster of the first order.

By the time lands for the new park were being assembled, average family income in the Blue Ridge was a mere $125 a year, supplemented by apples

(for whiskey-jack and apple butter), berries and black walnuts. Livestock on a Blue Ridge farm often consisted of a cow, a few chickens and some half-wild hogs, which scrounged a living in the forest.

Following Virginia's condemnation of their lands, many families moved from the mountain ridges and their intervening hollows into the more fertile valleys below. To ease the burden of this movement, the State established seven resettlement areas adjacent to the mountains containing plots of farmland ranging from nine to forty acres, available for long-term purchase; 286 families were resettled on these lands, considered far more productive than those of former mountain farms. Thirteen families were given life-tenancy rights to their homes within the park, and one lifetime resident, Annie Shank, still lives in her home near park headquarters on the west flank of the mountains near Luray.

Under the protecting hand of the National Park Service, the land now in Shenandoah Park has slowly reverted to a condition approaching, in certain ways, the original. Higher mountain ridges today are largely clothed with several species of oak, while lower slopes support a rich mixture of both northern and southern trees—oaks, some hickory of several species, black birch, black walnut, butternut (locally called white walnut), sourgum, persimmon, sassafras, tulip poplar, sycamore, several species of pines, hemlock, and many others. Missing from this array, of course, is the American chestnut (except for myriad persistent root-sprouts) which once accounted for an estimated third of the Blue Ridge forest cover.

Beneath the hardwood canopy of the park flourishes the ever-present dogwood, mixed in the stream-valleys at lower elevations with the redbud, or Judas-tree. Dry, rocky mountain spurs are given over here and there to impenetrable thickets of mountain laurel —the "honeysuckle" of the Blue Ridge folk—while land that was once in corn, beans and cabbage now supports several species of sumac and the fragrant spice-bush, all freely overrun by the fierce greenbriar and tangled mats of woodbine and frost-grape.

There are some botanical intruders on the Blue Ridge arboreal scene, too. Conspicuous in the lower forest cover during spring are the perfumed, pale lavender blooms of the paulownia, an exotic of many years' residence, and the billowy white cloud of the wild sweet cherry, escaped from early orchards; while on many an old cabin clearing encroaches one of the less fortunate imports of the early Virginia settlers—the pesty paper mulberry, locally called the "cutleaf." Along with this species is another and perhaps even less desirable immigrant, the ill-odored ailanthus.

Carpeting the forest floor of Shenandoah Park are some thousand species of flowering plants, whose color is heralded for most park visitors by the spectacular spring bloom of the great white trillium, and which ends with the subdued fall display of the narrow-leaved aster, inhabitant of many a high meadow and old cabin clearing.

At the time Shenandoah Park was created, no deer remained in this part of the Blue Ridge. In 1937, however, fourteen deer were brought in. Today it is estimated that perhaps a thousand of the animals roam the park (and cross its boundaries into adjacent private lands to furnish hunting stock). It is likely that the bobcat, fox and bear are becoming more numerous. Gray, red and flying squirrels, and chipmunks, woodchucks, raccoons and skunks are at home in the park. However, efforts to re-introduce the beaver have met with no particular success. Several species of snakes inhabit the mountains; prominent among these is the handsome and inoffensive blacksnake. A total of at least 200 species of birds frequent the park at various times during the year, being especially in evidence during the April-May migration period.

Two-hundred-odd miles of trails, including several self-guiding nature

National Park Service photograph

The "ghost forests" of Shenandoah National Park remind visitors of a biologic disaster which changed the economy and way of life of the Blue Ridge folk. Accidentally introduced into New York City just after the turn of the 20th century, the chestnut-blight of the Orient swept through the entire range of the American chestnut, destroying one of the nation's most valuable forest trees. Still seen are root-sprouts, protected for a time by juvenile immunity.

trails, bring Shenandoah visitors first-hand opportunities to enjoy and perhaps study the plant and animal life of the preservation. For example, the five-mile hike into White Oak Canyon begins three miles south of Stony Man Mountain, and takes visitors into a ravine considered by the *National Parks Bulletin* writer of 1924 "one of the most exquisite in America." Another and more precipitous trail, a mile and a half long, lies eight miles south of White Oak—the Dark Hollow Falls trail. At its upper end in the Big Meadows of Shenandoah Park, this trail greets visitors with sumac, reminding them that sumac spikes once furnished the acid for "Indian lemonade." Wild yam plants recall a favorite vegetable of the American Indians of the region, and the colonial Americans as well. Many hawthorns line the trail through the Big Meadows, and their small fruits were a source of pectin for mountain women at jelly-making time; while the common meadow bluet provided Indian and early settler with an edible root.

Along the meadow trails grows the well-armed thistle, quite capable of correcting human overfamiliarity; and, nearby, the yellow jewelweed, which can produce a lather that acts as a neutralizer for the irritation of the thistle and other hostile plants. The usefulness of jewelweed in this connection is not to be relegated to the status of an old-wives' tale, for certain commercial preparations for poison ivy still include jewelweed extract as an ingredient.

For some 94 miles the famous Appalachian Trail also courses the mountain summits in the park, and visitors may occasionally see muscular, brown hikers whose long strides and heavy packs set them aside as a special breed of American outdoors people.

The pleasant walk along the Swamp Nature Trail at Big Meadows, branching off in the upper part of the Dark Hollow Falls trail, permits a close look at a second-growth forest in the process of becoming an oak-hickory climax cover, and at the Big Meadows Swamp, which provides a habitat for salamanders, frogs, several reptiles, many birds, and a wide assortment of flowering plants.

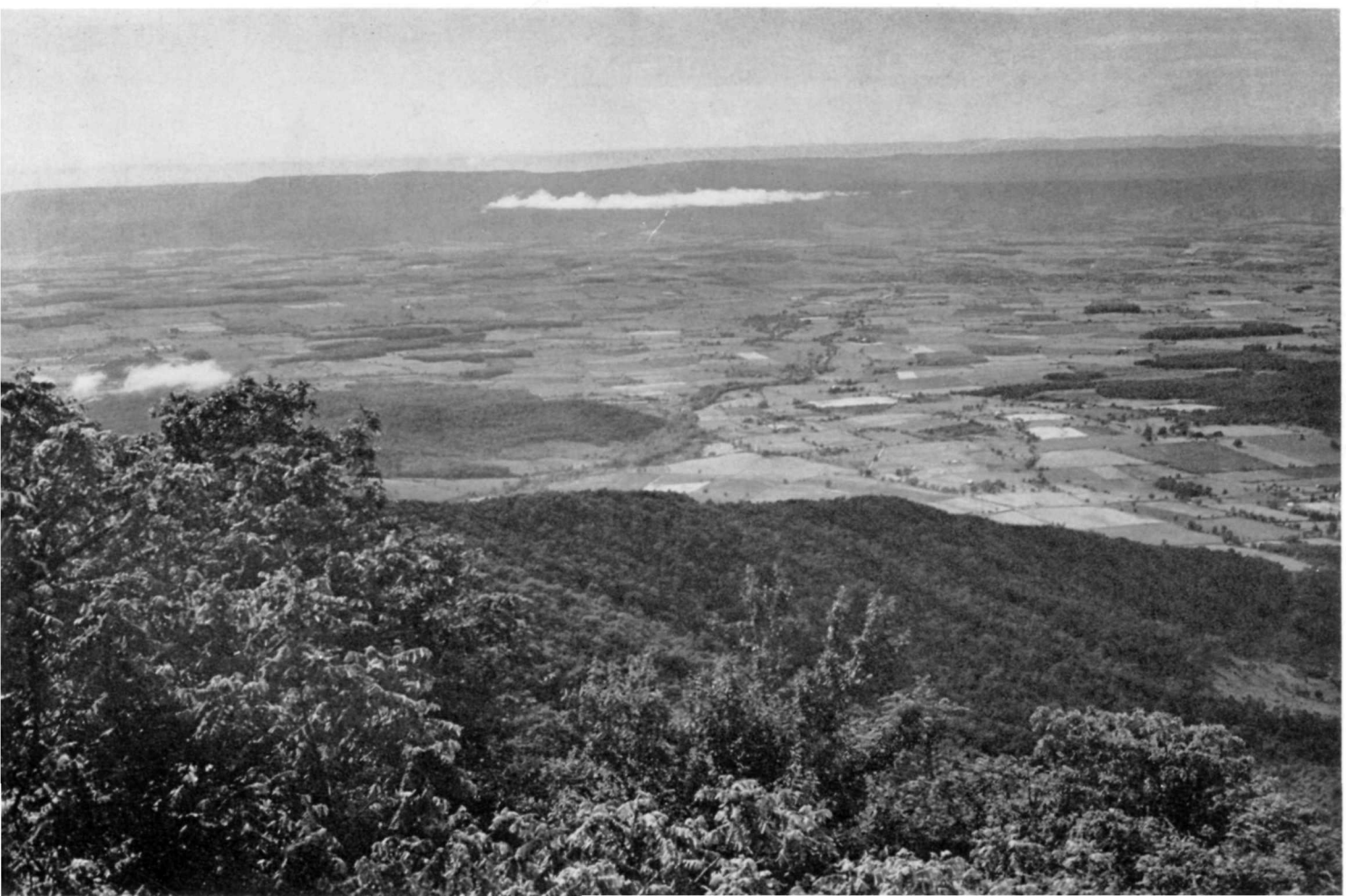
Until the advent of the chestnut blight the entire mountaintop in the neighborhood of Big Meadows supported a chestnut forest, as did many another of these higher elevations. Today's remnants of that era are gaunt, barkless gray trees, dead but still erect —the "ghost forest" of Shenandoah Park, stark hulks that have persisted upright ever since *Endothia parasitica* swept their habitat like an invisible fire some thirty years ago.

* * *

Personnel of a national park situated within easy access of a third of the nation's population, and intent on providing visitors with many services and the park with proper protection, find their work more than cut out for them. At Shenandoah they have, in addition to customary park duties, the maintenance of a 105-mile scenic highway, popularly known as the "Skyline

Many a scenic turnoff along the Skyline Drive in Shenandoah Park affords visitors a panoramic view of farmland or forest to the east or west of the Blue Ridge. Below, the upper part of the Shenandoah Valley west of the Blue Ridge; ridge in near background is Massanutten Mountain.

National Park Service photograph

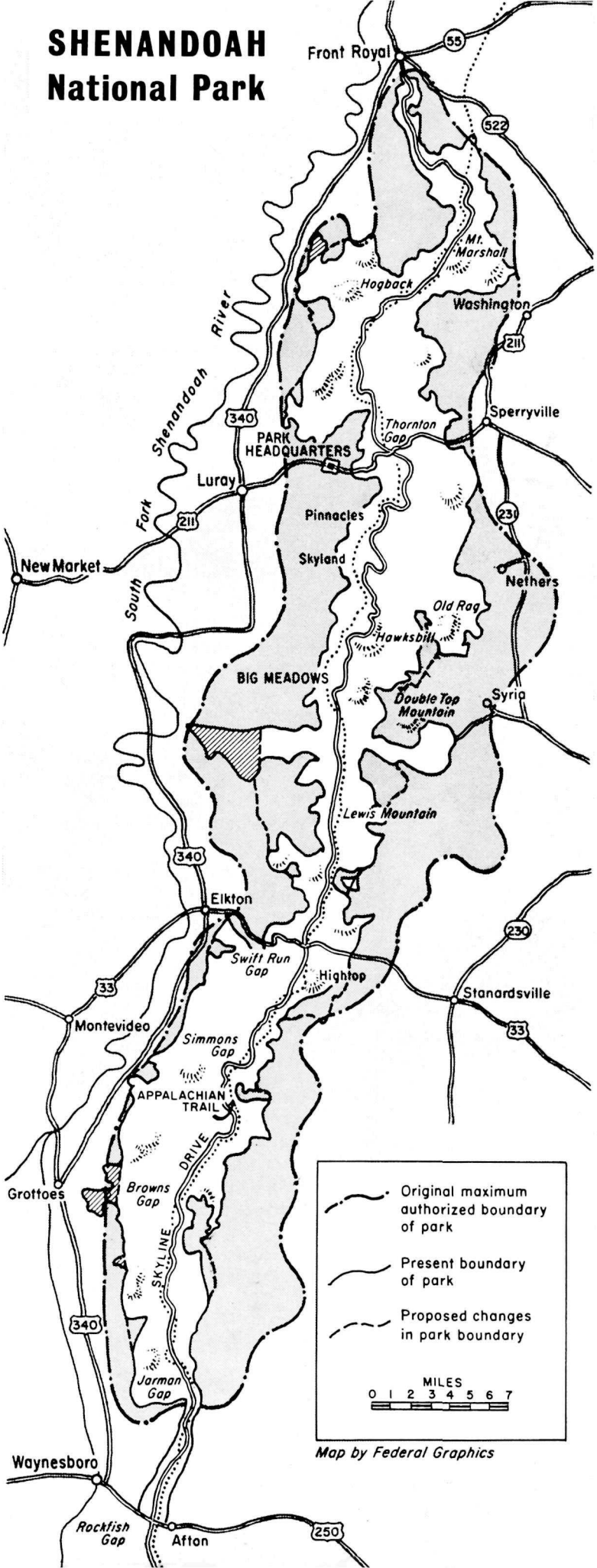


On the map, white area shows present Shenandoah Park. Diagonally shaded areas are slated for elimination from park under present proposals, while areas within dashed line are being considered for acquisition. Originally authorized maximum park size is shown by outer line.

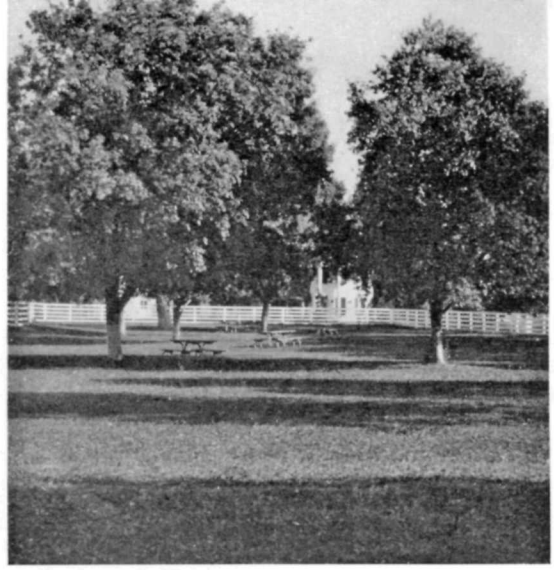
Drive," and the maintenance of a park boundary which one prominent writer on the national parks has likened to the skeleton of a fish.

To reduce park boundary troubles as far as possible, several bills have been introduced into Congress which would straighten the long park corridor to some extent, affording a greater measure of protection against undesirable development and the elimination of some of the problems related to private access and local confusion over exact park limits. Certain lands would be added to the park, and certain parcels eliminated; most of the lands deleted would be in fringe locations, including some land not even contiguous to the main body of the park. The boundary marking and administration of such parcels has been especially complex and costly. The May, 1926, Act of Congress providing for establishment of the park envisioned a maximum park size of 521,000 acres; but the legislative proposals currently before the Congress recognize past difficulties in acquiring such a total area and set an upper limit of 212,000 acres on Shenandoah's official size. Park lands in Shenandoah presently encompass 193,646 acres.

During 1964, more than two million visitors arrived at Shenandoah Park to see and appreciate its natural beauty and attributes, including its hazy blue atmosphere (not too convincingly explained by some scientists as caused by volatile substances emanating from a sea of green plants). Park officials would like to encourage visitors to see Shenandoah during the mid-May to mid-June period, when a profusion of wildflowers is accompanied by relatively few travelers. Also recommended is the post-Labor Day to early October month when there is cool, crisp hiking weather, with changing colors at the higher altitudes; colors that foreshadow a great deluge of humans which will descend on Shenandoah in mid-October to savor the annual pageant of the leaves. ■



Map by Federal Graphics



At Gibson Ranch Park, a picnic area in the pleasant shade of an oak grove.

Take Them Back to the Farm

By Shirley Parenteau

David, the author's young son, snaps pictures of friendly park cows.

On a recent sunny day on the 245-acre farm that is Sacramento, California's Gibson Ranch County Park, Ranch Manager John Day demonstrated hand-milking of a cow to a group of interested children. When Day directed a stream of milk into the mouth of one of the boys, the youngster jumped back in surprise. "It tastes just like real milk," he cried.

William Pond, director of the County Parks Division, laughs when he tells this story, but points out that it well illustrates his reason for developing the park as a working ranch. "Farming and ranching formed so vital a part of our economic and cultural development as to be considered a part of our natural heritage," Pond says, "but many children today can more easily see a lion or giraffe than a horse or cow."

At Gibson Ranch County Park, children are invited to become fully acquainted with the animals which were a part of the daily life of their parents or grandparents. They may feed handfuls of hay to the burros, scratch the hard, knobby heads of the goats or have their palms nuzzled by the soft noses of the horses. Farm lanes lead them to the lakeshore where ducks and geese crowd around begging noisily for handouts of grain or breadcrumbs, or past irrigation canals where bullfrogs sleep in the sun. Spring visitors may witness the birth of a new calf or the first awkward steps of a colt.

Pond's idea of preserving a typical ranch became possible with the County's purchase of a privately-owned horse-ranch and its ranch buildings, orchards, fenced pasture land, irrigation lake, winding stream, and weed-choked canals. The first concern was to prevent further deterioration of the ranch buildings, which had been unoccupied for five years. Boys from the Juvenile Hall, working on weekends, cleaned out weeds, scraped and painted fences and worked on the buildings. A small, white-fenced field in front of the colonnaded ranch house was made into a picnic area. Tables and benches and fire-pits were placed about the field in the shade of oak trees.

The park was opened to the public in January of 1964. During the first month, more than 3800 fish were caught from the eight-acre irrigation lake, including bass weighing up to

eight and a half pounds. The lake was drained during the following fall and more than six thousand pounds of carp removed. In the spring of 1965 the lake was refilled and stocked with bass, perch, and catfish through the cooperation of the State Fish and Game Department. A license is not required for children under sixteen, but they must provide their own equipment. Frogging is also permitted in the lakes and canals of the park.

Pasture land accounts for 70 acres—more acreage than is allowed to any other single aspect of the park. Although fences prevent the cattle from wandering through anyone's picnic spread, the contour and design of the park encourage the visitor to feel a part of the ranch-like atmosphere.

The cattle belong to a nearby farmer. They are friendly animals, and seem to enjoy the company of their young visitors. John Day and his assistant, John Kolostas, donated many of the birds and rabbits in the park, as well as two Tennessee walking-horses; but most of the animals and birds were donated by people from the community. At Eastertime, especially, the park receives donations of chicks, ducks and rabbits. At present, the park contains horses, burros, sheep, a nannygoat with three kids; rabbits, geese, peacocks, gold and silver pheasants; and game chickens, Japanese silki, doves and pigeons.

The ducks and geese roam free by the lake and attract wildfowl to the ranch-park, which is also a game preserve. Peacocks roam through the farm yard. The chickens and silki are caged together in a large, wire-fenced yard near the rabbit hutches and a double row of cages which hold the more unusual birds.

A saddle-horse riding concession was granted in December, 1964. The owner lives with his family in the main ranchhouse. He runs a pony-ride for children for 25 cents a ride, rents horses for the two and a half miles of riding trails in the park, boards horses and breaks untamed horses. The riding trail is coordinated with Sacramento County's plan for a future countywide riding trail.

Show-horsemen coming through Sacramento are urged to stay overnight in the park and show their animals to visitors. The small field used as a picnic area will become a show ring for horses when other picnic areas are developed in the orchards and along the stream.

Plans for the Future

Further plans for the park include a pony-track north of the ranch house, where visitors will sit on a sloping, grassy bank; a swimming pool which will be developed beyond the pony ring; a 9-hole, 3-par golf course; baseball and softball diamonds; and an archery range. All of these areas will be placed away from the ranch buildings and pastures so they will not interfere with the farm atmosphere. Future maintenance demonstrations will include hand-milking and sheep-shearing.

The most recent development in the park is an area of about a mile set aside along the creek as a nature study area. Teachers' groups and groups of school children are guided through the area on request. Bird study and soil conservation are emphasized.

Gibson Ranch County Park is open from dawn to dusk daily with no entrance fee. Although many of the plans for the park are not yet completed, the main attraction will always be the relaxed, down-on-the-farm atmosphere. The visitor today will enjoy the "country zoo," picnicking, bird-watching, hiking, riding, and fishing, or just plain "taking it easy," while the rooster crows from the barnyard, the chickens gossip together and the wind sets the oak leaves to whispering overhead. By helping, even in a small way, to draw visitors away from national parks and monuments, Gibson Ranch County Park serves to lessen the growing congestion in these areas. It could well become a model for other cities to follow while there is still time and land enough to do so. ■

Ducks and geese ply the waters of the ranch pond or sunbathe along its shores, inducing occasional wild waterfowl to join them.

African kudus contentedly munch fodder at a New Mexico zoo.

NEW MEXICO'S FOUR-FOOTED REFUGEES

PHOTOGRAPHS COURTESY NEW MEXICO DEPARTMENT OF GAME AND FISH

SOON, TRAVELERS CROSSING THE arid, mountain-and-basin country of southern New Mexico may jam on the brakes and hop out of their cars to take a second look at some strange animals. They may mutter, "Am I still in America?" Once they consult a map and decide that they have not left the country, the next question will be, "What kind of animal was *that?*"

The animals will be what New Mexico's Department of Game and Fish calls "exotics"—four-footed refugees from Africa and the Near East, brought to America to occupy desert territory where no large native mammals can exist. This transplanting, still in the experimental stages, will help save species which are endangered in their native lands, and may also someday provide new game animals for New Mexico sportsmen.

The experiment started several years ago—in 1962—when the State Game Commission instructed its game department to obtain Asiatic or African ungulates—hoofed mammals—to fill unoccupied niches for big game in the State. The animals had to be hardy. They had to be well adapted to an arid environment. And they had to be of species that would not disturb or compete with native wild or domestic stock. After some research, the department decided that the African gemsbok and kudu and the Siberian ibex fitted this description.

Some scientists raised a cry of alarm when they heard about the plan. Introduction of exotic species would upset nature's delicate balance, they said, and pointed to the English sparrow and starling as examples of imported animals which have become "pests" in their adopted country. But Professor

Frank C. Hibben, Professor of Anthropology at the University of New Mexico and a member of the New Mexico State Game Commission, spoke against such fears. In a talk before a meeting of the Western Association of Game and Fish Commissioners, Professor Hibben defended the plan and stated that ". . . exotics are not necessarily destructive . . . many ecologists and sportsmen believe that in this direction [importation of exotics] lies our best chance for the future" in keeping game ranges stocked.

Without help from United States officials, some foreign species of animals may have no future at all. The Siberian ibex, which is a heavy-coated goat with thick, gently-curved horns, is doing well at present, mainly because the Soviet Union has an excellent code of strictly-enforced game laws. But the deer-like kudu of Africa, which formerly occupied a belt of habitat stretching from the Indian Ocean to the Atlantic, is a highly desirable food species. For this reason is has been ruthlessly hunted by Africa's meat-hungry people, and its numbers are rapidly declining.

The bezoar goat of Iran is becoming so scarce that scientists fear it may be lost entirely. The gemsbok, a tawny brown animal with colorful black and white markings and large spear-like horns, was holding its own until its isolated habitat in the Kalahari Desert of Southwest Africa was invaded by Africans with modern transportation and weapons. The worst destructive force for the animals, says Dr. Hibben, is the "wave of nationalism sweeping Africa in the 1960's which has affected the gemsbock as well as the other game species. Native hunters such as the Bushmen, who can successfully stalk and kill a kudu or a gemsbok with a poisoned arrow, now are acquiring guns. Even crude and old-fashioned guns are lethal in the hands of these accomplished hunters."

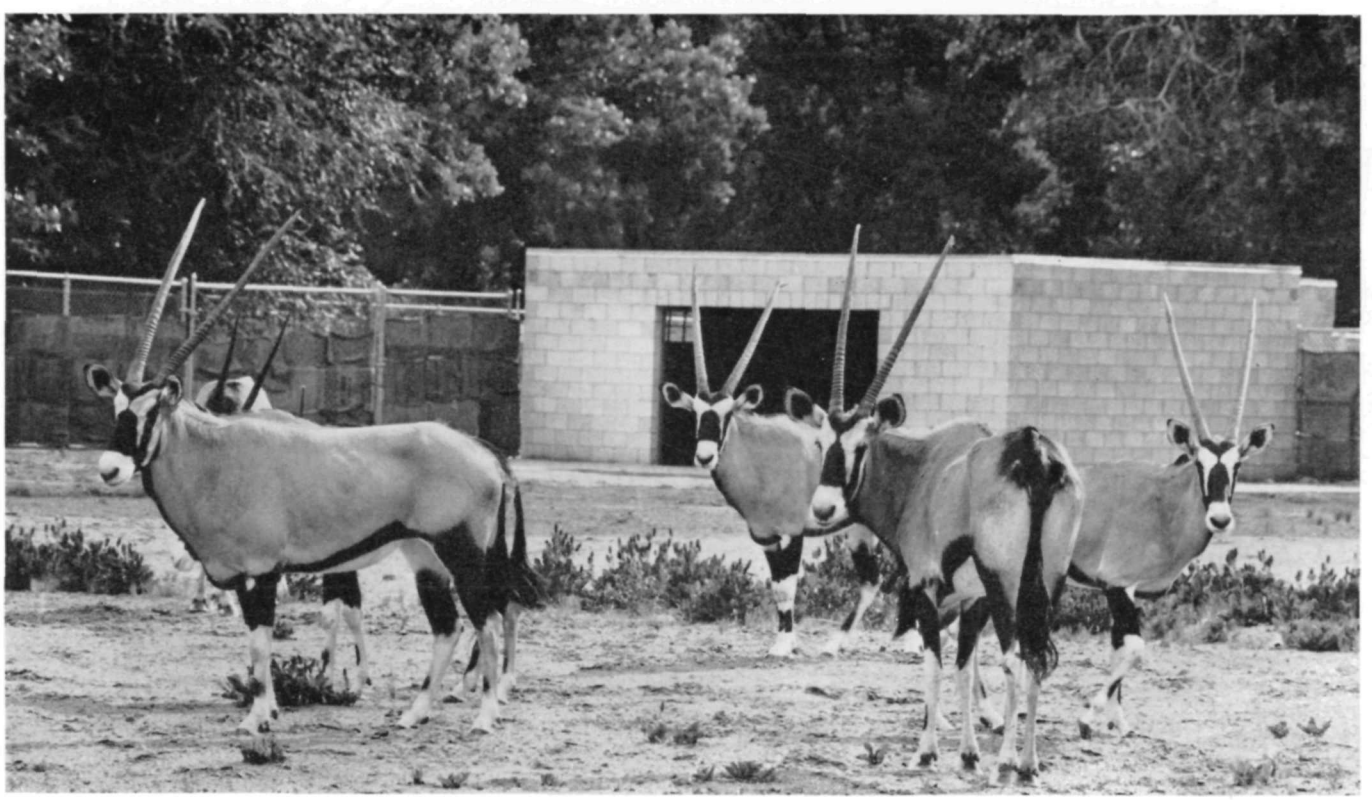
The Magazine is indebted to Mr. Levon Lee, assistant chief of the Game Management Division of New Mexico's Department of Game and Fish, for much of the factual information appearing in this article.

With this thought in mind Professor Hibben contacted Walter Schulz, an animal supplier at Okahandja, Southwest Africa. The two men captured 14 kudu and gemsbok by running the animals with a catching car and slipping a noose over the neck of the animal singled out for capture. Another crew followed the "noosemen" with a truck; they tied each animal before it injured itself and placed it in a truck. When Professor Hibben recalled the hunt he mentioned that "the New Mexico crew was constantly impressed by the fact that the Kalahari area of Southwest Africa was remarkably similar in topography, vegetation, and general ecology to the more arid areas of the American Southwest and northern Mexico."

The main food of both kudu and gemsbok is several species of desert thorn. These animals can go several weeks—or months—without drinking water. During the long, dry periods in their native habitat, they get moisture from a small desert melon which looks remarkably like the common gourd of the American Southwest.

Shortly after capture the gemsbok were quarantined and shipped, and the first group of six females and two males arrived in New York in June, 1963. But the kudu met with several disasters.

A herd of desert-dwelling African gemsbok stare at the photographer. These pugnacious animals weigh about 13 pounds at birth, and are almost at mature size by the age of 18 months.



First their truck was overturned in a heavy rainstorm; then they were caught in a hurricane during shipping. They did not arrive in Albuquerque until early December. Then they were quarantined for some time under strict Federal regulations to prevent the introduction of hoof-and-mouth disease into this country. All imported hoofed animals must undergo such precaution, and then spend the rest of their lives in a zoo. Only their offspring can legally be released. It will take at least four years for the animals at the Albuquerque Zoo to produce enough young to make an adequate release. The kudus are still too young to breed, and it will take at least a year for them to produce offspring.

By the summer of 1964 all the animals had arrived in New Mexico; and by this time the Royal Governor of Kermanshah, in Iran, had also supplied the Department with several bezoar goats. Since then the mammals have been thriving at the zoo. All the exotics are easy to keep in captivity; they are inspected regularly by a veterinarian, and losses have been at a minimum.

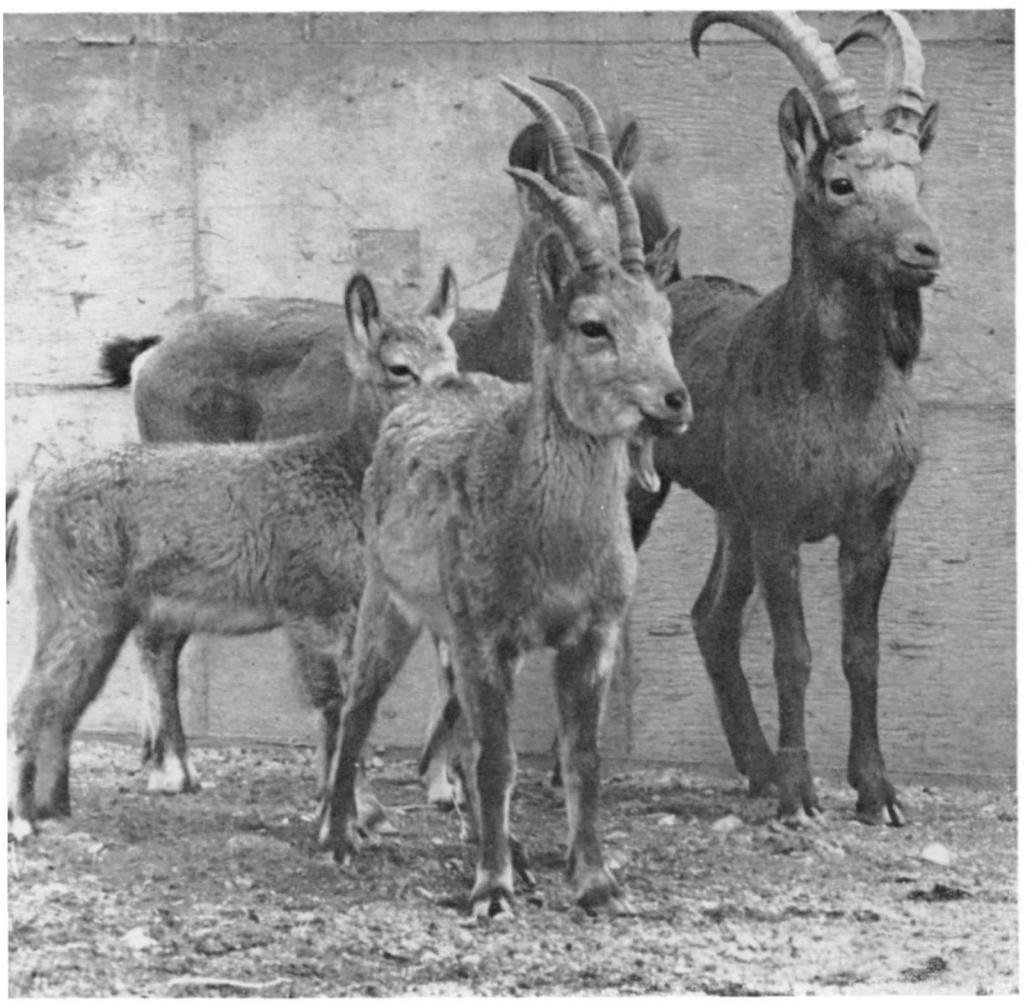
These animals are all adapted to wide variations in temperature and humidity. The gemsbok in particular is extremely resistant to drouth—and even to cold of some intensity. The temperature at the Albuquerque Zoo during the dead of winter sometimes goes below zero. During such a cold spell in 1963 the zookeeper, understandably concerned, went down during a blinding snowstorm and found the gemsbok calmly prowling about their pens, although they had a warm shelter nearby filled with hay in which to bed. The kudu are much more sensitive and have an electrically-heated shelter which they often use. The Siberian ibex pays no attention to extremes of weather, either hot or cold.

The mountains and desert foothills of southern New Mexico are thought to be areas suitable for the experimental releases of some of the animals. The desert mountains of the southwest closely resemble the mountains of the steppes of Siberia and the desert mountains of Iran. The open desert and watercourses are similar to those of southwest Africa, where both the kudu and gemsbok are found. Planners have decided to release the offspring of the ibex in the Florida Mountains of Luna County, in the extreme southern part of New Mexico. Permission has already been obtained from the U.S. Bureau of Land Management; agreements also had to be made with grazing interests to be sure that the released animals would pose no threat to domestic livestock in the area.

No arrangements have yet been made for the release of the gemsbok or kudu, although the Director has certain special spots in mind: the watercourses of the south for the kudu, and the State's desert plains for the gemsbok.

One exotic species, the Barbary sheep, has already been established in New Mexico. It was introduced in 1950 in the State's northeastern Canadian River Canyon. These big sheep are native to northern and western Africa. They are tough and hardy, and make fine game animals. The 52 Barbary sheep which were originally released multiplied to over a thousand animals in a decade, but overliberal hunts brought the herd down quickly to the danger point, and hunting seasons had to be called off. The department brought the matter under control, and the sheep are now doing well.

In view of the likely disappearance of some foreign species of large mammals, it is possible that only those in captivity—or on suitable and noncompetitive habitat in the United States—will survive. If the New Mexico experiment is worthwhile, one of its special values will lie in the preservation of nucleus herds of threatened species—mammals which otherwise might fade into oblivion as habitat destruction proceeds all over the world. ■



A family of timid Siberian ibex huddle together for safety. This species is well protected in the Soviet Union, and its future looks bright.

A recent publication has shed new light on the placement of an unusual bit of stonework in a Pueblo Bonito wall, leaving the question of origin still unanswered.

THE CONFUSING ROCK

By Lynn and Willis Kinnear

THE MANY PREHISTORIC RUINS OF Chaco Canyon National Monument in north-central New Mexico are not only a source of fascination to the lay visitor, but also a challenge to the archeologist; for they still contain some mysteries. Especially is this true of Pueblo Bonito, largest of the great pueblos of the Southwest and yet to be seen by any really substantial number of travelers, although many people are familiar with it by way of magazine articles.

On a recent visit to Chaco Canyon the writers had been especially interested in the various styles of prehistoric masonry work to be found there, and had been comparing the Chaco Canyon masonry with that of other archeological sites of the Southwest.

We had ended our tour at the monument museum rather than visiting it first, having come into the area over the road that enters the preservation from the north. After examining various ruins along the way, we arrived at

the museum with the feeling that we had covered everything. There are many fine exhibits to be seen at the museum, including actual and photographic examples of the various masonry periods represented in the monument.

It was a photograph that particularly caught our attention. There, in front of us, was a picture of some masonry work the like of which we had not seen in any of the Chaco Canyon ruins; nor, for that matter, anywhere else in the Southwestern prehistoric ruins.

Inquiry revealed that the photograph showed some masonry work on the west side of the long wall adjacent to the great central kiva of Pueblo Bonito. The cinder path of the tour had not led us by this point, and we had missed it. After learning the exact location of the wall we decided to retrace our steps and take some pictures. But on departing the museum we were told that this particular piece of stonework did not belong there! (This information had reached the Chaco Canyon rangers only a few weeks before our visit; for some forty years the odd bit of handiwork in the wall had been considered "in place," unusual as it was).

We returned to the ruins, and it was with official permission that we left the cinder tour-path to investigate. A few old footprints could be seen in the sand along the edge of the wall, which was more than a hundred feet long, finely constructed, and typical of the famous Pueblo Bonito style of stonework.

Description of the Stone

About half-way along the wall we found the right spot and took our pictures. Although the photograph in the museum was a very fine one, it hardly possessed the visual impact of the incongruous bit of work itself; there was nothing else like it in the entire wall.

The stone had been cut in the shape of three rough squares or diamonds attached horizontally, having the appearance of a zigzag. On the face of each geometric figure a cross had been incised. This is a beautiful example of prehistoric craftsmanship; similar designs are to be seen on ancient pottery, or as petroglyphs on canyon walls, but not cut from stone. The stone had been very neatly built into the wall, as shown in the first photograph of this article.

Part of the story of the "misplaced stone" is a simple but intriguing one. It is there because a Zuni Indian put it there, not a Bonitan pueblo-dweller. This was brought out in a recent publication of the Smithsonian Institution, *The Architecture of Pueblo Bonito*, by Neil M. Judd. It was Dr. Judd who was in charge of the excavation and reconstruction of Pueblo Bonito during the period 1921-1928.

The illustration below shows the long wall, in the approximate center of Pueblo Bonito, which contains the ornamental stonework shown in detail on page 15.

In his somewhat delayed but definitive report, Dr. Judd reveals that most of the reconstruction work under his direction was done by Zuni Indians. In reassembling the wall one of the Zunis had discovered this particular stone on the floor of the kiva adjacent to the wall. The artwork of the Zunis tends toward the ornamental, and although the stone had obviously never been a part of the original wall, it was placed there as decoration. Its position certainly provides fine ornamentation; but as one looks back over the years, one can understand how puzzling the ornament must have been for rangers and archeologists. They could not understand its presence in the wall, but *it was there; and seeing,* as the saying goes, is believing.

With the publication of Dr. Judd's report, one mystery was solved, and some confusion cleared away. There remains, however, the question of where the stone came from in the first place. Inasmuch as Dr. Judd says it was found on the floor of the kiva, it would appear possible that it may have been part of the original kiva structure. Dr. Judd mentions that several similar pieces were found in other parts of Pueblo Bonito, and perhaps they, too, had been components in the many smaller kivas of the Chaco Canyon ruins.

Speculation on Origins

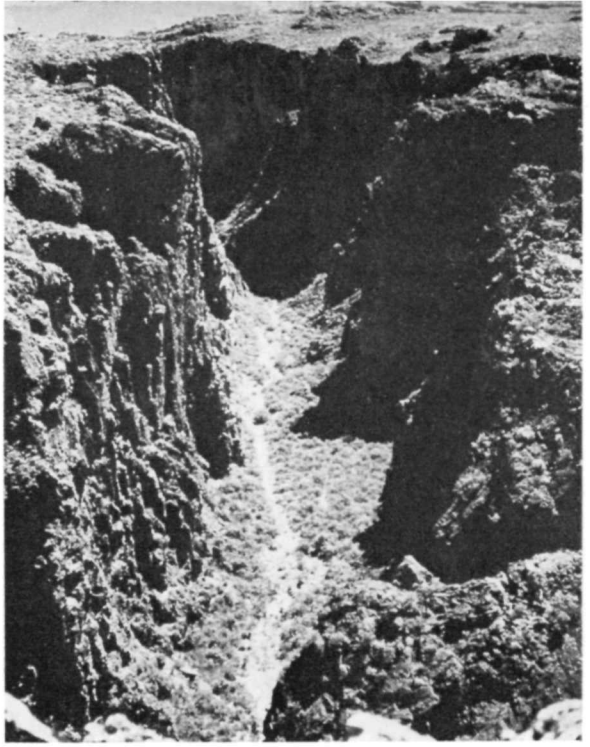
Perhaps it might not be an undue stretch of the imagination to wonder whether, during the great building period at Bonito, someone had not become tired of carrying, cutting or *fitting stone and, while companions* worked on the large, circular kiva wall, had been sitting in the shade working on something original, creating in stone a design that previously had only been painted on pottery or chipped into the soft sandstone of canyon walls.

If so, that person probably would have been a man, for it is believed that only men worked at the building of kivas. Kivas were for men only, and this creation was found in one.

To have been incorporated as part of a kiva, the stone might well have possessed some religious significance. If a man high in the ceremonial hierarchy of the day had tired of routine work and had sought relief in carving stone, who might have questioned his decision?

The forty-year mystery of the unusual zigzag stone in the wall has been solved. But the mystery surrounding the origin and meaning of this bit of *handiwork, which is, perhaps, a* thousand years old, will remain—save perhaps in the imagination of the monument visitor—unsolved for the present, a finely-cut piece of masonry of an unusual style. ■

The Great Kiva in Pueblo Bonito adjacent to the long wall, in which a Zuni Indian discovered the stone ornament and incorporated it into the wall during reconstruction.



Mahogany Canyon, in the High Rock Canyon lava plateau of northern Washoe County, Nevada. Ninety percent of this spectacular erosional phenomenon, which has been proposed as a state park, lies within Bureau of Land Management lands. Photograph taken in May, 1963.

Photograph by Charles S. Watson, Jr.

Preservation and the Public Lands

In the past years conservationists, especially those in the field of preservation, have largely concentrated their attention on our great national systems of parks, forests and wildlife refuges. Much less attention has been focused on the 465 million acres of public lands that are administered by the Interior Department's Bureau of Land Management—a vast expanse of Public America exceeding the combined jurisdictions of national park, forest and wildlife agencies.

Historically the Bureau of Land Management has acted more or less in the capacity of caretaker for the public lands, most of which lie in the States west of the Mississippi, and in Alaska. Its task was to intelligently administer those parts of the public domain which were unclaimed during earlier days for homesteading or minerals until, in theory at least, all had been disposed of and there were no more public lands left to administer. For many years the Bureau seemed to be a self-liquidating agency, its future summed up crudely in the hopeful Western saying that "the Bureau of Land Management's main business is to get out of business."

Against a background of this philosophy the nation began to mature; to spread its cities and towns into the open country; to increase its population; to make ever-increasing demands on remaining open lands. Over the past few years our population figure has moved swiftly toward the 200-million mark, and just as swiftly has grown the national need for greenspaces and open spaces and preservations of all kinds in which myriad Americans might relax, re-create themselves, or study the history and day-to-day proceedings of the natural world.

Today outdoor recreation, in whatever terms one thinks of it, occupies the public mind more and more. Many park lands, wildlife refuges (which are in varying degrees human refuges also), special national forest areas, and all manner of other recreational and natural-area lands have been created very recently by Federal, State, county and town governments to meet the public need. And public officials, including top people in the Bureau of Land Management, have taken a hard look at the public lands—already administered in part at least on a multiple-use basis—as offering new possibilities for outdoor recreation and preservation. Let the Bureau give the reason for the re-examination in its own words. "Some of the most spectacular desert scenery and rugged mountain and canyon country in the United States are found on these lands," it says. "Some tracts border routes of travel used by vacationists and local recreationists; frequently they are adjacent to or lie close to population centers, or to national and State parks, national forests, wildlife refuges and other areas used for outdoor recreation." And the Bureau has, if only quite recently, initiated its own modest program for providing outdoors-bound Americans with recreational facilities on the public land; the response has already been measured by the millions of visits.

Within the public lands there are also very many sites of somewhat special nature—tracts which for one reason or another seem to warrant protection for outdoor recreational and other merits as well. An especially beautiful

and unspoiled canyon, perhaps; an outstanding cave; an association of plants or animals undisturbed by the needs of man or his cattle or mining tools; an unusual geological feature. There are thousands of such spots large and small worthy of special consideration and protection, and their eventual fate has been under examination by the managers of our public lands.

The question of whether such spots ought to be retained for their public values has been made more urgent by a 1964 public law that directed the Interior Secretary to examine the public lands and classify them either for disposal or retention for various categories of management, including outdoor recreation, wilderness preservation and "preservation of public values that would be lost if the land passed from Federal ownership."

The Bureau of Land Management has been quite sympathetic to the idea that various tracts within its holdings might be managed for their special outdoor recreational and educational or scientific values—that it might, indeed, classify them in accordance with the national need for open space reserves. But there have been difficulties, despite the forward-looking management philosophy of top-echelon Bureau executives. The difficulties seem to stem largely from deficiencies in Bureau of Land Management planning at state levels rather than in the national office.

Obviously, it is not possible for Bureau of Land Management's Washington staff to personally canvass the recreational and preservational possibilities of several hundred million acres of public lands. Headquarters must rely largely on the guidance and recommendations of field personnel as to the size and number of tracts that ought to be considered for retention under special management.

The situation prevailing in Nevada today might be cited as an example of the way in which planning of large national importance can become blurred against a local background.

Some seven years ago, a group of conservationists in Nevada banded together in their private capacities to perform a monumental chore; the evaluation in that huge State of potential parklands, and recreational, scenic, and scientific areas worthy of protection by the State or the Bureau of Land Management, which administers more than two-thirds of the State's total area. This was the Nevada Survey, later the Nevada Outdoor Recreation Resources Index and Survey, founded and first directed by geologist-cartographer Charles S. Watson, Jr., and now directed by Nevada labor leader George Kell. A more representative group of Nevada citizenry could hardly be found; aside from Watson and Kell, the roster of the Survey included among its various members a state legislator, a county assessor, a rancher, a county museum director, and a retired businessman; the 13-man Survey was constantly advised by professional historians, planners and architects.

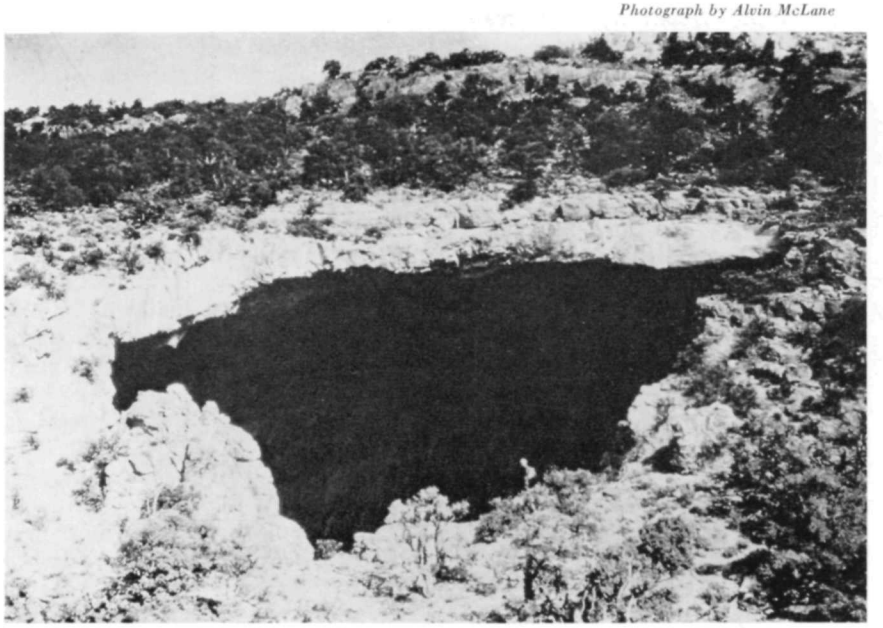
During the course of its intensive examination, evaluation and mapwork, the Survey inventoried, in a minutely-detailed summary which evoked the admiration of recreation planning officials in Washington, some 304 Nevada sites warranting special protection or complete preservation. In truth, the Survey's work underlies Nevada's recently published state park master plan.

In spite of Washington's currently receptive attitude toward imaginative recreation and preservation planning in the Nevada public lands, however, and the immediate need for classification of outstanding natural spots for retention and special management, the planners in BLM's Nevada land office have so far held their recommendations to a quite modest figure—140 sites, as compared with the 304 of the Survey's recommendation. Furthermore, there has been a tendency at the local level to scale down individual sites to 640 acres—and usually less; figures which take no account of ecological or esthetic unities. No effort seems to have been made at the local BLM level to mesh recommendations for special-purpose land withdrawals with those of the Survey.

TODAY, FEWER AND FEWER AMERICANS look at the Bureau of Land Management merely as a land-dispensing agency; rather, they see it as one among the several Federal bureaus which administer America's public lands for the public benefit. In particular, some conservationists see the Bureau as administrator of a valuable system of recreational and natural lands which might well complement the holdings of the national park, forest and wildlife refuge systems, perhaps under some such title as the National Conservation Reserves, which would take their place in the American picture of resource conservation, preservation of natural beauty, and enhancement of the national environment. It would be tragic indeed if realization of such a system were to be thwarted by narrow views and a lack of understanding in some of our Western States.

An example of a geological phenomenon which might be preserved by BLM for public enjoyment and interpretation: pristine Leviathan Cave, in eastern Nevada. November, 1963.

Photograph by Alvin McLane



News and Commentary

A New Lakeshore Proposal

Just to hand as we prepare November newsnotes is a copy of the Park Service's formal proposal for an Apostle Islands National Lakeshore in Wisconsin on the south shore of Lake Superior. Included within the lakeshore would be 21 of the 22 Apostle Islands just off the northeastern tip of the Bayfield Peninsula, and two separate units on the peninsula shorefront, the whole totalling 57,511 acres. Purpose of the proposed lakeshore, as stated in the brochure: to preserve a splendid remnant of Great Lakes shoreline for public use; to improve the conditions of the Bad River and Red Cliff Bands of the Lake Superior Tribe of the Chippewa Indians of Wisconsin; and to stimulate the local economy as a result of tourism expenditures and Federal investments.

Shortly after the Park Service published its proposal Senator Nelson of Wisconsin introduced, for himself and Senators Douglas and Proxmire, *S. 2498* to establish an Apostle Islands National Lakeshore. The lakeshore will be described in more detail, and mapped, in the December issue of the Magazine.

Water and Power

The urgency of today's water problems is best appreciated by those who suddenly find themselves cut off from traditional sources of fresh, potable water. This is now beginning to happen in all parts of the nation: New Yorkers, who normally consume 1.25 billion gallons of water daily, now find their reservoir supplies slipping to less than half-capacity; Philadelphia jousts with New York over water from the Delaware River; even residents and visitors in the nation's capital are reminded of misused water resources by the smell and sight of the Potomac River.

To meet this problem—both in America and in other nations—the Office of Saline Water of the Department of the Interior has been researching the possibilities of desalting sea water, and has now reported that desaltation is both feasible and to some extent practical. At a seacoast location, 150 million gallons of desalted water per day can be produced at fairly low cost by combining a two-unit nuclear powerplant with the desalting plant. The combined plant would provide both power and water; Interior Department scientists say that the plant they have in mind could exceed Hoover Dam in power output and be competitive with present power prices.

Research became reality this fall when the Department of the Interior and the San Diego Gas and Electric Company joined forces to build a desalting test-station at South Bay in San Diego.

Those Desert Plants

In the July Magazine we mentioned the Corps of Engineers' April de-authorization of the Water Valley dam and reservoir project on the Eleven Point River in northern Arkansas. We remember saying that high-dam proposals, like desert plants, are able to exist for a long time without water.

At this point, we are sure the reader has guessed it. Yes, the Water Valley dam may be with us again. "All things

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Betsy in the Everglades: A Report

Ernst T. Christensen

"Betsy," the second major hurricane in the last five years to invade Everglades National Park, has left shambles in her wake. Nearly all the trees and shrubs were stripped of their leaves. Branches and twigs on the windward side of trees were broken. Some particularly exposed larger trees were topped, broken off, or even uprooted. Palm trees and pines, normally hurricane resistant, were surprisingly battered.

Mahogany Hammock trail after Hurricane Betsy

Photograph by Robert Haugen

All six of the park's nature trails show evidence of some damage. Pa Hay Okee and Mahogany Hammock trails will be closed for some time until they can be rebuilt. Paradise Key, along the Gumbo Limbo trail, sustained severe damage.

Damage to wildlife is much less discernible. Evidently the bird mortality is nowhere comparable to that of either of the century's previous severe hurricanes. There are no reports of stranded sea turtles or porpoises as there were after "Donna," five years ago. The marine fish kill, however, is considerable; the storm's high-velocity winds stirred up partially rotted organic debris in the bottom of mangrove creeks and canals, accelerating decay, liberating great quantities of hydrogen sulfide gas and reducing the oxygen content of the water to a point lethal to most fish.

In some ways the biota of the park benefited from the storm: at least there was rain. From seven to nine inches fell on the drought-stricken park. For the first time this year, water flooded the 'glades and began running through culverts and along sloughs. For the first time in a year egrets could be seen in the 'glades along the park road—but not in great numbers.

A careful examination of the flowing water gave some hint of the extent of damage aquatic life has suffered from drought. The waters of Taylor slough, crossing the park road in numerous culverts and a major bridge, did not contain a single garfish, bass, or bream. Only a few of the smaller gambusia were in evidence. Aquatic life consisted only of ostracods, water beetles, tadpoles and juvenile crayfish. This is in sharp contrast with the situation of just one year ago when every culvert had swarms of little fish and possibly a small alligator or two.

If this present level of water could be maintained, there might still be a chance to keep Everglades Park from drying up. But Betsy's gift of rain has not lasted; already the water table has fallen ten inches, far below that of a year ago. Only unusually heavy autumn rainfall can spare the park the specter of parched water holes and death for the wildlife again this winter.

considered," says General Wm. F. Cassidy, the new Chief of Engineers, "I am convinced that a reservoir project for the purpose of flood control and recreation is amply justified. . . ."

No, we have never studied palmistry; we just believe that desert plants can live for a long time without water.

Condors vs. Topatopa Dam

The proposed Sespe Creek-Topatopa dam project in California, which would lead to invasion of the nesting area of the rare California condor and probably to the extinction of the bird, was denounced by the State's Bureau of Sport Fisheries and Wildlife in a recent meeting in Sacramento on the project. "Based solely on likelihood of disturbance and the welfare of the condor, authorization of this potential project in the immediate future is not recommended," reported the Bureau. Hoping that a delay would provide the opportunity to find alternative sources of water in the area and render the dams unnecessary, the Bureau called for a two-year moratorium on the project.

A few days after the Bureau came out against the dam, California's Governor Edmund G. Brown signed a law to tighten controls over vandals and careless hunters, who contribute significantly to the yearly death toll of the big birds. Maximum penalties for killing a condor now range from six months in jail or a fine of up to $1,000, or both. There are less than forty California condors remaining.

National Park for Jordan?

A short time ago Americans heard about one of the most difficult—and potentially rewarding—preservation attempts in the world. The Kingdom of Jordan is going to establish its first national park.

A brief historical analysis will explain the enormity of the task. Much of the Middle East was not always desert; the barren wasteland is man-made. In the days of ancient Greece one historian reported that Jordan looked like ". . . one great flat plain like a sea, covered with absinth. . . . There was no tree, but all sorts of animals, troops of wild asses, plenty of ostriches, bustards also and gazelles. . . ." As the population grew and attitudes on conservation lagged far behind, Jordan's once-productive but ecologically fragile lands commenced to deteriorate.

In 1964, a British ornithologist journeyed through Jordan and noted that the land was stripped bare and that wild animals were all either extinct or on their way to extinction. In Jordan, "nature has simply given up the fight," he said.

To arrest further deterioration and possibly save some of the remaining wildlife, Jordan would have to stop Bedouins from uprooting small bushes for fuel; forbid raising goats in the area; stop all hunting in the proposed park; and institute other drastic protective measures. If such a task can be accomplished, it will perhaps signal a new era of understanding for Jordanians and demonstrate the amazing recuperative powers of nature.

New Interior Officials

In the past several months there have been several new appointments in the Department of the Interior. In July, Interior Secretary Stewart L. Udall announced his choice of Nathaniel A. Owings of California as a member of the Advisory Board on National Parks, Historic Sites, Buildings, and Monuments. Mr. Owings is an architect, engineer, and designer.

In August, geologist and naturalist Howard R. Stagner was appointed Assistant Director for Resource Studies in the Park Service headquarters office. Mr. Stagner is a career Park Service employee and has been an acting assistant director since the retirement of Ben Thompson earlier in the year. He will be responsible for formulating policy governing resource studies conducted by the Park Service.

In September another career public servant, Harry R. Anderson, became Assistant Secretary of the Interior for Public Land Management. Mr. Anderson, who comes from Sacramento, California, has served as deputy director of the California Department of Fish and Game since 1960.

BLM and Billboards

Secretary of the Interior Udall has proposed regulations to prohibit billboards or other advertising on Bureau of Land Management property within 1000 feet of any road right-of-way. The new rules would replace the current 660-foot minimum and prohibit any signs which would damage scenic or other recreational values in the so-called public lands.

Howl Over Coyotes

In the lush, rolling hills of Pasadena, California, the howl of the coyote still lends a wilderness touch to a rapidly urbanizing district. Recently, however, unappreciative residents in Annandale and other hill sections pushed a proposal before the Pasadena Board of Directors which would allow the trapping of coyotes because they were "dangerous." Excited residents, armed with apprehension but overlooking the facts, claimed that coyotes were eating their pet dogs and cats; that they were traveling in packs of 30 or 40 ferocious beasts; and that pedestrians in the area should carry clubs to beat off attacking coyotes.

When the trapping proposal was publicized, conservationists alerted the directors to the facts. Coyotes do not travel in packs. They are not known to attack

(Continued on Page 26)

humans. They do not usually attack pets. They keep down the rodent population. Scientists, veterinarians, doctors and knowledgeable laymen sent in letters documenting these facts. When the letters were read and a rollcall taken, all directors voted against the trapping ordinance. No pets have been killed, no packs of coyotes have been sighted, no pedestrians have had to club their way to safety—and the coyotes still howl in Pasadena.

Hearings on San Gorgonio

Field hearings have been scheduled by the House Public Lands Subcommittee on seven bills to set aside part of the San Gorgonio Wilderness as a winter sports area. After a Subcommittee field inspection on Nov. 15, public witnesses will be heard Nov. 16 and 17 at the hearing room of the San Bernardino, Cal. city hall. Requests for time by witnesses are to be sent to Chairman Baring at the House Interior Committee, Longworth House Office Building, Washington, D.C., by November 8.

Assateague Joins the Parks

Since 1935, when the Park Service first surveyed the Atlantic seaboard and mentioned Assateague Island for possible preservation, conservationists have been watching proposals pertaining to the long barrier beach with hopes for its protection as a national preserve. Hope turned to reality recently when President Johnson signed a bill creating an Assateague Island National Seashore off the coast of Maryland (Public Law 89-195.) Battered by an angry Atlantic Ocean, the lonely beaches with their sinews of shifting sands complement rolling dunes, fertile meadows and rich stands of pine. At Assateague the cries of gulls mingle with the roar of the ocean, and thousands of water-birds use the area as a stopover during their fall and spring migrations. Numerous small mammals frequent the island, and on the southern shore in the Chincoteague Wildlife Refuge wild ponies run free.

After almost continuous pressure for private development, the island will now be preserved for public use and enjoyment with recreational development carried out by the National Park Service. Plans for preserving Assateague in a reasonably natural condition were presented by this Association in the November, 1964 issue of *National Parks Magazine;* it was pointed out that swimming, fishing, hiking and other recreational pursuits were available on Assateague and could be enjoyed by the public while at the same time the delicate ecological balance of the island could be preserved by keeping development to a minimum. The act establishing the new seashore, however, provides for construction of a road which would run almost the entire length of the island.

Interior Department figures show that Assateague has already become a cherished island retreat for many overurbanized Americans. Nearly 34 million people live within reasonable traveling distance of the island.

Statement of Ownership, Management and Circulation
required by the Act of October 23, 1962; Section 4369, Title 39, United States Code.

Date of filing: October 14, 1965.
Title of publication: *National Parks Magazine*
Frequency of issue: Monthly
Location of known office of publication: 1300 New Hampshire Avenue, Washington, D.C. 20036.
Publisher: National Parks Association, 1300 New Hampshire Avenue, N.W., Washington, D.C. 20036
Editor: Paul M. Tilden, 1300 New Hampshire Avenue, N.W., Washington, D.C. 20036.
Owner (if owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual must be given): National Parks Association, a non-stock corporation.
Known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages or other securities (if there are none, so state): None.

	AVERAGE NO. COPIES EACH ISSUE DURING PRECEDING 12 MONTHS	SINGLE ISSUE NEAREST TO FILING DATE
A. TOTAL NO. COPIES PRINTED *(Net Press Run)*	31,741	31,000
B. PAID CIRCULATION		
1. SALES THROUGH DEALERS AND CARRIERS, STREET VENDORS AND COUNTER SALES	none	none
2. MAIL SUBSCRIPTIONS	31,029	30,600
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Book Reviews

THE BOOK OF TREES. By William Carey Grimm. Third edition, 1965. Stackpole Books, Cameron and Kelker Street, Harrisburg, Pennsylvania 17105. xviii + 493 pages illustrated. $7.95.

The third edition of *The Book of Trees*, off the press during October, eliminates the rather cumbersome large format of the second edition (1962) and reduces the book to a more manageable 6x9-inch size without violence to either text or illustrations. Editing consists solely of a slight change in the introductory remarks of Dr. Maurice Goddard, chief of Pennsylvania's Department of Forests and Waters.

Grimm's work, the reviewer feels, is presently the best of the non-technical guides to the trees of eastern North America (excluding the special botanical province of semi-tropical southern Florida.) Noteworthy, during these days of constantly increasing prices, is the cost of the third edition—$7.95 as compared with the $10.00 price tag of the 1962 edition, reflecting a printing economy obviously made possible by the reduction in size.

COMPARISONS IN RESOURCE MANAGEMENT. Ed. by Henry Jarett. University of Nebraska Press, Lincoln, Nebraska, 1965. Paperback, $1.65.

American practitioners of public administration now recognize the possibility of learning from management techniques in other countries. The philosophy and environment of programs similar to our own are also helpful. To help learn these, Resources For the Future sponsored a program in 1961, preparing for consideration of comparative resources policy and administration.

Six programs for managing land and water resources are described: British administration of national parks and preservation of natural areas; West German pollution abatement in the Ruhr District; Swedish management of small forest holdings; land and water development in southern France; and multiple-purpose land and water districts in Ontario. Each of the six papers is preceded by a statement of American problems and is followed by a brief analysis of the lessons we can learn from foreign experiences.

The pressures against preserving undeveloped lands are evident; this includes not only pressures for commercial development and use of natural resources but the desire of the public to enjoy natural areas. This problem is discussed in E. M. Nicholson's essay, "Preservation of Natural Areas in Great Britain." Mr. Nicholson is Director-General of the Nature Conservancy in Great Britain.

"We don't exclude the people coming to natural areas to enjoy themselves for recreation, and we recognize that the natural areas have a value as such," says Nicholson. "But the cardinal point for us is that these natural areas are treasures of science comparable to museums and comparable also to the equipment of science in other fields."

This idea of wild areas as "treasures of science" where scientific study may take precedence over outdoor recreation and general public access is not widely accepted. It is a difficult philosophy to sell. But in our search for new and appropriate ways to save our natural heritage, we ought to accept this use in many areas and seek the support of scientists who would use such areas for research.

—David G. Phillips

THE CROSS-COUNTRY SKI BOOK. By Johnny Caldwell. Stephen Greene Press, Brattleboro, Vermont. Paperbound, 80 pages, $1.95.

Cross-country skiing, fast becoming one of our most popular winter sports, is explained, explored, and discussed, with photographs and interesting text, by this ex-Olympic skier and well-known coach. The book is helpful to both beginners and "buffs," and supplies information on equipment, technique, trails, training, and possible family jaunts. Skiers who want to see the country—and the national parks—by zooming or silently gliding across a snow-covered wonderland should tuck this guide inside their parkas.

THE CONSERVATION DOCKET

Several important changes in the Federal water pollution control program will stem from the passage of *S. 4*, the Water Quality Act of 1965. The President has recently signed the bill, which will provide for an additional Assistant Secretary of Health, Education, and Welfare, and an administrator to guide the new program.

Already signed into law is *S. 20*, creating an Assateague Island National Seashore on the Maryland-Virginia coast. Other conservation bills recently signed into law are *H.R. 881*, establishing an Alibates Flint Quarries and Texas Panhandle Pueblo Culture National Monument (PL 89-154); *S. 21*, the Water Resources Planning Act, to establish a water resources council and river basin commissions through Federal financial assistance to States (PL 89-80); and *H.R. 89*, setting up the Delaware Water Gap National Recreation Area (PL 89-159).

H.R. 9424, to conserve, protect, and propagate native species of endangered fish and wildlife has been passed by the House Subcommittee on Fisheries and Wildlife Conservation, and reported favorably to the parent Committee on Merchant Marine and Fisheries. Other bills affecting wildlife are *S. 1623*, which would raise the present limit on Federal aid for Fish and Wildlife Service research on the effects of pesticides on fish and wildlife—a bill which has been already passed and readied for presidential signature—and *H.R. 10767*, Ottinger's bill to amend the Migratory Bird Conservation Act to provide that no land in the national wildlife refuge system be disposed of without the approval of the Migratory Bird Commission.

Recent Federal preservation proposals are Hart's *S. 936*, to establish a Sleeping Bear Dunes National Lakeshore and appoint an advisory committee for the area; the Apostle Islands National Lakeshore in the State of Wisconsin, proposed by Nelson in *S. 2498*; and bills by Ottinger, Hathaway, and others to preserve and protect New York's Hudson Highlands through establishment of a Hudson Highlands National Scenic Riverway. A proposal for establishment of a St. Croix National Scenic Riverway, *S. 897*, has been favorably reported by the Senate Committee on Interior and Insular Affairs. *S. 251*, authorizing establishment of a Cape Lookout National Seashore in Carteret County, North Carolina, has passed the Senate.

Looking toward abatement of air and water pollution, King of New York has introduced *H.R. 10805*, amending the Internal Revenue Code to authorize amortization of the cost of abatement works for income tax purposes over a period of 36 months. The bill is in the House Committee on Ways and Means.

Senator Ribicoff has introduced *S. 2470*, amending the Federal Insecticide, Fungicide, and Rodenticide Act to provide for more effective regulation under the Act. The bill has been referred to the Committee on Agriculture and Forestry.

Two bills concerned with conservation research have been introduced: *H.R. 10766*, Representative Ottinger, would authorize the Secretary of the Interior to conduct a research study of the natural environmental systems of the country; *H.R. 10456*, Representative Wyatt, would establish a National Study Commission on Water Conservation and Utilization. Both bills were referred to Committee on Interior and Insular Affairs.

The esthetic, real estate, planning, tax, and safety problems posed by overhead electric transmission lines have been recognized in Representative Ashley's *H.R. 10664*, which would authorize the Secretary of the Interior to conduct a study of such problems. To Committee on Interstate and Foreign Commerce.

National Park Service photograph

An ocean of fog blankets the Page Valley on Shenandoah Park's western flank.

NEARLY FORTY YEARS AGO Virginia schoolchildren were contributing pennies, nickels and dimes to help establish a great eastern national park in the Blue Ridge Mountains—Shenandoah, over whose ridges and hollows hangs a perpetual haze of blue mist. To be sure, the children had more than a little help in the enterprise from enthusiastic grownups, in Virginia and all over the country; and the State assisted with survey and other detailed work as well. Out of this collaboration there emerged a long, twisting national park rich in human history and scenery and botany.

LONG BEFORE SHENANDOAH PARK was established the National Parks Association, the nation's leading conservation organization concerned primarily with national park system matters, was working to help keep then-existing parks and monuments as nearly as possible in their natural condition, free of artificiality and "improvement," and it has continued its work to the present day. You can assist your Association in its efforts by helping to secure new members; by raising your membership classification; by remembering the Association in your will; or by contributing to the Association's general funds over and above regular dues. All dues over and above basic annual dues, and all contributions, are deductible for Federal income, and gifts and bequests are deductible for Federal gift and estate tax purposes.

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