

# NATIONAL PARKS *Magazine*



Petrified log sections weathering from the  
Chinle formation in Petrified Forest National Park, Arizona

*June 1963*

# The Editorial Page

## *Implications of McKinley*

THE PARK PLANS AND BUDGETS AND the completed developments at Mount McKinley National Park, revealed for the first time publicly in the preceding issue of this Magazine, raise grave questions of park management policy which must be faced if the fundamental protective mandates of the National Parks Act are to be complied with throughout the System.

It is a matter of serious public concern that our analysis last month was the first detailed revelation of what has been happening at McKinley.

We regret to say that it was extremely difficult for us to obtain this information. It was not readily available at any one planning desk in the National Park Service; indeed, some of it had to be obtained from the Bureau of Public Roads. The highest administrators in the Service were apparently unfamiliar with the development plans. Even worse, their position seems to be that such plans should not be made public; Acting Director Tolson wrote to us:

"Quite frankly, we always hesitate to give out this type of information because it can so easily be misconstrued."

We published a photograph of Wonder Lake. Our readers should know that the scene of exquisite beauty portrayed in that picture no longer exists; a straight, fast road on a high fill mars the basin in which this beautiful lake lies, cutting across the valley all the way to the park boundary on the north.

The other photographs we published speak for themselves; the gashes through headlands, the fills across hollows, the borrow pits, the straightaways.

In our considered judgment, this kind of road building violates the National Parks Act; it ought to be stopped. Protests of protectionists in years gone by against similar developments have fallen on deaf ears; the time has come for a change.

And first of all, the secret planning and budgeting should cease. One would think we were dealing with highly

classified military information. A democratic society can not work unless all the people are fully informed about government programs. Government by confidential bureaucracy, everlastingly protecting its flanks against criticism, has no place in an open society.

It should not have been necessary for the McKinley plans to be laid before the general public by this Association. They should long since have been spread on the table by the National Park Service itself.

A number of basic reforms are in order: first of all, open planning; as a starter thereafter, a complete reform of park road construction, specifications, and methods, getting back to contour construction and reasonable standards which fit the land.

And getting back to the thought that there are places where no road should be built at all. Some people believe that no road should ever have broken the McKinley wilderness; there is much to be said for these views. Others think that, since a modest road had been there for many years, it should have been kept substantially as it was; there is even more to be said for these views.

We shall comment later on inappropriate architecture, excessive accommodations, and other violations of the spirit of the Act. The atrociously bad judgment which has been used in respect to the road in McKinley is enough to reflect upon at the moment.

—A.W.S.

## *Get the Motorboats Out of the Parks!*

WE HAVE THE LINGERING RECOLLECTION that some time in the distant past the Solicitor of the Department of the Interior held a hearing on motorboats on Yellowstone Lake. We seem to recall that regulations had been promulgated zoning motorboats out of several of the arms of the Lake, in the interest of the protection of the quietudes and solitudes people enjoy there, and the wildlife there, which people also enjoy. And then these regulations were summarily revoked, and the racket of motorboats was ad-

mitted again. In fact, things went from bad to worse, and remote lakes not accessible by road were opened to motorboats. But as protests mounted, the hearing was held; the case for protection was spread upon the record; the Solicitor has been as silent as the Sphinx ever since.

There are plenty of places in the vast recreational waters of America for motorboats. The parks were not intended to be playgrounds of the Lake Mead type. The traditional policy, of course, and the prevailing policy, even yet, is protective; motorboats are excluded from most of the lakes in the national park system. What we are dealing with at Yellowstone, and in the lax policy newly established for the remote lakes, is a motorboat invasion, to which the Service has responded by appeasement. It is not as if we did not know any better; the right policy has been followed for the most part throughout the system, and there ought to be a return to that policy in those areas where it has been breached.

The situation is quite similar in some ways to the invasion of the national forests by jeeps and motorscooters, operating off the roads. The Forest Service has been yielding, and the forest experience, which draws people to the woods, may be widely impaired.

The forests and the parks serve an invaluable purpose as sanctuaries for people; human beings go to them to get away from the clatter of the cities; the Services have a responsibility for the protection of these refuges for people.

There is an inescapable obligation on the part of the Secretary of the Interior and the Director of the National Park Service to protect the parks from the motorboat uproar. We think they had best re-assume these obligations, which devolve upon them under the National Parks Act.

As for conservationists, and the general public which loves the parks, patience enough and too much has been shown. We, too, must re-assume an obligation: to get the motorboats out of the parks.

—A.W.S.



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Front Cover Photograph by Robert B. McCoy



Under terms of a law passed by Congress in 1958, Petrified Forest National Monument was to be redesignated as a national park after acquisition of all non-Federal inholdings. During November of 1962, the last of the inholdings were acquired, and the monument became the nation's thirty-first national park. Preserved in the new park is one of the world's outstanding exhibits of petrified wood; the original trees, which flourished some 160,000,000 years ago, were represented largely by a primitive pine related to the modern *Araucaria*. A representative *Araucaria*, the Norfolk Island pine of Australia and Norfolk Island, is seen in the photograph.

## 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 26,000 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 \$5 annual, \$8 supporting, \$15 sustaining, \$25 contributing, \$150 life with no further dues, and \$1000 patron with no further dues. Contributions and bequests are also needed. Dues in excess of \$5 and contributions are deductible from federal taxable income, and bequests are deductible for federal 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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# Steam Means Trouble in Lassen's "Section Thirty-Six"

By Philip Hyde

*During the summer of 1962 a drill rig was moved into an inholding on the southern boundary of California's Mount Lassen Volcanic National Park, close by the so-called Terminal Geyser, to probe for steam with which to operate a thermally-powered electrical generating plant. Operations were halted at an estimated depth of thirteen hundred feet, but may yet be resumed.*

*Photograph by the Author*



IN LATE JANUARY OF THIS YEAR, THE Terminal Geyser was still gurgling forth its hot water and steam on "Section Thirty-Six" in California's Lassen Volcanic National Park. An unprecedented winter dry spell permitted the writer a look at that embattled section of private land within the park. It is an easy walk over the ridge from the Warner Valley road that comes up from the south near Chester and ends at Drakesbad, a thermal area on the park's southeast side. In an area where ten to twelve feet of snow would be normal in late January, there was much open ground, and patches of snow in shady spots did not exceed fifteen inches in depth.

Terminal Geyser is really not a geyser, since it does not erupt at periodic intervals, but runs constantly, throwing out steam and a continuous fountain of hot water perhaps eight or ten feet high. As a "geyser" it would not rank with many of its kind to be found in Yellowstone National Park, but it is interesting in its own right. Its name may stem from the fact that it is at the apparent terminus of a line of thermal activity that runs in a gentle "S" curve on the map through the hot springs area at Drakesbad, through Bumpass Hell, and culminating in the crater of Lassen Peak, whose celebrated eruption in 1915 and continued thermal activity make it the only active volcano in the United States, outside the two new States of Alaska and Hawaii.

Late last summer, a drilling crew bulldozed an access road into this untouched woods and drilled an exploratory steam well next to Terminal Geyser. According to a newspaper report last fall, drilling went to 1300 feet, and had found no exploitable steam when the operation ran out of money. The report stated that exploration would be

continued as soon as the sponsors raised more money. Another and similar drilling operation in Southern California's Imperial Valley was said to show considerable promise, with temperatures of 700 degrees at 5000 feet; there are other operations of the kind in California which are either active or contemplated.

The well is roughly a hundred feet from Terminal Geyser and is now capped with a heavy steel plate that bears the inscription "200 degrees at

1,300 feet." Part of the drilling platform, which was bulldozed out of the slope up to within a few feet of the mouth of the geyser, was washed out by torrential rains and gales which rocked northern California and Oregon. The drilling rig was removed in September, and except for the steady sigh of escaping steam, all is quiet now in Section Thirty-six. It is quiet now, but will it stay quiet when another prospecting season comes around? And will the access road encourage

*After drilling operations were suspended and the drill rig removed, the well-hole was capped; the cap may be discerned in the sunlit background of photograph below (upper right-hand corner) as a small, anvil-shaped object. Destruction in the foreground was caused by heavy rains in October, 1962, after bulldozers had made several passes over that portion of the terrain.*

*Photograph by the Author*



the owners of the inholding to lumber it off?

Section Thirty-Six is not the most spectacular part of Lassen. It is a quiet wooded area of slopes which rise to Lassen Peak's volcanic heights about eight miles away. In park values, perhaps it is not worth the roughly half-million dollars at which it has been appraised, chiefly because of its timber value—unless you count the cost of having an enclave of exploited private land within a national park that is experiencing a rapidly accelerating public use.

A dozen miles to the south of Section Thirty-Six is the growing town of Chester, peopled to a considerable extent by outdoor enthusiasts whose use of "their backyard" is already heavy. The valley towns that lie along the

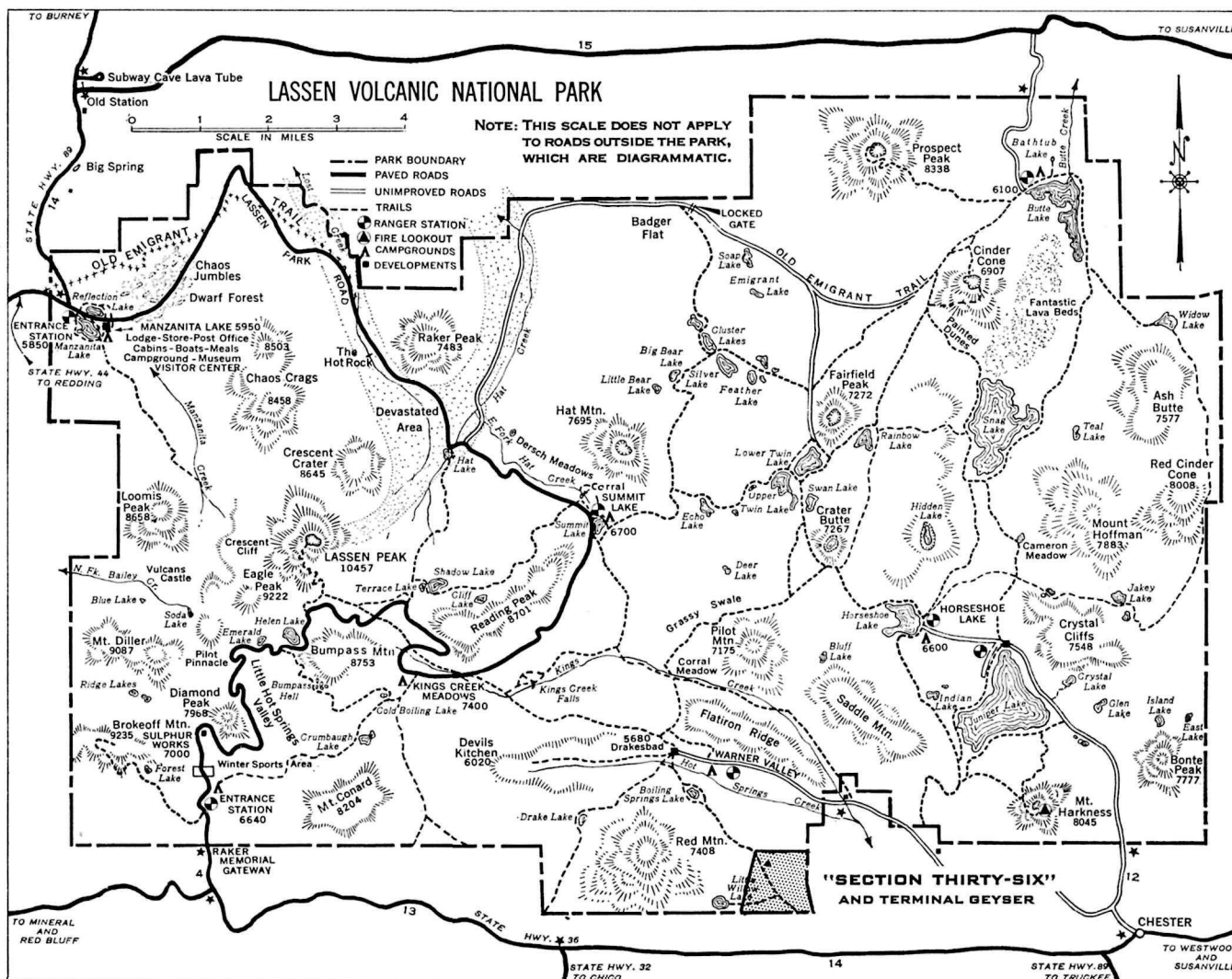
Sacramento River at the base of Lassen's slopes were sleepy during the early years of California's post-war boom, but are wide awake now and building: Oroville, swollen with the construction influx for the Oroville Dam; Chico with its growing State College; Red Bluff and Redding, athwart one of northern California's busiest highways, with lumber and recreation spurring them on, will be growing cities in a few years—perhaps as large as Sacramento was a few years ago. Their people, seeking outdoor recreation in expanding leisure, will head by the thousands for Lassen, barely fifty miles away. Will there be enough park land there to provide their needs, as well as the needs of the other visitors, for wild country?

Section Thirty-Six has a long his-

tory of negotiations between its owners and the government, with the first recorded effort for public acquisition in 1929, when the 900-plus acres were offered to the Park Service for \$6000. Periodic negotiations over the years since have bogged down for various—but not important enough—reasons, and not all the reticence in negotiations has been on the part of the private owners.

Recent negotiations have sought to exchange Bureau of Land Management timber lands of equal value in the same general region, for Section Thirty-Six in the park. It may be hoped that there will be sufficient public spirit shown so that the thirty-three years of negotiations can be consummated before there is any further damage to the terrain of the park.

*The stippled portion of the map below locates the "Section Thirty-Six" discussed in this article. The access road which was bulldozed into the private inholding to transport drilling equipment and supplies also opens "Section Thirty-Six" to possible lumbering operations. The map is adapted from a National Park Service drawing.*





Paul A. Moore, Tennessee Conservation Dep't.

*All traffic halts abruptly on a Great Smoky Mountains National Park road when Mama bear and her cubs appear, and the stage is set for possible visitor injury.*

On your camping trip in the national parks this summer, play it safe—

## Don't Feed the Bears

By Mary Zook

**I**F YOU ARE HEADING FOR A NATIONAL park this summer, better heed the ranger's warning and "don't feed the bears." See that your family does not get too close to them. Brother Bruin may look like a lovable teddy bear, but he is not tame. While he rarely attacks unless provoked, he is, nevertheless, constantly on the lookout for food and will do almost anything to get a preferred morsel when he scents it. Contributing to the delusion that

bears in the parks are friendly fellows, to be treated like pets, are the tourist advertisements showing brown bears gently rearing back on their haunches while visitors dangle food before their mouths.

We saw a woman do just that while her husband tried to focus his camera. Before we could stop and warn her, the over-anxious bear had slapped her with his paw, badly tearing her arm. He had not meant to hurt her, but he

*did* mean to have that tempting sandwich.

The superintendent of Yellowstone National Park has stated, for example, that about half the accidents which occur in that park each year are the result of feeding the bears, despite the warnings posted throughout the park. "The remaining number of accidents," he said, "are largely due to people getting too close to the animals and attempting to photograph them or in



*Ingredients for trouble: a man, a bear, a box of sandwiches. The locale, Great Smoky Mountains National Park; the photographer, Peter Koch.*

permitting them to start to get into automobiles, making it necessary to attempt to make the bears get out with a resulting injury to some person in the car."

Bears have been known to wreck the interiors of cars—in Yellowstone and other national parks—in search of food even when the cars were locked. These mammals are immensely powerful for their size, and a solid toe-nail hold in a car door is all that is usually

needed. Trailers have also been broken into, perhaps by way of a convenient window.

At one time, hotel garbage was fed the bears daily at Yellowstone Park, but the practice has been discontinued. The superintendent explained the reason. "The concentration of bear in a given area definitely creates a physical hazard to human beings. Concentrating bear at a central feeding area was contrary to the natural tendency of these

animals to wander in family groups or singly in the wooded areas and was artificial. Artificial feeding of these animals was changing their living habits and materially altering the character of these animals from that of a wild primitive beast to one of semi-domesticated character.

"Bears which search for their own food in the woods and lead active, vigorous lives in searching for their food and looking after their welfare

are much healthier and physically more virile and attractive animals than those which lie around feeding grounds and dump areas. So the National Park Service has been putting forth every effort possible to eliminate the artificial from the bears' lives."

The black bear may be either black or brown in color. The same sow may produce a black and a brown cub, just as a human mother may give birth to a blond and a brunette child. Two cubs are usually born at the same time; but one or three is not unusual. The cubs are born in January while the sow is hibernating.

The black bear is found in Glacier, Rocky Mountain, Mt. McKinley, Mt. Rainier, Sequoia, Yosemite, Lassen Volcanic, Grand Teton, Everglades, Great Smoky Mountains, Yellowstone, and some other parks. It may be seen ambling through the forests, along the highways, or even squatting in the middle of a park road, knowing that sooner or later a car will stop and its occupants will feed it. But if you are smart, say the rangers, you will play it safe, stay in your car, and will not coax the bear to your car.

Few tourists ever have the opportunity to see a grizzly bear, since this mammal is only found in a few of the national parks and prefers the solitude

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of the forest. Occasionally a grizzly will come into an inhabited section of a park. A trap on wheels containing garbage is then set for it. When the mammal is caught it is given a distinguishing spot of paint, and is removed to some isolated region and released. If the bear returns a second time it is again deported; but after a third trip to the haunts of men it is deemed incorrigible, and may be disposed of.

The grizzly is deep brown in color and has the same number of cubs as the black bear, although the cubs are larger and heavier. They hibernate with the mother the first winter after birth, but leave her in the spring. The father of grizzly cubs is likely to be cannibalistic towards his offspring, and may kill them if the mother is not watchful in preventing his approach toward the cubs. Unlike the black bear, the grizzly—although it has long claws—cannot climb trees, although its cubs can.

Typical of the incidents which cause accidents with bears is that told by Chief Naturalist Beatty, of Glacier Na-

tional Park in northern Montana.

"In 1939, a young man employed by one of the park hotels was badly injured by a grizzly encountered on a trail hike. The young man claimed he had done nothing to provoke the bear and had no food on his person.

"The aftermath of this story came in 1947, when one of the naturalists was talking to a doctor from St. Paul. During the course of the conversation, the doctor told about examining a man for military service several years previously and asking the young man how he acquired so many bad scars on his body. The young man told him that while working at a hotel in Glacier, he and a companion were hiking over Piegan Pass and came upon a grizzly and her cub. They started to fool around with the cub and the mother bear charged. She caught one of them and mauled him badly, leaving these scars on his body. We have every reason to believe it was the same incident, although the young man claimed at the time that they had not molested the bear and that the charge was entirely unprovoked."

In any event, the lesson to be drawn from this article is this: if you see a bear in the national parks, give it a wide berth and admire it from a safe distance! ■

## WHO HAS LIVED WITH MOUNTAINS

*Who has lived too long with mountains  
Will breathe their very breath.  
Will never be wholly mortal  
But the faithless lover of death.*

*Refuting the moth's frail folly  
Who flies too near the sun  
That man must pass as the dewdrop  
When his glitter and glow is done.*

*That time is only a pebble  
Dropped in a spaceless sea.  
That the lance of his dreams will never  
Tilt with eternity.*

*For men who live with the mountains,  
May tryst through the night with lies,  
But each day in the mists of morning  
The peaks of the soul will rise.*

—Lilith Lorraine

# Longhorn Cavern State Park

*A geologist interprets the natural history of a  
Central Texas monument to the power of time and running water*

By William H. Matthews III

**M**AN HAS LONG BEEN INTERESTED in caves, and has used them for shelter since the dawn of human history. In modern times the eerie darkness and subterranean beauty of caverns have fascinated scientists, "spelunkers" (cave explorers), and sightseers. Hundreds of thousands of people visit commercial caverns each year, and here they are introduced to the changes that have been wrought by the work of underground water.

Longhorn Cavern possesses all of the features that attract these large numbers of visitors to caves. Huge, domed rooms, tortuous passages, sparkling crystal galleries, and unusual rock formations await the visitor. Moreover, his imagination is fired as he learns that the cavern once served as the lair of prehistoric animals, as an Indian camp, or as a hiding place for outlaws and rebels.

This cavern is also a good place to examine the various phases of cave formation and deposition—in fact, it is an "air conditioned" underground geological laboratory.

Reportedly the world's third largest scenic cave, Longhorn Cavern is located in Longhorn Cavern State Park southwest of Burnet, Texas, in Burnet County. The park covers 708 acres of the beautiful and rugged hill country of central Texas.

It is not known when or by whom the cavern was discovered, but it has apparently been in use for hundreds of years. Originally known as Hoover's

Valley Cave and later as Sherrard's Cave, when the cavern and surrounding land were bought by the Texas State Parks Board in 1931, it was renamed Longhorn Cavern.

After the property had been dedicated as a State park, the State furnished convict labor to develop the cavern. This project was short-lived, however, as area residents objected to the presence of the convicts. Most of the improvements in the cavern and in the park were made by members of the Civilian Conservation Corps, which operated a camp there for about four years. These men cleared the cave's passageways of debris and installed an improved system of lighting. This lighting system, consisting of almost four miles of electrical wire and 550 light bulbs and special reflectors, cost approximately \$40,000 to install. Civilian Conservation Corps workers also constructed the present administration building, Park Road 4, and built an elaborate new entrance to the cavern. During the development period approximately 2½ million cubic yards of earth, guano, and rock were removed from the cave to provide the two-mile scenic tour that is now available to the public.

## The Geologic Story

Longhorn Cavern is located within a geologic province known as the Llano Uplift or Central Mineral Region of Texas. This area is a basin-

shaped depression where Precambrian igneous and metamorphic rocks and sedimentary rocks of Early Paleozoic age occur on the surface.

During Early Ordovician time, about 500 million years ago, this area was covered by a shallow sea. Thick deposits of limy mud accumulated on the floor of this ancient sea and later formed a sequence of rocks called the Ellenburger Group. These rocks consist primarily of limestone, chert, and dolomite, and are about 1450 feet thick in the park area. Longhorn Cavern is formed in the upper massive limestone of the Gorman Formation of the Ellenburger Group.

The cavern is located on Backbone Ridge, which rises about four hundred feet above Hoover Valley to the west. This ridge has been formed as the result of earth movements in which a huge block of Paleozoic sedimentary rocks dropped between igneous and sedimentary rocks of Precambrian age. This block is more resistant to erosion than the older rocks surrounding it, and Backbone Ridge is higher than the surrounding terrain.

Although Longhorn Cavern was formed during the last few million years, geologically speaking it is very young. After the cavern's passages were created by subterranean streams and solution of the rocks, cave deposits were formed by slowly dripping underground waters. Still later, surface streams drained into the cavern carrying with them great quantities of

rock debris, which eventually filled many of the passages.

Millions of years after the Ordovician sediments had been converted into solid rock, gradual uplift of the earth's surface drained the seas, exposing the rocks to the processes of weathering and erosion. Two of these processes—*solution* and *abrasion*—have been important factors in the development of Longhorn Cavern.

The rocks which have been dissolved to form Longhorn Cavern consist primarily of thin beds of soluble limestone which alternate with thick beds of dense, less soluble dolomitic limestone. The floors of most of the tunnels are formed by the dense beds; the domed roofs of the larger rooms have developed largely by the collapse of large amounts of thinly layered limestone over long periods of time.

The rocks were dissolved when ground water, charged with carbon dioxide derived from the atmosphere and the soil, seeped slowly downward

Professor Matthews is with the Department of Geology at Lamar State College of Technology in Beaumont, Texas. His most recent publications include the books *Fossils: An Introduction to Prehistoric Life* (1962) and *The Geologic Story of Longhorn Cavern*, published during early 1963.

along cracks or bedding surfaces. As the water descended, the openings were slowly enlarged to form an irregular network of underground tunnels. Some of these tunnels are several miles long and as much as forty feet high. Continuous solution may cause the walls and ceiling of a cave to collapse, thereby further enlarging the underground passageways.

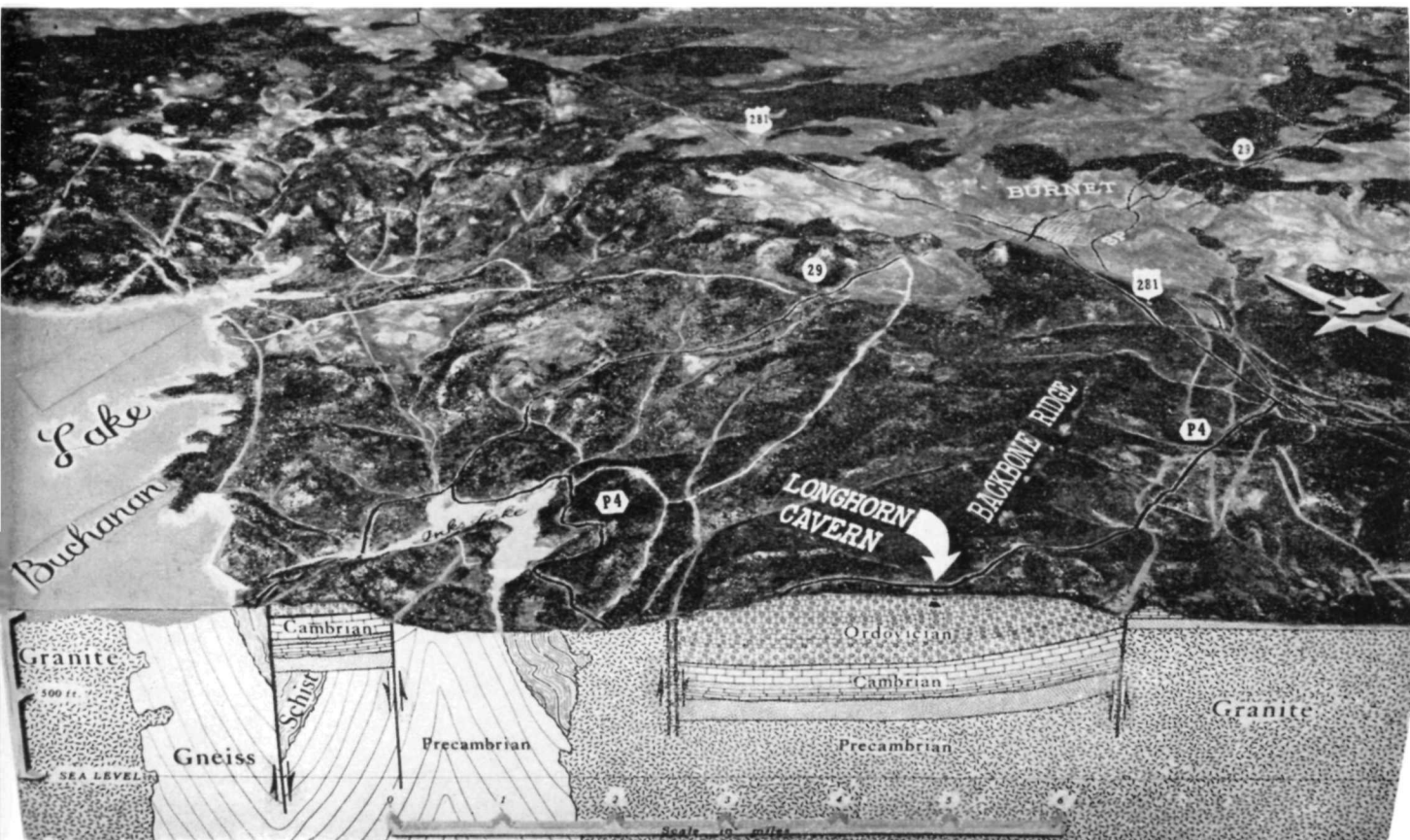
The tunnels and chambers of Longhorn Cavern were developed not only by the solvent action of water but also by its erosive force. This phase of

development occurred when the water table in the cavern area became sufficiently lowered to allow the ground water to drain from the cave. Drainage was probably accomplished by means of springs near the bottom of valleys along the flanks of Backbone Ridge, which extends both west and south from the park area.

Solution effects may also be seen in the surface rocks. In some areas the cracks through which water entered the rocks have been enlarged to the extent that large holes called *sinkholes* were formed on the surface of the ground. There are several such sinkholes in the vicinity of the cavern; one forms the Sam Bass Entrance to the cavern, and several others are used as air shafts and to lower supplies into the cave.

Eventually, surface streams carrying sands and silt entered the cavern by means of sinkholes. The abrasive action of these debris-laden streams further enlarged the solution passage-

The combination photograph and drawing below represents an aerial view and generalized geological cross-section of the Longhorn Cavern area in Burnet County, Texas.



ways as they flowed from the surface to the lower levels of the cave. In general, the visitor tour follows the drainage pattern of this underground stream system.

### Cavern Deposits

After the upper levels of the cavern drained and became filled with air, the slow process of deposition began. During this phase of the cavern's development many interesting secondary lime deposits called *flowstone* or *dripstone* were formed.

Cave deposits formed of material deposited by a dripping solution are called *dripstone*. Deposits of this type include *stalactites*, *stalagmites*, *columns* or *pillars*, and *draperies*; all of these features are present in Longhorn Cavern.

Dripstone was deposited as surface water seeped downward through cracks in the limestone and eventually emerged on the ceiling of the cave. As the water trickled downward from the surface, it dissolved calcium carbonate from the limestone. When drops of mineral-laden water were suspended for some time on the ceiling, some of the water evaporated, leaving behind

a thin layer of calcium carbonate. Over a long period of time, successive accumulations of these layers formed hollow, icicle-like tubes which are suspended from the cave ceiling. These pendant-like deposits are called *stalactites* (from the Greek word meaning "oozing out in drops"). The Giant Icicle, the largest stalactite in Longhorn Cavern, is fourteen feet long.

Sometimes a row of stalactites join together as they grow downward from a narrow crack in the limestone ceiling of a cave. These may produce blade-shaped *curtains* or *draperies* which hang from the ceiling in folds.

At times water dropped from the ceiling at a rate so rapid that most of the carbonate solution fell to the floor. Upon evaporation this excess water built up a deposit called a *stalagmite* (from the Greek word meaning "a dripping"). Each of these rather broad-based, blunt inverted cones will have a stalactite "feeding" it from above. When a downward-growing stalactite meets an upward-growing stalagmite, a *column* or *pillar* is formed.

Deposits of travertine formed when mineral-laden water flows over the

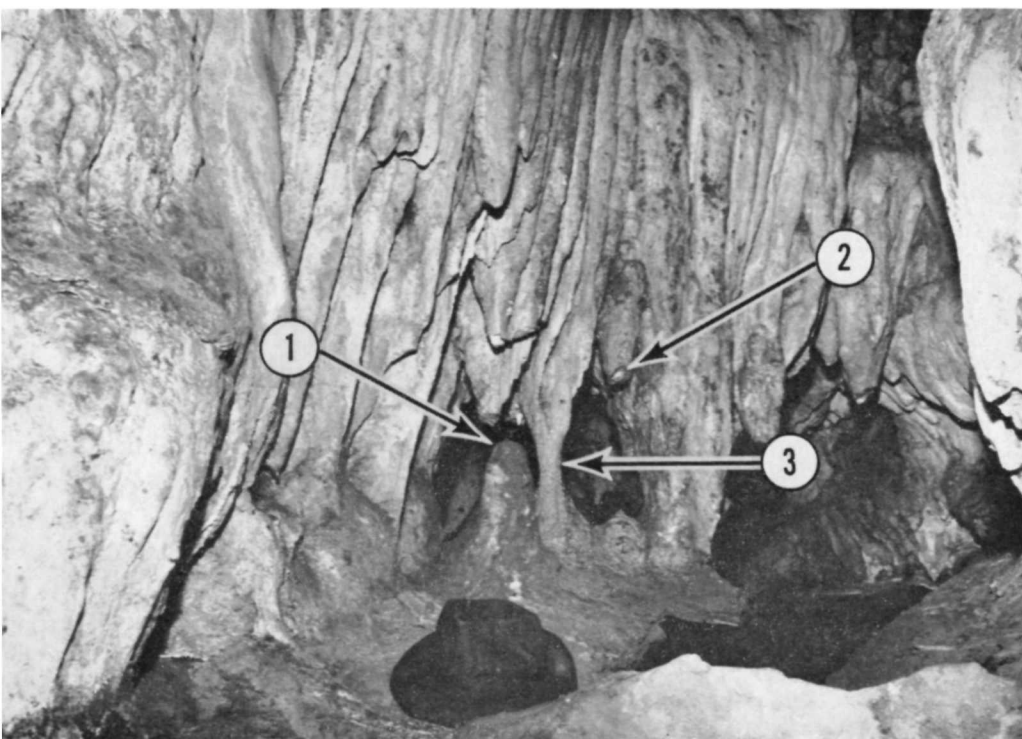
walls or floor of a cavern are called *flowstone*. This type of deposit is quite common in all parts of Longhorn Cavern. Two of the more interesting flowstone deposits are the Queen's Throne and the Rock of a Million Layers. Each of the above deposits was produced over a long period of time as successive layers of travertine were deposited one upon the other. As the water evaporated, calcium carbonate was deposited around the rim of the depression.

In addition to the above deposits, there are several spectacular crystal deposits in the cave. Composed of large crystalline masses of calcite (pure calcium carbonate), these deposits probably formed from standing pools of calcium-saturated water.

### Cavern Life

Although numerous animals have apparently used the cavern as refuge in the past, it is sparsely populated today. The two animals most commonly seen are the cave cricket and the Mexican brown bat or cave bat.

The crickets are commonly seen either singly or in clusters on the walls and ceilings of the cave. The bats spend



The slow drip of underground water, operating over a very long span of time, has created the various depositional features to be seen in Longhorn Cavern. The numbered features in the photograph at the left are: (1) a stalagmite; (2) a broken stalactite showing travertine deposited in its central canal; and (3) a column formed by the union of a stalactite and stalagmite.

*A phenomenon of great beauty is the so-called Giant Icicle, the largest dripstone deposit in Longhorn Cavern. Such features are formed by the deposition of lime by dripping water, and include stalactites, stalagmites, columns or pillars, and draperies. All of these features are present in Longhorn Cavern.*

the daylight hours of the warmer months in the cavern and live primarily in the undeveloped parts of the cave. However, they are occasionally seen flying about in the visited area.

At the present time there are two major bat colonies and several clusters of from fifty to 100 bats scattered throughout the cavern. One of the larger colonies is located just off the tour trail between the features called Jacob's Well and the Wishing Well. The roosting area of this colony encompasses approximately 400 square feet.

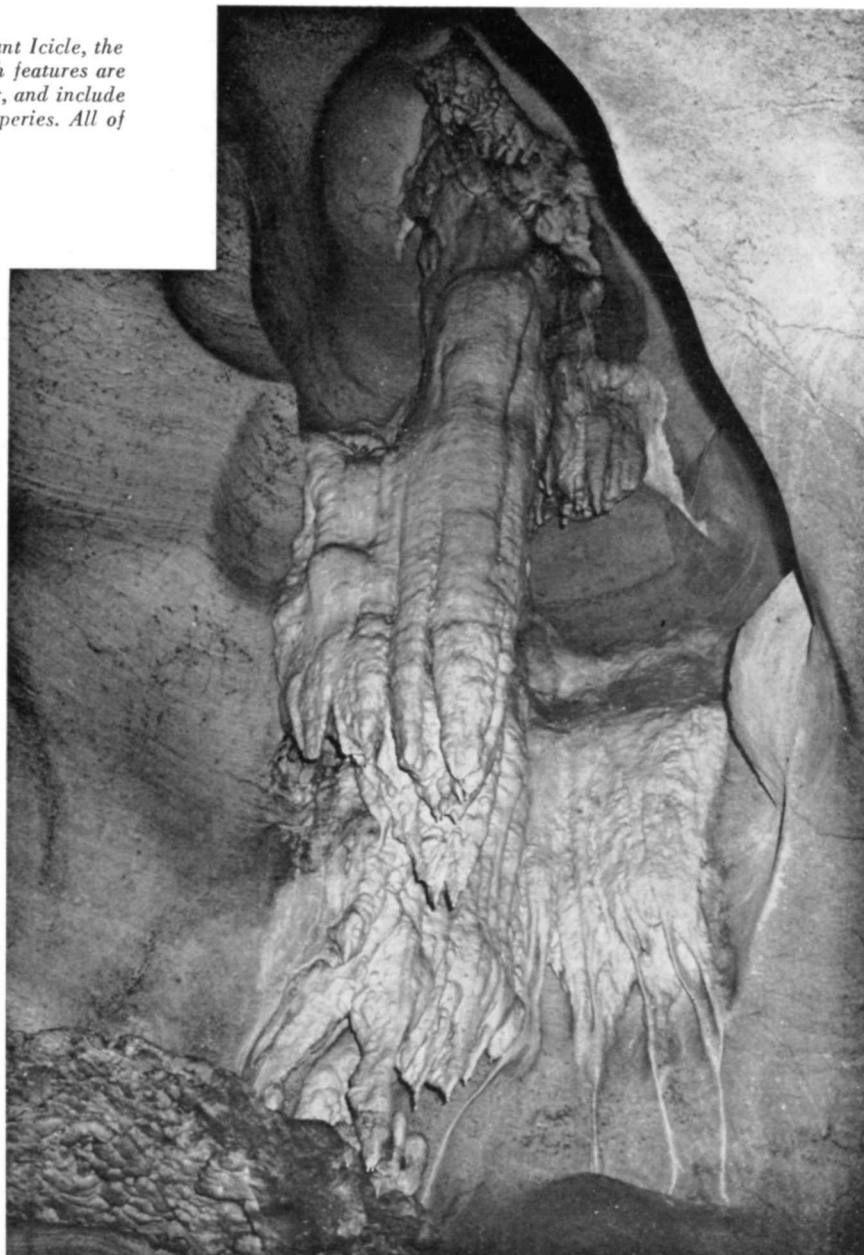
In the roosting colonies the bats hang in dense clusters from the walls and ceilings. They are so densely packed that as many as 300 bats may occupy as little as one square foot of roosting space. It is believed that the Mexican cave bat is migratory, hence the number of bats present in the cave may fluctuate from time to time.

In addition to bats and crickets, other small animals such as spiders, daddy-long-legs, beetles, and worms inhabit various parts of the cave. Mice and rats are also present; they are probably attracted by remnants of food dropped in the lunch room or along the trails. Small crayfish are found in certain pools of water in the undeveloped part of the cavern.

The presence of vertebrate remains suggests that Longhorn Cavern was formerly inhabited by a variety of animals. These include the remains of deer, bison, a grizzly bear, and an elephant. The presence of flint chips, spear and arrowheads suggest that the cave was once occupied by humans.

#### **The Underground Trip**

Guided tours through Longhorn Cavern are conducted daily; the trip takes about two hours. The paths are solid but may be somewhat slippery in spots; there are no ladders or steep grades. Visitors can enjoy a snack in the underground lunch room, which was once used as a night club.



One can see a variety of interesting features on the tour. For example, the Hall of Diamonds and Crystal City are decorated with sparkling calcite crystals; the Queen's Throne is a huge, glistening mass of flowstone; and Little Holland is characterized by dike-like rimstone deposits.

The Indian Council Room, the cavern's largest chamber, was the scene of an Indian battle, while the Cathedral Room is marked by a lofty dome; a formation known as Sam Bass's Bootprint may be seen on the ceiling of this room. Lumbago Alley—a low-ceilinged passageway about 200 feet long, eighteen feet wide, and six feet

high—has formed along a bedding plane in the dolomite, and a large gallery with smooth, colored walls is known as the Hall of Marble. The Chandelier Room, appropriately enough, is festooned with stalactites and draperies.

A massive flowstone formation, the Rock of a Million Layers, is located in the deepest part of the cavern—130 feet beneath the surface. On the ceiling nearby is the profile of Abraham Lincoln etched in chert.

These are but a few of the many attractions that await the visitor to the subterranean wonderland that is Texas Longhorn Cavern. ■

# Your National Parks Association at Work

## **Hearings Held on Canyonlands National Park**

In recent hearing on a bill to establish a Canyonlands National Park, held in Washington during April by the Subcommittee on Public Lands of the Committee on Interior and Insular Affairs, Executive Secretary Anthony Wayne Smith of the Association submitted upon invitation his analysis of S. 27 (Moss, of Utah).

Secretary Smith's major comment concerned the size of the proposed park. The National Park Service's original study area of the Canyonlands of Utah included an area of some 800,000 acres of wild country around the confluence of the Green and Colorado Rivers. Its recommendation to the 87th Congress encompassed about 330,000 acres; Senator Moss's bill in the 87th Congress (S. 2387, *substitute*) brought this down to 300,000 acres; and S. 27, in the present Congress, reduces the proposed park further—to 257,000 acres. Mr. Smith pointed out that the bill would set up a small national park in the center of a magnificent scenic area which should be preserved as a whole; that it would serve as a lure to tourists who would crowd the surrounding area left unprotected, to its possible scenic injury or destruction. The destruction, he said, might be greater than if the area were left as it is at present, in the Land Reserve.

Further, Secretary Smith said, there is no reason why legislation is really needed to create a preservation in the Utah Canyonlands. The land is already in Federal ownership, he pointed out, and a Canyonlands National Monument, encompassing the entire 800,000 acres which it is desirable to protect, could be established by Presidential proclamation "tomorrow." (Such a national monument has been advocated by the National Parks Association—see an editorial in February, 1963, *National Parks Magazine*, page 2.) Monument status "could in all probability provide as much protection against adverse uses as the present legislation, and probably more," Smith said.

The Association's executive secretary pointed out that the bill still contains objectionable provisions for grazing privileges, mineral prospecting, and mining rights. The provisions for entrance roads and connections within the proposed park, also, he said, are far too loosely drawn, and could result in parkway rather than park road standards of construction. As it stands, Secretary Smith felt, the measure is one-sided,

omitting necessary protective elements. Unless improved, he said it might be better to table the proposal and lend support to a Presidential proclamation of a national monument of adequate size with adequate protection.

## **An Ozark Riverways Bill**

During early April, the Public Lands Subcommittee of the Committee on Interior and Insular Affairs held hearings in Washington, D.C., on a bill by Senators Symington and Long of Missouri (S. 16) to create an Ozark National River, designed to preserve the scenery and outdoor recreational opportunities of portions of the Current and Jacks Fork Rivers in the Ozarks of Missouri. The bill calls for the inclusion of not more than 94,000 acres in the preservation; includes provision for hunting and fishing in accordance with the laws of Missouri; and sets forth provisions for acquisition of lands or interests in lands, including acquisition of scenic easements.

Upon invitation, National Parks Association Executive Secretary Anthony Wayne Smith submitted to the subcommittee his analysis of the bill. He first noted with regret the exclusion of those lands bordering the Eleven Points River which had been included in an Ozarks Riverways bill presented in the 87th Congress. He then pointed out a particularly objectionable feature of the proposed legislation; that which would require the Secretary of the Interior to allow hunting in the preserve under Missouri laws. Should these lands be acquired, Smith said, they will constitute a Federal, not a State reservation, and the Interior Secretary should have discretionary authority in respect to hunting. Secretary Smith cited the recent Cape Cod and Point Reyes Seashore Acts as desirable prototypes for dealing with hunting and fishing in areas of less than major park or monument caliber, and recommended substitution of the Point Reyes Act language which is discretionary as to hunting.

Of special interest, Smith said, was the section of the bill dealing with acquisition of lands and waters, and scenic easements along the rivers. He especially commended the inclusion of provision for scenic easements, but suggested that the term "protective easements" might well be substituted as being better suited to the protective needs of the proposed Riverway. "It is high time that we begin to do some effective experimentation with the protective easement as we go about

setting up these new Federal reservations," said Mr. Smith, in part. "Many counties all over the country are far ahead of the Federal Government, which seems not to have understood the value of this approach."

## **Hearings on Sleeping Bear**

Another analysis of legislation designed to add new lands to the national park system was presented by Secretary Smith, upon invitation, at recent Senate Subcommittee on Public Lands hearings in Washington. These hearings concerned the proposed Sleeping Bear Dunes National Lakeshore bill (S. 792, Hart and McNamara, both of Michigan); it foresees a preservation of about 77,000 acres along the Michigan shore of Lake Michigan in Leelanau and Benzie Counties.

Mr. Smith felt that, in general, the provisions of the bill were commendable, especially those designed for protection of present property owners in the inland lake residential areas; for a flexible date of establishment of the preservation; and for the establishment of a State-Federal advisory commission to allow for local and public participation in critical decisions concerning the proposed area.

One of the poorly conceived provisions of the bill is that calling for mandatory State control over hunting and fishing. Secretary Smith told the subcommittee. The provision splits managerial authority, he said, and violates the principle of Federal control over a Federal reservation. In the case of Sleeping Bear, Mr. Smith again recommended that the discretionary formula applied in the Cape Cod and

### **A Commendatory Letter**

Your editorial comment on the Leopold Report in the April issue of *National Parks Magazine* praised the Advisory Board's "signal public service." I would like to add that the National Parks Association performed a public service of its own in publishing the complete text of the report. We join you in your expression of hope that the report will bring about a better understanding of wildlife management issues.

JOHN A. CARVER, JR.

Assistant Secretary of the Interior

*The Association appreciates Assistant Secretary Carver's kind comments on its publication of the Leopold Report in full.—Editor.*

Point Reyes Seashores bills be substituted for the Sleeping Bear bill's present language.

### **A Statement Concerning Forest Access Roads**

During the Spring, Washington hearings were held by the Department of Agriculture on proposed changes in regulations governing management of national forest development roads. On this occasion, which took place April 23, NPA Executive Secretary Anthony Wayne Smith presented a statement on

the views of the Association in regard to the proposed changes, which are designed "to open up the national forests to meet increasing demands for recreation use, timber, and other resources."

Secretary Smith stated that the proposed regulations were, in themselves, excellent, insofar as they sought to provide adequate public control over forest access roads in areas partly in national forest and partly in private or other ownership.

He brought up the question, however, as to whether the undeveloped portions of the national forests (not classified as

wilderness, wild or primitive) should, in fact, be developed at all. He pointed out that the regulations make no effort to protect the public interest in such areas, and, indeed, do not even recognize such an interest. Secretary Smith urged that, when an area of a national forest is to be opened for the first time, there should be public hearings in both the field and in Washington, and that notice to those interested should be both timely and complete. He added that the time and place of hearings should be so arranged as to afford full opportunity for all interested parties to participate.

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## THE CONSERVATION DOCKET

*Organizations like the National Parks Association, which enjoy special privileges of tax exemption, may not advocate or oppose legislation to any substantial extent. Individual citizens of a democracy, however, enjoy the right and share the responsibility of participating in the legislative process. One of the ways citizens can take part in their government is by keeping in touch with their representatives in the legislature; by writing, telegraphing, or telephoning their views; by visiting their representatives in the national capital, or in their home town between sessions.*

**Channel Islands National Seashore.** S. 1303 (Engle); H.R. 5597 (Roybal). Five islands, two of which are already administered by the National Park Service as the Channel Islands National Monument, would hereby be established as a recreational area off the Southern California coast. Wildlife would be managed jointly by the Federal agencies and the State or local governments concerned, and small craft harbors would also be cooperatively developed. The Interior Department's Advisory Board on National Parks, Historic Sites, Buildings and Monuments has recently recommended the establishment of a Channel Islands National Park, which would "preserve for the benefit of future generations a unique combination of seashore scenery, marine fauna, sea bird rookeries, plant and animal life, and significant geological and archeological structures."

**Wilderness Bill.** S. 4 (Anderson and others). Similar to S. 174 of last session, this year's version was approved by the Senate 73 to 12; but House action is likely to bog down again, since most members of the House Interior and Insular Affairs Committee do not support the Senate version of the bill. There were no plans for public hearings before the House Committee at presstime.

**Canyonlands National Park.** S. 27. (Moss). A brief hearing was held on this measure in late April before the Public Lands Subcommittee of the Senate Interior and Insular Affairs Committee. A number of amendments were introduced at that time; these must be dealt with before subcommittee recommendations will be made to the full Committee. The bill, as it now stands, would reduce the 330,000 acres sought for protection last year to 257,000 acres, and has eliminated the previous provision for public hunting in the area under the rules of the State of Utah. Grazing privileges and continued application of mining and mineral leasing laws within the area are provided subject to terms prescribed by the Secretary of the Interior; parkway, rather than park road, standards could be applied to the entrance road or roads and connections selected by the Secretary. There remains some disagreement between Senator Bennett and Governor Clyde of Utah on the one hand, and Senator Moss on the other, as to the size and purpose of a Federal preservation in southeastern Utah. The National Parks Association feels (see editorial, February, 1963, *National Parks Magazine*) that a National Monument, proclaimed by the President of the United States, would serve to protect most of the original 800,000-acre study area of the

National Park Service, since the study-area land is already owned by the Federal Government.

**Golden Circle Recreation Survey.** S. 1132 (Moss). A cooperative survey of the existing and potential recreational resources in Arizona, Colorado, New Mexico and Utah would be undertaken by the Secretaries of Interior, Agriculture and Commerce, appropriate State Governors, and appropriate State and local agencies and Indian tribes. Designed "to stimulate the economic development of this region through increased tourism and recreational activities," the survey would include "studies of and recommendations for the classification, construction, improvement and marking of a system of highways, roads and trails, within the region" and would be submitted to Congress on or before March 31, 1965. Utah's second Senator, Mr. Bennett, has introduced a bill calling for a survey of a proposed national parkway in Utah for the purpose of connecting the national parks and monuments in the southwestern part of that State and the northwestern part of Arizona with the monuments and recreation areas of Utah and Colorado.

**Fire Island National Seashore.** S. 1365 (Keating & Javits), H. R. 3963 & H.R. 13028 (Lindsay & Ryan). The introduction of a Senate bill may serve to expedite Congressional consideration of the legislation to establish a 7500-acre seashore within roughly fifty miles of New York City. More similar to the Lindsay bill than to the Ryan version, and identical to previous House bills, the Senate version goes into more detail as to the responsibilities the Interior Secretary may assume to protect the seashore while furnishing necessary visitor services. There is no limit put on the sums appropriated for acquisition in the Senate bill; the Lindsay bill limits the authorization to \$20,000,000. (For a comprehensive article on the proposed Fire Island Seashore, see *National Parks Magazine* for February, 1963.)

**Water Research.** S. 2 (Anderson & Others). Passed by the Senate in April this measure, proposing the establishment of water resources research centers and otherwise stimulating water resource study, was referred to the House Committee on Interior and Insular Affairs. During the Senate debate, a provision in the bill seeking the establishment of a Water Resources Service in the Department of the Interior for the administration of the programs authorized in the legislation was stricken.

# News Notes from the Conservation World

## Park System Additions Recommended by Board

At the 1963 semiannual meeting of the Advisory Board on National Parks, Historic Sites, Buildings and Monuments, held in Washington, D.C., during April, inclusion of seven new areas in the national park system was recommended.

Strong endorsement was given the creation of a Channel Islands National Park to be located on five islands within boating reach of the Southern California coast; it would encompass some 132,000 acres of the colorful islands of Santa Barbara, Anacapa, San Miguel, Santa Cruz and Santa Rosa, plus the submerged lands and waters within a nautical mile of those islands.

The proposed park, the board stressed, would preserve a unique combination of seashore scenery, marine fauna, sea-bird rookeries, plant and animal life, and geological and archeological structures. (Portions of Santa Barbara and Anacapa Islands comprise the existing Channel Islands National Monument, established in 1938).

Also favored by the board was the acquisition of 783 acres of privately owned land adjacent to Great Falls Park on the Virginia shore of the Potomac River upstream from Washington, D.C. Further, the board recommended establishment of a Voyageurs National Park on a primitive peninsula between Lake Kabetogama and Rainy Lake on the international border between Minnesota and the Province of Ontario, Canada.

Other proposals included the creation of a Great Salt Lake National Monument in Utah; a John Muir National Historic Site, in California; and the Abo and Quarai National Monuments in New Mexico.

The eleven-man Advisory Board was created by the Historic Sites Act of 1935, and is appointed by the Secretary of the Interior. The present members are: Harold P. Fabian, Chairman; Dr. Stanley A. Cain, vice-chairman; Dr. Edward B. Danson, Jr., secretary. Other members include: Mrs. Marian Dryfoos, New York City; Dr. Melville B. Grosvenor, Washington, D.C.; Dr. John A. Krout, New York City; Sigurd F. Olson, Ely, Minnesota; Earl H. Reed, Chicago; Dr. Robert G. Sproul, Berkeley, California; Dr. Robert L. Stearns, Denver, Colorado; and Dr. Wallace E. Stagner, Los Altos Hills, California. Members represent the fields of history, archeology, architecture and human geography.

## Natural History Association Would Appreciate Postage

On page 22 of the April issue of *National Parks Magazine* there was a review of biologist Adolph Murie's recent publication entitled *Mammals of Mount McKinley National Park, Alaska*—a splendid guide to the mammals of our most northerly national park. Park Service plans for which were reviewed in the May issue of this publication.

The Mount McKinley Natural History Association, through its executive secretary, W. Verde Watson, wishes to point out that the price of 75¢ per copy mentioned in the review does not include postage. Single copies are 88¢, including this item, if mailed singly. The Association has a price list of publications on the park—including works on both its natural and human history—which it will send upon request.

## Interior Department Supports Lake Mead Protection

The Department of the Interior has announced its support of Federal legislation to prevent the possible loss of protection for the recreational values of land at Lake Mead National Recreation Area in Arizona and Nevada.

The legislation would provide recreational safeguards for land which otherwise could be lost when existing protective laws are revoked through pending reclassification of the area. The proposed bill would also reduce the size of the area to be administered by the National Park Service by nearly 146,000 acres, leaving a total of approximately 1,806,000 acres for the Recreation Area.

"Enactment of the bill," Secretary Udall said, "would facilitate administration and use of the Lake Mead National Recreation Area and provide a more permanent basis for preservation and protection of its significant scientific and recreational values."

Recreational facilities of the area have been administered by the Park Service under a cooperative agreement with the Bureau of Reclamation.

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The terrain in which Lake Mead is located—northwestern Arizona and southeastern Nevada—is a combination of desert and canyon, mountain, lake and river. As early as the 1920's, the scenic and scientific significance of the region was recognized and the land was temporarily withdrawn from the public domain pending its possible classification for national park purposes. Because of the later construction of two big dams on the Colorado—Hoover and Davis—the park plan was dropped.

## Pesticide-Wildlife Laboratory Dedicated in Maryland

A new laboratory, the Biochemistry-Wildlife Laboratory of the Bureau of Sport Fisheries and Wildlife, Fish and Wildlife Service, was recently dedicated in Maryland. It will accommodate a staff of scientists which will study pesticide-animal relationships and wildlife diseases.

In recent years these fields of research have assumed new dimensions in the conservation of natural resources because of their implications for human health and well-being; with the completion of the laboratory, the nation will have, for the first time since the use of pesticides became a major factor in agriculture, a research facility designed to determine ways and means to use chemicals without sacrificing wildlife.

The new department, it is said, may be destined to solve the pesticide-wildlife riddle which has been brought to public attention so forcibly in recent months by the publication of at least two major books on the subject; it will also study diseases of wild animals, including those transmitted from animal to man.



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## Poverty Point Monument Recommended by Udall

The establishment of a Poverty Point National Monument in Louisiana to preserve the largest and most complex ancient earthwork in North America has been recommended by Secretary Udall in a report to Congress.

Commenting on a bill that would authorize the acquisition of 2100 acres in West Carroll Parish, Udall said the establishment of this unique chapter in the prehistory of the New World as a unit of the national park system would preserve the largest settlement of comparable age known in the United States. Archeological evidence indicates that the proposed area was occupied by prehistoric Indians back to about 700 B.C.

Poverty Point consists of a series of raised terraces upon which the Indians lived. These terraces, built one upon the other and arranged in six concentric octagons, are each about 100 feet wide and six feet high.

At one edge of the total structure rises the massive Poverty Point mound, as high as a seven-story building and measuring about 700 by 800 feet at the base. The mound is thought to have represented a huge bird effigy. A spokesman for the American Museum of Natural History, in New York City, has estimated that more than three million man-hours of labor went into its construction.

## National Forest Visitation Shows Increase for 1962

The Forest Service has reported that the national forests received a total visitation of 112,762,200 last year. "This is an 11 percent increase over the 102 million visits made in 1961," Secretary of Agriculture Orville L. Freeman pointed out "and more than three times the number of visits made to the national forests

a decade ago." If the entire population of Philadelphia had abandoned the city each Sunday during the year for outings in the national forests, their visits would almost equal the number of visits made to the national forests in 1962.

The national forests receiving the heaviest visitation were: Black Hills National Forest in South Dakota and Wyoming (3,382,000); Wasatch National Forest, in Utah and Wyoming (3,060,000); Lower Michigan National Forest, in Michigan, (2,992,000); Angeles National Forest, in California, (2,797,000); and San Bernardino National Forest, also in California, (2,752,000).

## A Grants-in-Aid Program

Original research in eastern areas of the national park system is being encouraged by a new grants-in-aid program offered by the Eastern National Park and Monument Association, according to the Wildlife Management Institute of Washington, D. C. Grants will be made to qualified scholars, including graduate students, who will undertake studies in history or

natural history that "will contribute to the interpretation, management, or developmental programs of these National Park Service areas," the Association says. Further information is available from Dr. Edward M. Riley, Director of Research, Colonial Williamsburg, Virginia.



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# The Editor's Bookshelf

**MEN, BIRDS, AND ADVENTURE.** By Virginia S. Eifert. Dodd, Mead, & Company, New York. 1962. 257 pages with bibliography and index. \$4.50.

Man's thirst for new knowledge and the lure of the unknown—those forces which moved men like Lewis and Clark, Alexander Wilson, George W. Stellar, Audubon, and many others to blaze trails either through the wilderness of then-primitive and unexplored America, or into its natural history—are the actors who move through the pages of this book.

Subtitled "The Thrilling Story of the Discovery of American Birds," the history of new bird discoveries is actually only a part of this narrative woven about such men and their explorations. From Mark Catesby, early ornithologist who helped drive an opening wedge into the scientific knowledge of American natural history, down to the present, the history and adventures of the birdmen is traced by Miss Eifert.

In addition, Miss Eifert has done a commendable job of weaving the sprawling history of the United States into this highly readable book. She takes the reader on the Lewis and Clark expedition, along the Missouri, up Pike's Peak, through Alaska, and into the Arctic tundra in her account of such explorations. The reader is introduced to the pets that the sometimes-lonely scientists were able to make out of wild animals during their journeys through the wilderness. The story of the courageous Indian maid, Sacajawea, and her part in the Lewis and Clark expedition is also told.

This most readable book of bird lore and adventure is combined with twenty-four pages of illustrations taken from outstanding bird artists, from Catesby to George Sutton.

A thought-provoking quotation from this volume: "To fill the open niches of knowledge is man's perennial urge. It is this which drives him insatiably to conquer and then perversely to yearn for the days when all was not known or catalogued."  
—J.H.

**100 DESERT WILDFLOWERS IN NATURAL COLOR.** Photographs and text by Natt N. Dodge. Southwestern Monuments Association, P.O. Box 1562, Globe, Arizona. 1963. 64 pages with 100 photographs in

full color, in paper cover, including index of common plant names and their scientific equivalents. \$1.50.

To those readers of *National Parks Magazine* fortunate enough to have caught the Southwestern desert aflame with bloom, Natt N. Dodge's latest book will serve as a valuable and colorful guide to their own pictures and recollections. For the many who have never seen the desert's none-too-regular color performance, the volume might well act as an introduction to an extravaganza of some future Spring.

Natt Dodge, regional naturalist for the Park Service's Southwestern Region, needs no formal card of introduction to readers of this magazine—he has appeared on its pages frequently in the past, as in the pages of many another conservation or out-of-doors publication. Now he has reached into his voluminous file of color transparencies, selected a round hundred for reproduction in *100 Desert Wildflowers*, and has written for each a concise description including common and scientific names, favored habitat, range, and other pertinent data. The photographs are beautiful, the descriptions adequate.

Let a good word be spoken also for the printer, whose work can make or break a publication of this nature; for Earl Jackson, fellow Park Service naturalist who is also executive secretary of Southwestern Monuments Association, in charge of the volume's editorial chores; and for the design and production work of Jack Slack, business manager and treasurer of this non-profit, public service organization.  
—P.M.T.

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**CHARLES D. POSTON: SUNLAND SEER.** By A. W. Gressinger. Dale Stuart King, Publisher, Globe, Arizona. 1961. 212 pages. \$5.00 hard cover, \$3.75 paper.

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*The lower reaches of the Apple River, in northwestern Illinois, wind past the site of the once flourishing village of Millville on the Galena-Chicago stage route. More than 150 acres of this now-quiet valley were incorporated into Illinois' Apple River Canyon State Park nearly thirty years ago.*



## *Apple River Canyon State Park*

*By Elizabeth G. Benton*

*Photograph by the Author*

FOR THOSE WHO ENJOY SECLUDED spots for vacation or weekend trips there are still many retreats outside of our national park system, if one knows where to look. Such a quiet place is Apple River Canyon State Park, in the northwest corner of Illinois.

When I visited Apple River, silence hung over this valley in Jo Daviess County on a blazing noon in mid-summer, although a few people were scattered about the area, whose 157 acres were made a State park nearly thirty years ago. Two boys fished quietly from a bridge. A father and son were driving tent stakes in a grassy spot on the riverbank; the soft thud of the hammer was the only sound. Across from the workers, high limestone cliffs were mirrored in the Apple River.

The quiet was that of a ghost town, for the village of Millville once stood here. While no trace of the town is left today, the time was when Millville, as a town of some 300 persons, flourished as a stop on the Galena-Chicago stage route. This corner of the State, close to the borders of both Wisconsin and Iowa, was one of the first sections of the region to be opened to settlement.

After the Blackhawk War, which exiled the Sauk and Fox Indians, newcomers flocked to the area. Business was brisk at Millville's two sawmills, and the town shared in the lead-mining prosperity which caused nearby Galena (which derived its name from that of the lead mineral found so profusely there) to become a boom town almost overnight. But Millville's existence was brief. In 1854 the Illinois

Central Railroad built its Freeport-Galena line four miles to the north of the town, and Millville's prosperity collapsed. Those settlers who remained were forced to flee during a devastating flood in 1892.

The forest cover is dense about the Apple River Canyon, and winding through it are marked trails where nature enthusiasts may enjoy an abundance of wildflowers in season, and a variety of birds seldom to be encountered away from true "back country." The clear waters of Apple River are stocked with a variety of fish. Tent camping is free.

Additional points of interest in the immediate vicinity of Apple River Canyon are Charles Mound, 1241 feet above sea level and the highest point in Illinois, and the historic old town of Galena, a short distance west. ■



*A photograph by Herbert Sheldon Becker*

*A Jeffrey pine clings to the bare granite in the back country of Yosemite National Park, California.*

**F**OR MANY American families, June is inventory month. How many tent pegs are missing from last year's trip to that national park or monument? Will Dad run out of spare parts for the camp stove again? Do the air mattresses still hold air? These—and others like them—are questions which seek answers in the month of June.

Over the years our country has developed the finest system of parks, monuments, and other preservations in the world. Its units have been set aside for the recreation, instruction, and enjoyment of its owners. Should any of them be included in your vacation plans this summer, the National Parks Association sincerely hopes that you will receive a full measure of all that they have to give—recreation and education of the finest kind.

National Parks Association

1300 New Hampshire Avenue, N.W., Washington, D.C.