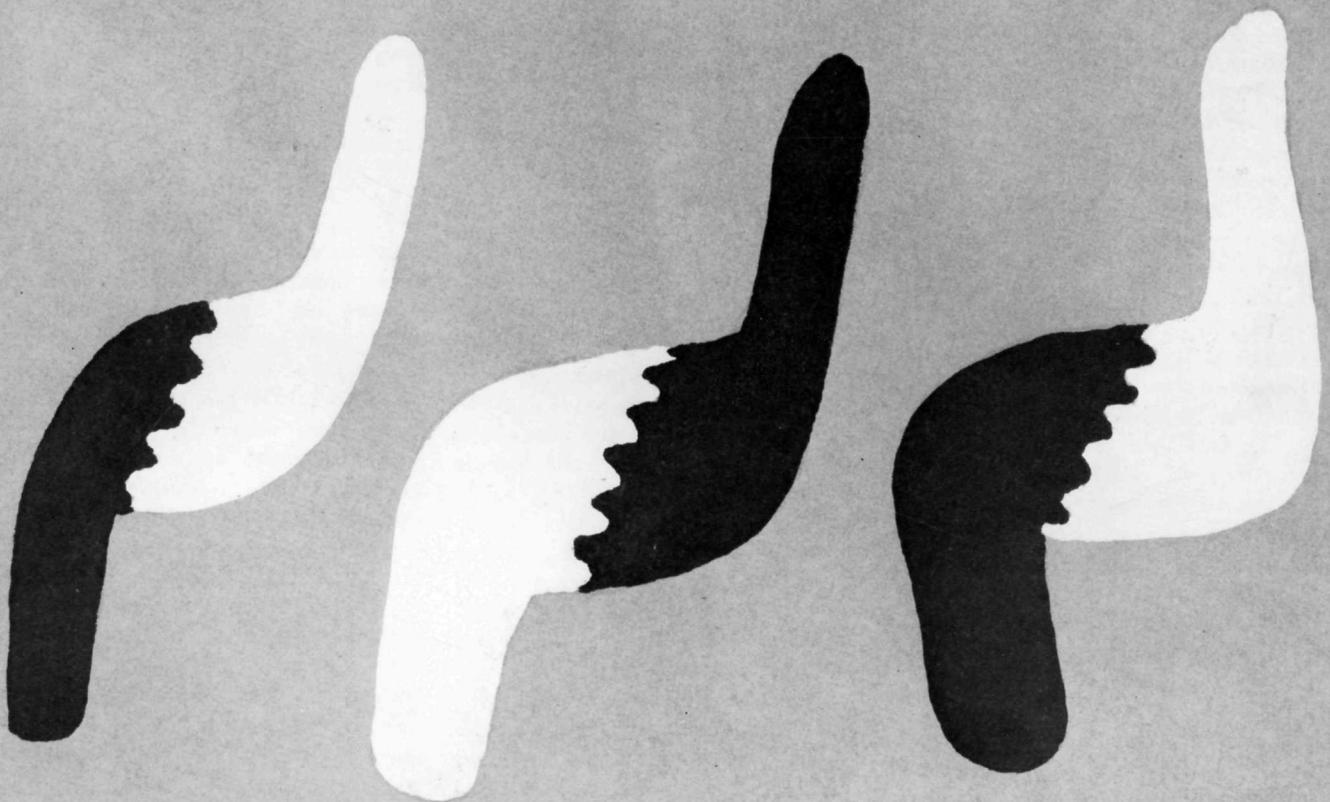


NATIONAL PARKS *Magazine*



The three turkeys of Three Turkey House,
a Navajo preservation in northeastern Arizona

August 1964

The Editorial Page

A Redwoods National Park

"IN 1917," WROTE A FORMER EXECUTIVE secretary of the National Parks Association, "three men who were exploring in northwestern California the most extraordinary forest that the world, perhaps, has ever produced . . . visioned a Redwoods National Park . . . to consist of the noblest forest of them all; and tributary to it, leading up from north and south, a procession of lesser Redwood parks, State, county and perhaps private."

The executive secretary was Robert Sterling Yard, speaking in an early 1926 issue of *National Parks Bulletin*, as the Association's official publication was known then; and the men of whom he spoke were three naturalists and conservationists of the time: Henry Fairfield Osborn, president of the American Museum of Natural History; Madison Grant, president of the New York Zoological Society, and John C. Merriam, president of the Carnegie Institution of Washington and founder of California's Save-the-Redwoods League. The "noblest forest" they were exploring was that of the California Coast redwoods, which paralleled the Pacific shore for nearly five hundred miles in a lacy green canopy perhaps twenty miles wide: a botanically unique and scenically wondrous canopy which rose here and there into such proportions as to provoke a scientist of the day into saying that nowhere since the beginning of time had there existed a more majestic forest. Robert Sterling Yard thought that the Coast redwoods were a national possession no matter who held title to the lands they occupied. They were American redwoods, he said, and not Californian. He might well have gone farther, and declared the huge botanical relict trees to be the esthetic and scientific property of the whole world.

Osborn, Grant and Merriam were towering figures in the conservation field of their time, and they were allied with myriad other devoted people who worked and still work toward salvation

of at least the remaining unprotected monumental groves of *Sequoia sempervirens*. Tireless zeal and the contributions of generous and thoughtful Americans are reflected today in the system of California State Redwood Parks which preserves some 50,000 acres of first-growth trees.

But the old dream of a great redwoods national park never materialized, although the State and other preservations did. Of the original Coast redwood habitat, estimated at somewhere between one and a half and two million acres, there is under national preservation about 485 acres—perhaps five one-thousandths of one percent of the whole—in the Muir Woods National Monument just north of San Francisco; and that the donation of a generous Congressman nearly sixty years ago. Outside the bounds of this and the State parks, and a few small county, city and private preservations, the chain saw and the tractor work busily at the remaining stands of virgin redwoods. California and other conservationists and philanthropists have performed a grand work in salvaging many of the monumental groves; they have been immersed in a task as immense as their trees; there is still much more to be done.

And so conservationists have been deeply gratified over the outcome of a recent White House conference attended by high government officials and representatives of national conservation organizations, including this Association. At the meeting, the President expressed his concern over the remaining redwood forests and directed the Interior Department to make a full-scale study of a possible redwoods national park. A preliminary National Park Service study, financed by the National Geographic Society, has centered on an area in the very heartland of *Sequoia sempervirens*—a tract of magnificent virgin forest just inland from the Pacific in northern California's Humboldt County, on Redwood Creek. Here would be an opportunity—and probably one of the three remain-

ing opportunities—to establish a redwoods national park, of perhaps 30,000 acres or more, adequately protected in its watershed both above and below. Here, in a Brobdingnagian setting of primeval Coast redwoods which includes the world's tallest known trees, could be fashioned a national park fully worthy of the name.

Now the President has requested the Interior Department to make a report of its full study by the first of the coming year; conservationists are under no illusions as to the magnitude of the job; but the challenge to fulfill the old dream will soon be at hand once again—conceivably for the last time. —P.M.T.

Attractive Nuisances

WE HAVE JUST SEEN A NATIONAL Park Service prediction that a hundred million people will visit national park system units this year. The Service has often pointed out that many of its park facilities are taxed to capacity and beyond during the season of heavy visitor use, and park visitors, fresh from denial at park campsite, hotel or motel accommodations, invariably agree, even if in less formal language.

There is no easy answer to overcrowding of the parks and their facilities, but we are sure of one thing: the answer does not lie in actively soliciting more park visitation. And that is exactly what the Interior Department is doing with its current program for more airports in or adjacent to national parks.

The department says that the airports would be improvements to serve heavily visited units of the national park system. Presumably such units would then be even more heavily visited. What kind of reasoning is this?

The fact is that airports in or adjacent to the great national parks and monuments are not improvements at all; they are developments of the sort that the legal profession calls "attractive nuisances." —P.M.T.



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An Agate Fossil Beds National Monument	Paul M. Tilden	4
Three Turkey House	O. F. Oldendorph	8
The Unpredictable Nelson Bighorn	Roland H. Wauer	10
Moods of the Everglades	Jean Speiser	12
News and Commentary		16
The Conservation Docket		19
Book Review		19

Front cover illustration from a sketch by O. F. Oldendorph

In an alcove some sixty feet above the small stream which winds through Three Turkey Canyon, on Navajo Indian tribal lands not far south of Canyon de Chelly National Monument in northeastern Arizona, is Three Turkey House, an Anasazi ruin which has been characterized by archeologists as "one of the few . . . in the Southwest that appears to have been abandoned only minutes before your arrival." The ruin is now under the close protection of the Navajos (see article, page 8). The three roosting turkeys appearing on the front cover were done by an Anasazi artist in reddish-brown and white on the facade of one of the ruin's buildings; they were sketched from the opposite side of the canyon with the aid of binoculars, since visitors are not allowed to enter the ancient ruin itself.

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 \$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 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 \$4 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. Copyright, 1964, by the National Parks Association. 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

An Agate Fossil Beds National Monument

By Paul M. Tilden

THE ROCKY MOUNTAINS THAT WE see today are not especially old, at least as geologists differentiate between old and young. Their life is encompassed by perhaps sixty million years, but a tiny fraction of the time span recorded by fossil relics in the rocks of the earth's crust.

If readers of this Magazine could follow the course of Rocky Mountain natural history over that sixty million years and allow themselves to be tricked by time-lapse photography, which quickens the pace of slow events, they first would see the lifting of a grand mountain range—the original Rocky Mountains—and then its virtual

leveling by the slow forces of erosion.

They would see the passing of the dinosaur hordes that had played king of earth's lands and waters for some two million centuries, and toward the end of the film the drive toward dominance of warm-blooded creatures, hitherto hardly more than "bit" actors on the geological stage.

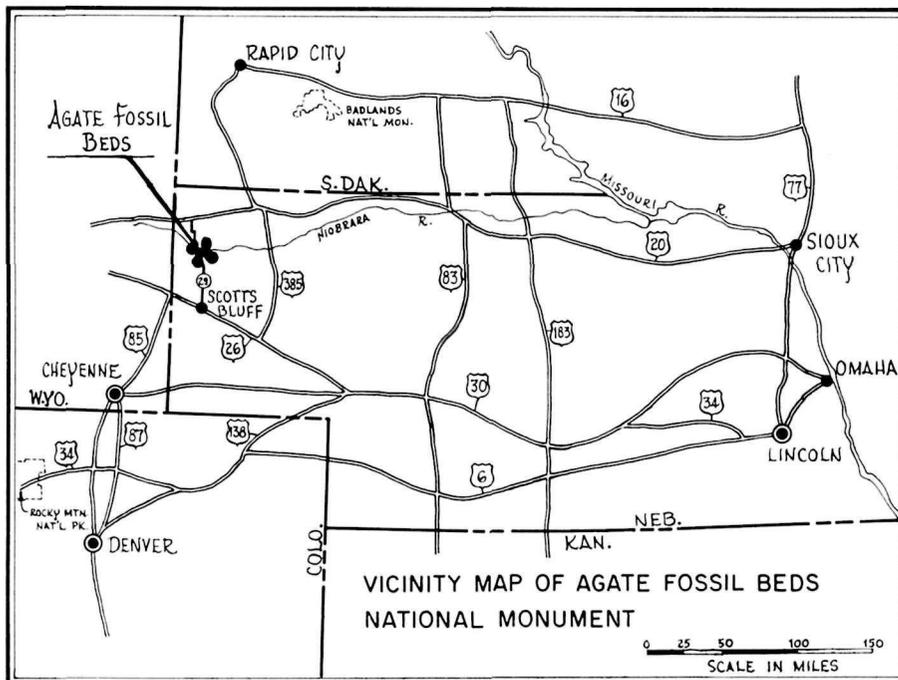
In the final fifteen million years they would see the peaks of the Rockies pushing up again to assume their modern lofty forms; once again the elements would mount a relentless attack on the upflung mass and again the rivers draining the mountain system would be filled with the debris of wast-

ing rock—silt, sand, gravel and cobble. On the eastern flank of the Rockies where the grade became progressively less steep toward the vast central interior flatlands of the continent, streams in this picture would become less and less competent to carry their loads; the waste material from the Rockies would be dropped to create a thick sheet of sediment, sloping gently to the east, to become consolidated with passing time into stratified rock; the outer shell of the province that we come-lately Americans call the High Plains country.

Lying within this great sheetlike deposit in western Nebraska is a locality which the National Park Service thinks would serve admirably to tell the story of mammalian ascendancy in North America during the geologically recent past, as well as man's attempts to unravel it. The locality is on the upper reaches of the Niobrara River in Sioux County, not far from the Nebraska-Wyoming State line. Name of the possible preservation is the Agate Fossil Beds National Monument; its proposed size, 3150 acres.

The first hint that the Niobrara had cut its channel into a vast tomb for Miocene mammals—the earlier creatures of geology's Cenozoic, or "recent" era—came when colorful James Cook, great-grandson of the renowned English explorer and navigator of the eighteenth century, was touring the lands of his Agate Springs ranch, which fanned out over the Niobrara's bottomlands and adjacent benches from a ranch-house nucleus near the river. Captain Cook was a Western pioneer in every sense of the word;

Adapted from a National Park Service drawing





Photograph courtesy "Outdoor Nebraska"

From a vantage point on the treeless, flowered bluffs of the Niobrara River in western Nebraska's High Plains two visitors look toward the Agate Springs ranch-house, for many years headquarters for paleontological exploring parties.

with his great-grandfather's love of adventure, he had variously been cowboy, big-game hunter, scout in the U. S. Army's New Mexico campaign against the great Apache, Geronimo, and intimate friend of the Sioux and Cheyenne Indians. In the course of his ranch-tour the Captain had come across an assortment of fossilized bones weathering from the rather isolated prominence in the river valley that later was to be known as Carnegie Hill. This was in 1878.

Had Captain Cook been entirely uninformed in the sciences, he would doubtless have merely taken a sample specimen back to the ranch as fire-place bric-a-brac, or to be tucked into some dusty corner of a seldom-visited room. But it happened that the Captain had made the acquaintance of two noted paleontologists in the course of

his earlier travels, and had developed a lively interest in paleontology. We can imagine that his mind kept wandering back to the fossil-bone locality, for a couple of years later he brought the Wyoming Territorial Geologist to the site. Word started trickling along the paleontological grapevine of the day.

In 1891 Professor E. H. Barbour of the University of Nebraska visited the fossil locality with a team of students. These people were followed at intervals by research workers from the Carnegie Museum, Yale, Amherst, the Chicago Natural History Museum (then called the Field Museum of Natural History), the American Museum of Natural History, Harvard, Princeton, and many other scientific and educational institutions, including the Royal Ontario Museum, in Toronto. Henry Fairfield Osborn, formerly president of New

York City's American Museum and one of the great paleontologists of America, called the Agate Springs Fossil Quarries "the most remarkable deposit of mammalian remains of Tertiary Age that has ever been found in any part of the world." And indeed, specimens from these quarries grace important museum study collections all over the world; but despite this, it has been estimated that at least seventy-five percent of the fossil-bearing strata of the site are untouched.

What manner of animals were these whose remains were entombed in the river deposits of a gently-sloping floodplain on the east flank of the Miocene Rockies? Although some of them were related to creatures that exist today, the relationship has been diluted by the passing of three geological epochs. Other of the animals represented at



Photograph by courtesy "Outdoor Nebraska"

On the south side of the Niobrara River, some four miles from the Agate Springs Ranch buildings, are University (at left) and Carnegie Hills, quarries of which have furnished museums all over the world with superb specimens of fossilized Miocene mammal remains. The two famous hills would be included in the National Park Service's proposed Agate Fossil Beds National Monument in west-central Nebraska.

Photograph by courtesy Department of Interior, National Park Service

A mile or so north of Agate Springs in the area proposed for monument status is the locality for "devil's corkscrews," one of which is seen in the center of the photograph at right. The man standing beside the fossil beaver-burrow provides a scale for size.



Agate Springs have departed from the scene without leaving so much as a trace in the bloodlines of modern mammals. There was *Diceratherium*, a small, swift, two-horned rhinoceros, and a strange mammal which paleontologists call *Moropus*; a creature with the head of a horse, a body somewhat akin to that of a camel, and the feet and legs of a bear. There was *Dinohyus*, a piglike mammal standing seven feet high at the shoulder and with a body length of ten feet; and *Stenomylus*, a miniature camel only two feet tall. There was an antelope that had two sets of horns, one set curving inward and the other outward; a species of dog, and a number of other creatures, including a few kinds of birds. Noteworthy among the "other creatures" was *Paleocastor*, a small beaverlike mammal that provided one of the oddities of the proposed natural history monument. *Paleocastor*, the ancient beaver, was an earth-dweller, and dug burrows somewhat resembling old-fashioned spiral staircases—with-out steps. At the bottom of the burrow was a nearly horizontal chamber, which was the animal's living-quarters. After abandonment, a burrow would tend to fill with plant roots and soil, and under suitable conditions the filling of the burrows became fossilized to produce "devil's corkscrews," strange-looking affairs indeed.

Embarrassing Questions

We have used the term "under suitable conditions" in talking about the fossilization of the *Daimonelices*, or devil's corkscrews. The same phrase would be applicable of course, to fossilization of the other relics present in such abundance at Agate Springs—or anywhere else, for that matter. The reader might be tempted to ask; just what were the suitable conditions? And just what the mechanism by which organic remains were—still are, probably—converted beneath the earth's surface to a mineral, usually some form of silica? The explanation usually put forth is, that the organic matter was buried sufficiently deeply to keep it from the destructive effects of oxygen, and that over the course of time there was a substitution of silica—carried by percolating ground waters—for organic material. But the fact of the matter is, that little is known about

the "necessary conditions," and even less about the mechanics of the transfer. Perhaps it is only important that proper conditions *do* obtain here and there in the earth's crust, and that the conversion mechanism does work.

What was the course of events that led to such a grand concentration of mammal remains in the rocks of the Agate Springs locality? Here again geologists are faced with something of a dilemma. There are at least two possible explanations. The first is tied to the second uplift of the Rocky Mountain region and an accompanying rejuvenation of eastward-flowing streams heading in the mountains. In times of flood these must have brought torrents of sediment to the floodplains, and certainly the bodies of many drowned animals; perhaps the Agate Springs site was a great eddy in a prehistoric river which trapped the bodies and entombed them in gathering sediments. A second theory postulates that the animals were trapped in the quicksands of an ancient river as they came to drink.

In any event, the land in which these mementos of earlier life are locked passed with the death of colorful Captain James Cook into the hands of his son, Harold Cook, who, in the tradition of his father, made the ranch on the Niobrara a headquarters for visiting paleontologists. The younger man, without benefit of much formal education in the field, became a widely known paleontologist and geologist whose hope was that one day the Agate Springs fossil locality would become a preservation for the education and enjoyment of all Americans. Harold Cook died in 1962, and it remained for his wife, Margaret Cook, to carry on her husband's campaign for preservation. So, when the Park Service broached the idea of national monument status for Agate Springs to Mrs. Cook, it found a sympathetic listener. Several other landholders in the vicinity also had to be sounded out if the monument were to be of sufficient size to accomplish Service objectives; but all indicated a willingness to cooperate.

The important objectives are the preservation of the Agate Springs fossil quarries and their surroundings; a portion of the "devil's corkscrew" formations; the quarry in which the tiny camel skeletons occur (which

would be a detached unit); a representative portion of the Niobrara River and its bluffs; and the locale of the Agate Springs Ranch.

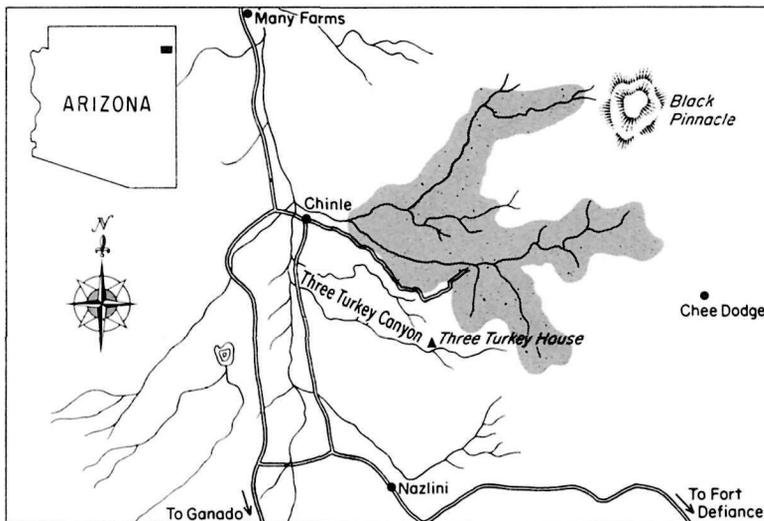
"Nearly every era of geologic history is represented in the National Park System," one Park Service field worker has said. "The beginning of life, exemplified by one-celled organisms, is represented in Glacier National Park. Other early invertebrate forms are represented in a number of parks and monuments, particularly in Grand Canyon National Park. Fossil plant life is represented by the Petrified Forest of Yellowstone and Petrified Forest National Park in Arizona. The Age of Reptiles is represented by Dinosaur National Monument in Utah-Colorado.

"But particularly lacking in the System is an area which would present the Golden Age of Mammals—that epoch of geologic time so called because of the tremendous increase both as to species and numbers of mammal creatures that roamed the earth."

Service Development Plans

The Service's plans for development of the monument, if it materializes, look toward preparation of fossil beds *in situ* for public display and an opportunity for people to watch the excavation and reconstruction of fossil relics. Also, says the Park Service, "the site would be maintained as a research center with facilities . . . for field work on fossil remains." The center would be provided with a library and a reference collection of Agate Springs fossils. There would be a visitor center for the public, and a campground, along with roads and trails leading to points of special interest. Some of the trails would be of the self-guiding sort.

During the first session of the 88th Congress, Senator Hruska and Representative Martin, both of Nebraska, introduced identical bills into Senate and House to accomplish preservation of the world-famous fossil locality and to provide for its interpretation to the American public. The appropriate subcommittee of the Senate, at least, has already held hearings in the matter, and has made a favorable report; so that, in good time, the goal toward which the Cooks of western Nebraska have worked for so many years may eventually become reality. ■



Solid triangle immediately below Canyon de Chelly National Monument in northeastern Arizona (shaded area) locates Three Turkey House, an especially fine Anasazi ruin which is being preserved by the Navajo Indian Tribe. The ruin, in Three Turkey Canyon, is of the Pueblo III period (A.D. 1050-1300) and was probably abandoned about 1275. Area may be reached over an unpaved road; potential visitors should inquire at Chinle (see map) for road conditions.

Map adapted by Federal Graphics from "Plateau," journal of the Northern Arizona Society of Science and Art, Inc.

THREE TURKEY HOUSE

By O. F. Oldendorph

THE NAVAJO TRIBE, LONG COGNIZANT of the visitor-appeal of its juniper and red-rock reservation lands in the American Southwest, has now made it possible to view an outstanding archeological site near Canyon de Chelly National Monument in northeastern Arizona. A new picnic area, established late in the summer of 1963 on the rim of Three Turkey Canyon, overlooks what is probably the least disturbed cliff-dwelling ruin in all the Southwestern American Indian country.

Three Turkey House—actually a small village—was built during prehistoric times in a natural cave in the north wall of the rugged and narrow sandstone canyon. A sheer sixty-foot cliff formed its door-step, while above the cave the canyon wall soared hundreds of feet upward to the rim. A trickle of water along the canyon floor supplied the needs of villagers and cornfields alike.

In 1938 Dr. Harold S. Colton of the Museum of Northern Arizona in Flagstaff led an archeological investigation of the village. In his museum report, published in 1939, he told of the party back-packing ladders, ropes

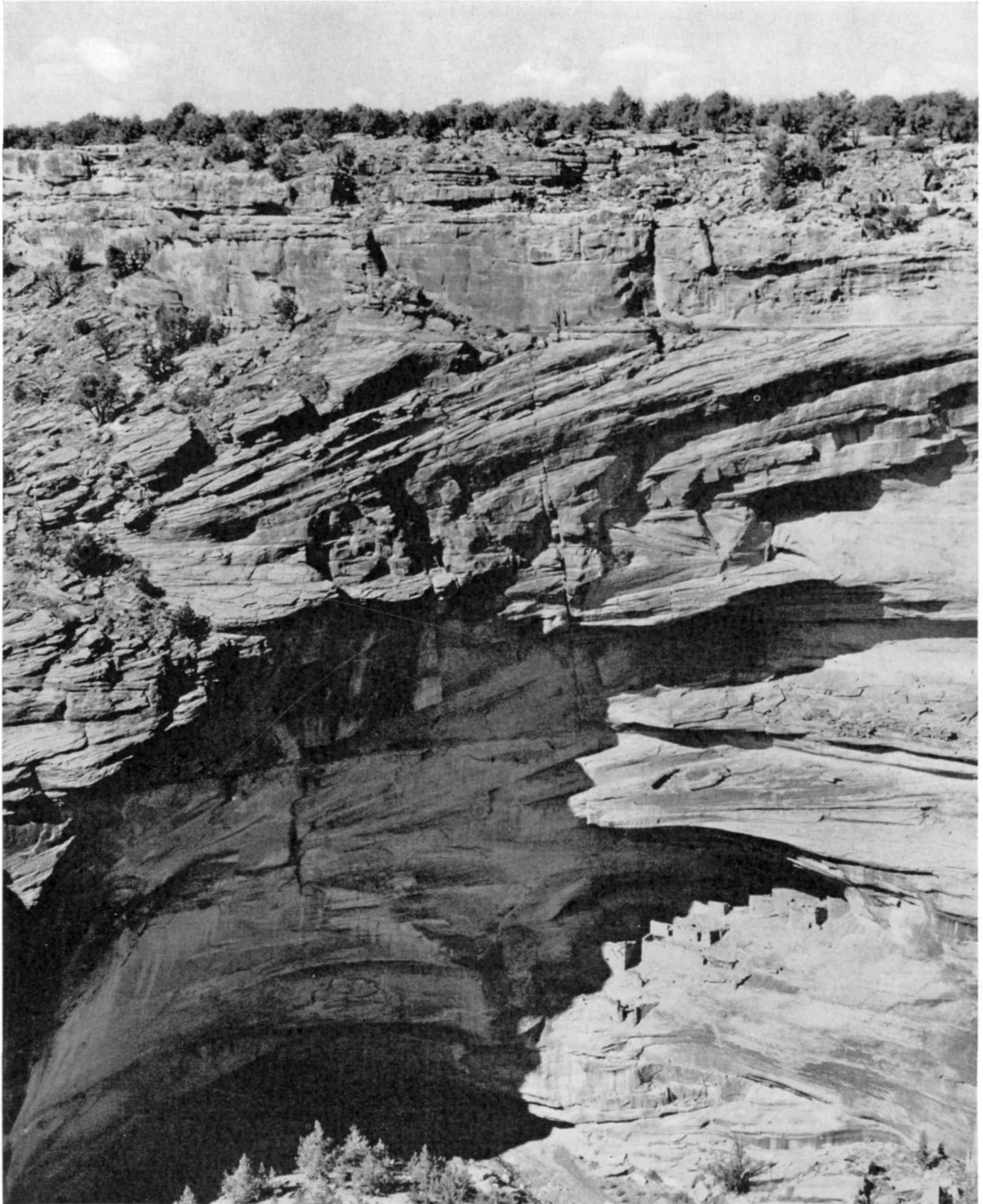
and camp gear to the canyon floor in front of Three Turkey House. Members hoped that they would be the first white men to scale the cliff and to enter the old village; but once inside, they found three names written on the walls. One signature was dated 1898 and the other two were inscribed on December 16, 1900.

Even though they were not the first modern visitors, the party was pleased to find roofs, metates for grinding corn meal, and kiva wall paintings still in place and well preserved. They counted eighteen rooms in the village in addition to the circular kiva, or ceremonial chamber. The builders and occupants were determined to have been a branch of the Anasazi, the prehistoric Pueblo Indians who inhabited the Four Corners region of the Southwest. The Anasazi are perhaps best known to the vacationing American public through acquaintance with their once-beautiful villages, now preserved as historic ruins in Mesa Verde National Park. (The name "Anasazi" is Navajo for "ancient one").

The modern name "Three Turkey House" stems from the turkey-like silhouettes, in brown and white, which

an unknown artist painted on a wall near the rear of the cave. Although he worked almost seven hundred years ago, his painting is still bright against the tan wall and is easily seen from across the canyon. Dr. Colton related that a Navajo medicine man who was in his party in 1938 believed the painting depicted gourds rather than turkeys. A Hopi Indian who later saw a photograph of the painting felt that it showed three pairs of clasped hands.

Visitors today must view Three Turkey House from the picnic area on the canyon's opposite rim. The ruin itself is "off limits." No trail leads to the canyon bottom, nor is one contemplated for the future. The picnic area may be reached by way of the scenic road which skirts the rim of Canyon de Chelly. The road must be followed for five miles beyond the turn-off to Spider Rock overlook. From there it is a matter of following the marker arrows five miles farther. The road is unpaved but readily passable in a passenger car. Three Turkey House and the picnic area are outside the boundaries of Canyon de Chelly National Monument, but the area is patrolled by the Navajo police force. ■



Photograph by the Author

Dwarfed by the immensity of its sandstone backdrop, Three Turkey House is seen at the lower right in photograph, which was taken from a point across the canyon. Visitors to this archeological site may look and photograph, and there are nearby picnic facilities; but exploration of the cliff-dwelling itself, a Navajo Indian preservation, is forbidden.

The Unpredictable Nelson Bighorn

By Roland H. Wauer

Photograph by the Author



A WILD BIGHORN SHEEP IN ITS NATIVE habitat is a majestic thing. No other animal exhibits so clearly the adaptation of life to environment. The sight of a bighorn ram, standing atop some rocky outcrop far out in the back country, can start the human heart pumping loudly in anticipation of a spectacular photograph. Every photographer searches for that opportune moment. The sighting of a band of bighorn is, however, an experience reserved for the persistent few.

The Nelson bighorn, *Ovis canadensis nelsoni*, one of seven species of mountain sheep that range from Mexico through the Western mountains to Wapiti Pass in the Canadian Rockies, is native to the desert ranges of Nevada and southeastern California. It frequents the Lake Mead, Nevada Desert Game Range and Death Valley, California, regions; but there is no good answer to where one might see them. They are most unpredictable. A band may be seen grazing golden primroses on the Death Valley Buttes one day, and be far into the Chloride Cliff area the next. You might find several bighorns feeding in Death Valley's Furnace Creek Wash—perhaps only a few feet off the road—and be able to approach within a hundred feet or so. Another band might dash off across the barren slopes before you have had time for a casual glance from a mile away.

Archeologists have found bighorn sheep bones in the "kitchen middens" of both historic and prehistoric southwestern Indians, and petroglyphs and pictographs of the animals may be found throughout the Southwest.

Although the bighorn is protected today, there was a time when it was hunted extensively by Indians, miners, and prospectors throughout its range. In many instances slaughter was waste-

ful and unnecessary. Today human predation is at a minimum, but there are still several factors that hold the bighorn population below that of former days. Poaching in and around Death Valley Monument during the economic depression of the 1930's was a significant factor in reduction of the species. Despite laws protecting them in neighboring Mexico, market hunting of the bighorn was profitable until recently, when severe penalties for serving bighorn meat in restaurants were established. When man has not contributed to the decline of the bighorns directly, his domesticated animals have taken over the job: studies have shown that in areas where horses, cattle, or domestic sheep have overgrazed bighorn habitat, the wild mammals are poorly nourished and susceptible to fatal lungworm infections.

Wild Burros Present Problem

Severe competition for food with wild burros is a major factor in bighorn decline. The descendants of abandoned miner's burros befoul waterholes, compete with bighorns for the desert's sparse and slow-growing vegetation, and otherwise make it nearly impossible for the wild sheep to survive in any great numbers. Public opinion favors protection of the comic and friendly burros, and they have been allowed to multiply almost unchecked until they now present a grave danger to the native bighorn population in Death Valley National Monument and elsewhere. Some Park Service personnel are reportedly thinking of segregating the burros in the Panamint Mountains of the monument, where they can most readily be seen by the public, and removing them from other mountain ranges needed for bighorn survival.

Modern man is unwittingly contributing to the decline of the bighorns, not through hunting but by encroachment on their native habitat. Prospectors still roam the hills and mountains of much of the Southwest in search of the "strike" that will bring them fame and fortune. However, the day of the "single-blanket jackass prospector" is gone; today, jeeps and other vehicles take the prospector into the back country. Desert springs are cased for human use, and the Nelson bighorn must push farther and farther

into remaining back country to find needed water.

For more than a hundred years prospectors have worked every desert gully and mountain slope looking for precious metals, and most legitimate prospectors now know that there is quality, perhaps, but not quantity in the ore still remaining in desert ranges like the Panamint, Amargosa, Charleston, Argus, and Owshead. Except for talc and a few "wonderstone" prospects, it is doubtful that these areas will ever again produce a legitimate mining boom. Yet thousands of mining claims still exist in some of the wildest remaining parts of the American Southwest. Many, located high in the mountain canyons and on the cool forested slopes, are not situated because of possible mineral-wealth interest but because of excellent location for a summer cabin or campsite.

Specialists have long been aware that many wild animals, including the bighorn sheep, distrust man and cannot live in close proximity to human habitation. With the increase of pleasure cabins and campsites in bighorn country has come a corresponding decline in the species as the sheep are pushed farther into the dry, inhospitable areas where they cannot reproduce or perhaps even survive.

In the San Gabriel Mountains of California the invasion of desert wilderness by humans is reflected in the reduced population of Nelson bighorn. As civilization creeps nearer there is a demand for roads, and the already reduced bighorn range becomes even smaller. One scientific observer has predicted that in many areas, and especially in the San Gabriel Mountains, ". . . the inevitable increase in human activity may result in further restriction of numbers and distribution of bighorn sheep."

For these several reasons, bighorn range continues to dwindle. But with further research into the dynamics of bighorn population, attempts at reduction of disease by prevention of overgrazing, and rigid protection of bighorn habitat, specialists feel that this important native species can be saved from extinction. However, the future of the sheep probably depends in large measure upon the willingness of humans to leave some wilderness areas undeveloped. ■

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A bighorn ram pauses to survey his rocky domain before continuing a far-ranging search for food and water in the arid mountain country of the Southwest. Prospectors and squatters who fence in waterholes and destroy habitat still contribute to the decline of the bighorn, an endangered species.

Moods of the Everglades

By Jean Speiser

Photographs by the Author

DAWN IN THE EVERGLADES IS NOT like dawn anywhere else in the tropics or sub-tropics. Light does not burst upon the unsuspecting land, nor does the sky turn a violent red. Dawn in the Everglades is like a breath taken; as though the sleeping world had lain without breathing during the night, and was only now, with the nudge of coming day, awakened ever so gently.

During winter months there is often a sudden pre-dawn shower. This, too, is gentle. The sound of the rain is almost imperceptible. It can barely be heard against the palm fronds, and there is a faint "plop" when it meets the still waters of the Gulf. It is rain like a breath let out; it ends like a deep sigh.

Even the birds are tentative in their early chirps, as though they hesitate to break the calm. They are eager to start the day, but not quite certain they are in order.

Now it is full of daylight. It is a heavy, misty morning with no sun, and the chalky blue waters of the bay are more opaque than usual. The

shoreline is crusty and puckered, only half awake, but the waves are too small to kiss away the furrows.

One by one, sleepy campers join the naturalist on his morning walk. He welcomes them softly, pointing out sea-parsley, sea cucumbers, and turtle grass. He stops at a century plant, heavy with fruit. Next there is the giant palm. Cut the heart out of it, says the naturalist, and it will die.

Another walk is beginning in the prairie grass, some distance from the seashore. Among the hardwood hammocks that form "land islands," live the tree snails. These snails are found in fifty different colors and are the most beautiful in the United States. Here, too, is the largest mahogany tree in the country—thirteen feet around.

The ground slopes ever so little, says the naturalist; only three inches per mile to the Gulf. Road-markers inform us as we pass a high spot, Panther Glade, which has an elevation of four feet. Descending, we reach Rock Reef Pass, elevation three feet. We notice the fundamental rock, oolite, upon which the bulk of the Everglades sits.

The name comes from the word *oos*, which is Greek for "egg-shaped." The rock is formed of myriad tiny, egg-shaped particles, which were formerly living marine organisms.

We are passing through an area of small bay-heads, or inlets, and swampland. We follow the naturalist through the mangrove forest. But it is actually only the ghost of a forest now. Hurricane Dona, tearing through in 1960, stripped the trees of life, and we see only their skeleton markers along the wooden platform that leads through the swamp.

"It was the loveliest tunnel you ever saw," our guide says sadly. "We are trying to bring it to life again." The visitors are hushed. The only visible growing things are green and red flowers, nestled in the crooks of silver-grey branches. They are the few remaining orchids and air-plants. These fragile plants sunburn, just as humans do, and they died when their mangrove protectors were destroyed. They were present in numbers when the forest covering was heavy. But they are slowly coming back. In the Ever-



Intruding ocean water causes salty foam along the shoreline of this pond near the Mangrove Trail, upsetting resident aquatic life.

glades, as in all our national parks, we learn that it frequently takes death to produce a new cycle of life.

We see the red mangroves spread out in the brackish waters like giant spiders, collecting debris to build up the land. They are smaller and bushier than the traditional mangrove. Some are sprouting leaves. Their roots are hidden under water at high tide, but when the water recedes the roots are exposed with their covering of oysters clinging grimly to the slippery bark.

Tubes go up from the underwater roots like snorkels, to take in needed oxygen.

We are moving into the transition area now. The brackish waters are quiet, and surrounded by buttonwood, bay, and palm, as well as the many varieties of mangrove, which survive and grow as they have for centuries.

We leave the mangrove forest for Royal Palm, Florida's first State park. It is now a part of the national preserve, and its three square miles are

rich in plant and bird life. A primitive but completely safe bridge, built on stilts, straddles the swamp, where the snap of alligator jaws is heard intermittently with the cries of large birds and the splash of turtles. One feels awed but utterly secure leaning over the bridge, gazing down at the 'gators, which look as though they might have been carved from ebony. Resting lazily in the water with only their long snouts exposed, they seem like sleeping giants until a sudden splash of their powerful



Visitors gaze boldly into the murky swamp waters of Royal Palm in Everglades National Park. Now and then an alligator pokes his snout above the coiled lilies.

bodies propels them into the slimy green darkness.

It is low water and the lilies, lying coiled like snakes, rest their long necks on the surface of the water, buds unbloomed. The faces of small children and white-haired visitors alike are earnest and attentive as the young ranger seeks to share the secrets of the swamp.

Back on the path, some otters race fearlessly in front of the group and slide into the canal. They duck under and then come up again, playing tirelessly in the warm water. Their sleek black bodies slide up the opposite shore with no effort at all.

On Mumbo Gumbo trail, deep in

the park, we are out of the world for a few moments. There are few markers, and the paths are overgrown. Here the strangler fig, the poison tree, the resurrection fern and the tree orchids live in strange harmony.

We stop along the highway to watch a stork standing in a pond that looks like molten lead. The water seems heavy, too, as the stork lifts a foot, kicking it out behind him as he feeds. The sky is grey, and the mangroves are so pale they seem the flimsiest of backdrops.

Again the wind comes up; a clump of clouds blows away to reveal a spot of coral sky. Without warning, a bald eagle swoops like a jet aircraft, ap-

pearing suddenly out of nowhere. His silhouette is dark and unmistakable against the brilliant patch of sky. He descends into the mangroves, and the clouds cover the forest again.

With late afternoon the stillness returns. A wade in the warm shallow bay attracts a companion—a snowy egret who keeps his distance, but paces my wading step for step. I ignore him, and he pretends to ignore me. Turning over several conches I find living occupants and replace them carefully, surprised to hear myself say out loud, “Sorry.”

At the campgrounds again at sunset time a rosy fisherman with cheeks the size and shade of apples appears. He spends his time exploring the water around the Everglades, following the seasons in his little boat. He looks at me and smiles.

“You’re walking the wrong way.”

Startled, I look over my shoulder. The sun has kicked its way through the clouds again, and for ten minutes it puts on a show that leaves us both without words. The sky changes vividly from red to pink, then from pink to grey, and then to almost black. Against it the palms stand black, and the waters beneath the sky ruffle as they change their colors to match it. When it is over some camper’s wife hurries up to us, brow puckered. Missing the glory of the scene, she comes chattering with camera and light-meter. Something had gone wrong, and she couldn’t capture the sky on film. But she is reassured as we smile and tell her, “There’ll be another sunset tomorrow.”

There is a canal running through the park, alive with boaters during the day, but deserted at night. Tonight it is quiet as usual, except for the small craft holding scientists from the University of Miami, spending the night in pursuit of the life-story of the elusive shrimp.

Here the water is normally half salt and half fresh, providing a natural, brackish nursery for shrimp and other tiny fish. The post-larval shrimp of two or three weeks occurs in the Tortugas, some distance southward in the West Indies. The tiny bits of life then begin their three- or four-week journey to the Everglades. They live there in the nursery for five to six months. But in past years the delicate balance of

salt and fresh water has been disturbed by massive water control structures in central and southern Florida. The structures divert the precious fresh water, which has historically flowed from interior Florida into the park, and channel it to the east and west coast. The lack of fresh water invites the ocean to creep into the park. As the water increases in saline content, it disturbs the brackish ponds of the 'glades. In times of drought, when the badly-needed rain fails to appear, the salt water upsets the resting period of the shrimp and curtails the growth of other small pond-dwellers. The disturbance mushrooms quickly, for here, as in every other natural setting, the biological chain of life is artfully balanced, and each species is intimately dependent upon the other. But if all goes well—and the rains have been increasingly kinder and more abundant since the last serious drouth two years ago—the shrimp, larger and stronger, return to Tortugas to spawn

Miss Speiser, currently Picture Editor of the United Nations Children's Fund, is a writer-photographer-editor whose work has appeared in many magazines. She is author of *River In The Dark*, a children's book about Mammoth Cave National Park, and has toured and written on the parks for years. This article on the many moods of the mysterious Everglades is a result of Miss Speiser's enchantment with the park while she was on vacation there recently.

and the biological cycle repeats itself.

The scientists are patient observers. After the trip up the canal with only the faint glimmer of stars for light, they sit in their little boat, uncovered, waiting two hours for the tide to turn. There are interminable mosquito attacks. There are the scootings of needle-fish heard in the darkness, and there are loud "plops" as alligators dive into the black, mysterious water.

Suddenly the boat, perfectly still until this moment, whirls around, and the men get their nets ready. On the bow is a pale lantern. It flickers with the breeze, for the wind always comes up when the tide changes. The shrimp are difficult to see, and the nets are inadequate. But by the pale light of the lamp, a dozen tiny fish have been captured, and lie quietly in the can in the bottom of the boat. They are kept alive in water from the canal, and they grow to maturity in the laboratory at Miami.

In addition to the shrimp, the catch included several large white feathers and a puffer-fish that puffed, then unpuffed, then lay still until it was tossed into the water again. Then it swelled up and swam away.

The boat is headed in toward shore, with the tide pulling disrespectfully at its anchor. The boat is released. The moon rises, pregnant, behind the white mangroves, and its light hits the canal as the men speed by, turning the reflected stars into icicles. ■

A ranger sloshes gloomily along a trail near the watery, swamp-like River of Grass, which becomes muddy and devoid of wildlife in times of drought. Exposed in the foreground is oolite, the porous rock upon which much of the Everglades is built. Oolite is seldom seen under normal conditions.



News and Commentary

Assault on Common Sense

If an Oscar were to be awarded for the nation's unwise decision of the year in the field of American game management, the Arizona Game and Fish Commission would probably qualify as front-runner for 1964 to the date of this writing. The Commission has sanctioned an 8-day open season on the rare and scientifically important Kaibab squirrel, inhabitant of a tiny territory in Arizona north of the Grand Canyon of the Colorado. Part of its living-space lies within Grand Canyon Park, where it is completely protected, and part in the Kaibab National Forest north of the park. Unfortunately, the majority of the animals live in the national forest, where the Forest Service has jurisdiction over the land but not its resident animals in a case of this kind.

Conservationists and many scientists are irritated and worried over the Commission's decision to allow taking of the rare mammal in conjunction with a wild-turkey hunt this fall. The coincidental appearance of a Fish and Wildlife Service release on extinct and threatened American animal species—listing the Kaibab squirrel as among the endangered—has done nothing to lessen the irritation and concern.

The Kaibab squirrel and the Abert squirrel, the latter of which has a larger territory to the south and southeast of the Colorado's canyon, are two rather similar species which are viewed by biologists as an evolutionary pair by isolation, the isolating factors being the great chasm of the Colorado, the river itself, and the deserts which surround the Kaibab Plateau on the north side of the river. These are the so-called "tassel-eared squirrels" of the Southwest, having prominent ear-tufts that are dropped during the summer molt; of them, the biologist Edwin McKee once wrote: "We appear to have in [them] a fine example of evolution in its first stages."

But the Kaibab squirrel, despite past protection accorded it by the Forest Service and the State of Arizona, appears to be slowly losing its viability as a species. The National Park Service is conducting a scientific study of the mammal to find out why its numbers are decreasing, and to insure if possible the restoration of a normal population. But the scientist who is charged with the research work is retarded in his studies by the very scarcity of the squirrel. Now comes the Arizona Game and Fish Commission with a proposal which will result in the further decimation of the Kaibab squirrel. A

prominent Southwestern naturalist has only recently warned that "an open season to hunt this species would aggravate an already serious situation, and might eventually result in extermination."

In the face of present evidence one can only conclude that the Commission has wholly capitulated to the pressures of organized hunting, and that in so doing it has abdicated its responsibility for the protection of a native species of great esthetic charm and national and international scientific importance.

Readers of this Magazine who feel that the Kaibab squirrel ought to be completely protected at all times may write to the Honorable Paul Fannin, Governor of Arizona, State Capitol Building, Phoenix, Arizona, and tell him so.

Tehipite Valley-Cedar Grove

When California's Kings Canyon National Park was established in 1940 two tracts of park-caliber land were omitted from its western boundary because of their supposed hydropower and water storage potentials—Tehipite Valley and Cedar Grove, on the Middle and South Forks of the Kings River respectively. These two valleys have been described as second to none in the Sierra Nevada in scenic quality, and conservationists long have felt that they should be a part of the park. Over the years there has been local or regional agitation for dams, supplementary to those already existing downstream on the Kings, for water storage and power purposes despite numerous engineering studies showing that the dams would probably not be economically feasible. The dams would inundate both valleys with their reservoirs; that proposed for Tehipite would also require a road blasted out the steep granite flank of the canyon.

During July the House of Representatives' National Parks Subcommittee held public hearings in Washington on a proposal by Congressman Sisk of California to incorporate the two valleys into the park. Testifying on invitation, the National Parks Association indicated that it favored the addition, its general position being that the scenic and recreational values of the valleys far outweigh any other possible uses.

Actually, the Association's interest in the Tehipite Valley, at least, dates back many years. Only three years after the Association's birth in 1919 Robert Sterling Yard, then executive secretary, spoke of the need for preservation of Tehipite in its natural condition. "The Tehipite

Valley is nothing short of the most inspiring chasm in the Sierra," he said in a 1921 issue of *National Parks Bulletin*. "It ranks in its own way with the greatest of American spectacles!"

Preserving the Hudson Highlands

In New York City, where streets are so crowded that lunch-hour pedestrians are often herded into human traffic lanes, there are few places where the city-weary individual can escape the noise, soot, and barren concrete ribbons that form his daily environment. One haven of escape, however, is the Hudson River Highlands between New York City and Albany, which offer superlative scenery, jutting mountains above the serene Hudson, and the 3700-acre Harvard Black Rock Forest, owned by Harvard University.

In the June, 1964 issue of *National Parks Magazine*, we reported that this precious retreat was threatened by the proposal of a large power company to construct an electric-power generating plant near Cornwall which would deface Storm King Mountain and ruin the esthetic and recreational potential of the entire Highlands area. Since our June report the Hudson River Conservation Society has proposed a Hudson Highlands Natural Scenic Preserve to "preserve the noted beauty of the Hudson River for Americans for all time . . . in the hands of an appropriate state, interstate, or national agency."

The Society has suggested that the Harvard Forest, which would be damaged by the power plant, be considered the nucleus of the preserve. The Scenic Hudson Preservation Conference, leading a drive to stop power-plant construction, and Harvard University both support the preserve, along with others who feel that all Americans—particularly urbanites—need a quiet spot of greenery more than this or other power companies need the least expensive building sites.

Bucking the Mechanized Mule

Hikers, horseback-riders, and other seekers of forest solitude have joined forces in a national organization to stop the invasion of wilderness trails by motorcycles and other noisy, smoke-sputtering vehicles.

The newly-formed National Committee for Protection of Trail Country has regional offices throughout the United States, all of which are dedicated primarily to protecting at least a part of the nation's wilderness from road-building and zooming vehicles. Fred Eissler, California chairman of the Committee, indicated that back country outside the nation's specially classified wilderness is

being depleted at the rate of a million acres a year, and that motorcycle and "mechanized mule" enthusiasts are invading "the last small stronghold where hikers and horsemen have found refuge from city smoke and exhaust."

National advisors of the Committee include the famous heart specialist Dr. Paul Dudley White, former director of the National Park Service Horace M. Albright, and other professional people, conservationists, and naturalists.

American Landmarks Celebration

To point up the need for preserving sites of historic significance, the National Trust for Historic Preservation has designated August 1 to December 30 as the American Landmarks Celebration. The program, featuring American Landmarks Week from September 28 to October 4, is part of UNESCO's international campaign to publicize need for preservation of historical monuments in over thirty-five participating nations. Secretary of the Interior Stewart L. Udall, who is co-chairman of the program, is expected to add ninety-six new sites to the currently recognized list of 452 historic monuments relating to various phases of American history.

Pesticide Research

Past issues of this Magazine have carried reports and commentary on massive fish kills in the Mississippi and Atchafalaya Rivers which have probably been caused by drainage of pesticides into the rivers from nearby farmlands. Millions of fish have died each year in these rivers for the past four years. We now can report on the possibility that this and other less-publicized biologic tragedies can be prevented in the future. The first step toward prevention came recently in a request to Congress by President Johnson for a \$29 million increase to aid in the search for non-poisonous methods of pest control.

According to the Public Health Service, the Mississippi fish kills were largely due to poisoning by endrin, some of which supposedly spilled into the river from an endrin-manufacturing plant in Memphis. Other kills have occurred in the Missouri River below Kansas City,

and in several small streams in south-eastern Missouri. Pesticides have been traced in the Mississippi as far north as St. Paul, Minnesota.

Much of the money asked for by the President will aid in the development of non-chemical controls, such as sterilization of insects and introduction of natural predators. At the same time, the Department of Agriculture is conducting a pesticide monitoring program to determine the environmental hazards connected with pesticides. Secretary of the Interior Stewart L. Udall is expected to issue an order shortly which will ban the use of DDT on lands administered by his department. The order will discourage the use of dangerous pesticides and recommend safer alternatives.

F & WS Looks at Rampart

The proposed Rampart Canyon Dam and Reservoir project of the Corps of Engineers, which would flood 10,500 square miles of prime wildlife and recreational land in Alaska's Yukon River Basin, has been studied by the Fish and Wildlife Service and found to be so destructive to natural resources that the Service has recommended the project not be built.

According to the Service's recent report the dam would block spawning runs of salmon and other important commercial and sports fishes. Yukon Flats, the most productive waterfowl breeding habitat in North America, would be inundated. Bear would be exterminated. Moose would be greatly reduced. Other fur animals and large birds, upon which local residents depend for food, would disappear. The catastrophic effects of such a project are summed up in the Service's statement that "Nowhere in the history of water development in North America have the fish and wildlife losses anticipated to result from a single project been so overwhelming."

Proponents of the project persist in claims that "no significant effects" on wildlife will result from the dam, ignor-

ing the loss of wilderness in what may be called the nation's last frontier at a time when we can ill afford to destroy such remaining natural areas for doubtful purposes. Also ignored are the costs of habitat substitution for at least a small portion of animals in the immense reservoir area. Three hundred million dollars would be spent to replace only twenty percent of habitat for waterfowl; no habitat can be substituted for big-game and fur mammals.

Committee to Study Canoe Area

Doings in the splendid Boundary Waters Canoe Area in Minnesota, which is administered by the Department of Agriculture in conjunction with the Superior National Forest, have recently caused concern among individuals who feel that increased timber cutting and road-building is ruining the area's wilderness character. To investigate the situation and possibly change the method of administration, Secretary of Agriculture Orville L. Freeman recently appointed a six-man committee to review the Department's plans for the area. Headed by former Minnesota Conservation Com-

(continued on following page)

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missioner Dr. George Selke, the committee will study the area's management and suggest any desirable changes. The Secretary announced he was appointing the committee because "as a Minnesotan I am particularly proud of the Boundary Waters Canoe Area . . . and I do not want to see it spoiled."

Kindness That Kills

People who like the out-of-doors usually like wildlife; sympathetic attempts are often made by park visitors to aid what they think are deserted baby animals. Many an enthusiastic park camper or hiker has discovered a trembling fawn in the underbrush, and, thinking the animal is lost, has carried it to a ranger station, or if found outside a preservation, has attempted to care for it at home.

Although the visitor's intentions may be pure, he is dooming the animal to either death or captivity. Does often leave their young briefly to forage for food; too often they return to find that their fawns have been picked up and carried off by kindly humans. Park visitors can aid wildlife by remembering that any young bird or other animal is better off with its own mother in its own home, and that self-appointed human baby-sitters usually do more harm than good.

Toward Better Air

A giant step toward the future elimination of air pollution was recently taken in California, a State with more than its share of smoggy cities and soiled streets. During June, four types of exhaust-fume purifiers were approved by authorities who ruled that the devices must be installed on all 1966 model cars sold in the State. Shortly afterward, Senator Edmund S. Muskie, chairman of the Senate Special Subcommittee on Air and Water Pollution, suggested to representatives of the Automobile Manufacturers Association that it would be a "service to the country" if manufacturers included purifiers on every new car sold in America by 1967.

The automobile industry balked immediately, claiming that more research is needed on air pollution before the costly devices could be installed. Purifiers would supposedly cost auto manufacturers twenty dollars additional per car, and might ultimately raise the consumer cost of a car. However, manufacturers failed to mention the annual per capita cost of air pollution in the nation, which Air Pollution Control Officer S. Smith Griswold of Los Angeles has estimated at \$150 per person.

At a European conference on air pollution in Strasbourg, France, Griswold

declared that air pollution in the United States corrodes buildings, damages crops, ruins recreational and esthetic values, and damages the health of every American. In the face of such testimony it seems obvious that automobile manufacturers might do well to consider the nation's interest in the matter as paramount.

New Historic Landmark

The oldest standing light tower in the United States, at Sandy Hook, New Jersey, has recently been dedicated as a National Historic Landmark. Sandy Hook Light—once called the "New York Lighthouse"—has been in almost constant operation since its construction nearly 200 years ago; its octagonal masonry walls, seven feet thick at the base, rise 85 feet above the ground.

Registered National Historic Landmarks are areas which have been found to possess exceptional value and national significance in presenting American history to the public; they are not administered by the Interior Department, but are declared eligible for landmark status by the Secretary of the Interior. Thus, the United States Coast Guard will continue to administer the venerable Sandy Hook Lighthouse, which has guided mariners since before the American Revolution.

Two New Wild Areas

The Agriculture Department has recently established two new wild areas on national forest lands, one brand new and the other fashioned from a former primitive area. In the Pisgah Forest of North Carolina is the new Shining Rock Wild Area, of about 13,400 acres southwest of Asheville, with waterfalls and a rich variety of Great Smokies flowering shrubs and trees, trout streams, hunting, and back-country hiking and camping. (This is the third wild area of the national forest system east of the Mississippi; the other two are Linville Gorge, in the Pisgah Forest, and Great Gulf, in the White Mountain Forest of New Hampshire and Maine.

Chief Edward P. Cliff of the Forest Service signed an order in June creating the South Warner Wild Area in California's Modoc National Forest. The new wild area encompasses 68,500 acres along the crest of the South Warner Mountains in the far northeastern corner of the State; it stems from reclassification of the former South Warner Primitive Area, and offers typical Western high-elevation wilderness hiking and camping.

Within wild areas, which range by definition from 5000 to 100,000 acres, road-building, timber-cutting, motor travel and developments are prohibited;

there may be grazing, hunting and fishing, and mining laws apply. The Forest Service is currently in process of reclassifying all of the old primitive areas to either wilderness or wild status.

Third Printing of "Analysis"

Now available from the Association is a third printing of its *Analysis of the Potomac River Basin Program of the District and Division Engineers* with references which have been brought up to date in the light of technological advances which are now of almost daily occurrence. The 16-page brochure, first published in June, 1963, asserts that the big-dam approach to water supply and pollution abatement for the nation's capital can be superseded by more modern and less destructive methods. The *Analysis* is not strictly regional, as its conclusions might well apply to all seaboard cities having large fresh water supplies nearby. Up to four copies will be sent free to Association members upon request.

A Hammar skjold Redwood Grove

A proposed Dag Hammar skjold Memorial Redwood Grove has been recommended for establishment in a resolution that was introduced into Congress in June by Congressman Don H. Clausen of California. His resolution would declare it to be "the sense of the Congress that it is appropriate to designate a grove of redwood trees as selected by the State of California as the Dag Hammar skjold Memorial Redwood Grove." Such a grove, the Congressman said, would provide a fitting memorial to the world leader.

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THE CONSERVATION DOCKET

A NUMBER OF NATIONAL SEASHORE AND LAKESHORE bills are currently under consideration in the Congress. S. 2244, which would establish a Cape Lookout National Seashore on the lower Outer Banks of North Carolina's east coast (as reported in some detail in "News and Commentary" of the June Magazine) is in the Senate Subcommittee on Public Lands, and the subcommittee not long ago referred the bill to the Budget Bureau, the Department of the Interior, and the Department of the Army for executive viewpoints. An identical bill in the House, H. R. 8855, is in National Parks Subcommittee, where it had not been scheduled for consideration up to the time of this writing (mid-July.)

The proposed Fire Island National Seashore off the south coast of New York's Long Island is currently active in two bills. S. 1365 is in the Senate Public Lands Subcommittee. Subcommittee members recently made a tour of inspection of the possible seashore, and field hearings have been held; on a date as yet unspecified, but perhaps fairly soon, the subcommittee will meet in executive session on the bill. (In executive session, a committee or subcommittee may make amendments, perfect language, or make other changes before launching a bill along its legislative course. Thus, a subcommittee would, after executive session, refer a bill to its parent full committee with such changes as it may deem necessary.) In the House a Fire Island Seashore bill, H. R. 7107, has been reported favorably by subcommittee to the full committee on Interior and Insular Affairs.

On S. 2249, to create an Indiana Dunes National Lakeshore, the Public Lands Subcommittee of the House has indicated that it will soon hold an executive session prior to reporting the bill to full Interior and Insular Affairs Committee.

As of the date of writing, bills authorizing an Assateague Island National Seashore off the coast of Maryland stand thus: in the Senate, S. 2128—the so-called Brewster-Beall measure—has been taken up by the Public Lands Subcommittee, but no public hearing has been scheduled as yet; there is some indication that a hearing may be held this month (August). In the House, H. R. 8755—the so-called Morton bill—is in National Parks Subcommittee, and nothing has been scheduled on it as yet.

No hearings have been set as yet by the Senate Public Lands Subcommittee on S. 1481, which would establish an Agate Fossil Bed National Monument at a world-famous fossil mammal locality on the upper reaches of the Niobrara River in western Nebraska. The bill has received the approval of the Budget Bureau, and also that of the Interior Department, which has suggested some minor amendments. The companion House bill, H. R. 6149, is in National Parks Subcommittee, where no action has been scheduled for it up to this time.

The Wilderness Bill, in a version differing considerably from that passed by the Senate during the first session of the 88th

Congress, has been reported out of full committee in the House, and as of this writing is awaiting a rule from the Rules Committee for debate on the House floor. Should the House receive and pass the Wilderness Bill in its so-called "Saylor bill" version, it would then go to a House-Senate conference committee where differences between the versions of the two bodies would be adjusted.

During early July the House National Parks Subcommittee held public hearings on H. R. 5346, which would add two parcels of land to the west portion of Kings Canyon National Park in California—Tehipite Valley and Cedar Grove, the first of which is presently under jurisdiction of the Forest Service and the second of which has been jointly administered for many years by the Forest Service and the Park Service. As of mid-July the subcommittee had taken no further steps in the matter. At about the time the subcommittee heard H. R. 5346, it also heard government (departmental) witnesses on H. R. 6925 and S. 27, both concerning the proposed Canyonlands Park in Utah.

The National Parks Subcommittee of the House recently made a field inspection of the lands proposed by H. R. 7283 for inclusion in a Great Basin National Park in the Snake Range of east-central Nevada. Last March the subcommittee requested the Interior Department to submit its views on H. R. 7283, which calls for a park of 53,100 acres, including the lands of the present Lehman Caves National Monument. The department reported to the committee that it felt the bill's acreage would not be sufficient "to include representative examples of the varied and striking terrain, geologic features, weather conditions, and plant and animal life in the Great Basin region, or to provide adequate space for visitor use." The Bureau of the Budget has also been requested by the subcommittee to present its views on the bill from the point of view of the Administration's program.

H. R. 11157, which would straighten out the boundaries of Shenandoah National Park in Virginia—to some extent, at least—and which would add several thousand acres to the park in the process, is presently in the House National Parks Subcommittee, which has requested a report from the Department of the Interior. As of mid-July the report had not been received.

During the first session of the 88th Congress, S. 2082 was introduced into the Senate to authorize the Interior Secretary to accept from the Agriculture Department more than half of the so-called "hole in the doughnut" in Everglades Park. The bill was passed by the Senate in June, and is currently in the House Committee on Agriculture, where it has yet to be assigned to a subcommittee. In connection with this proposed land transfer, there appears to be an arrangement between Interior and Army by which the latter would receive 700 acres of the newly acquired parkland as a Nike missile site. Many conservationists will feel that the establishment of such a site in Everglades Park would be inexcusable, and that the National Park Service would be showing an appalling weakness in assenting to it.

Book Review

THE WORLD OF THE RED-TAILED HAWK. By G. Ronald Austing. J. B. Lippincott Co., East Washington Square, Philadelphia 5, Pa. 128 pages, illustrated. \$4.95.

In a bitter and sarcastic mood, Ralph Waldo Emerson once challenged his friends by asking them in a poem, "Hast thou named all the birds without a gun?" Nobody knows how many of Emerson's contemporaries could have answered him without shame. Today, however, the number of people who shoot nothing more than enthusiastic stares in the direction of wild birds is large, and constantly growing. One life-long bird watcher is G. Ronald Austing, ranger with the Hamilton County, Ohio, park system, and bird-bander, writer, photographer, and adopted father of at least a dozen baby red-tailed hawks. In his book, "The World of the Red-Tailed Hawk," Mr. Austing combines his talents to present readers with an exceptionally well-illustrated and readable book on one of the nation's more colorful and important hawks.

Red-tails are robust, broad-winged birds that spend most of their time plucking mice and other rodents from fields, defending their forest homes from intruders, and boldly defying their human enemies. These handsome brown, white, and red hawks mate for life, and spend most of the spring and part of the summer caring for their downy, playful hawklets. One of the most exciting parts of Austing's book is his portrayal, in words and photographs, of the harried and often comical family life of a pair of devoted red-tails. To obtain his photographs, Austing erected a fifty-five foot metal scaffolding tower close to the red-tails' nest in Hamilton County's Miami-Whitewater Forest. He recorded the incubation, hatching, feeding, growth, and eventual departure of the chicks. He then takes the reader—again by way of excellent photographs—along with the young hawks as they learn to defend themselves and cope with the vicissitudes of life.

The book is divided into chapters on spring, summer, fall, and winter, giving the characteristic description and activities of the red-tail for each season. The birds are portrayed in detail, with appropriate attention to feeding habits, courtship, mating, habitat requirements, migration, and ecological importance. Austing has mastered the delicate art of capturing dramatic photographs of birds in full flight, and it is his photographs more than anything else that makes the book a real treasure. —M. A. R.



Department of Interior, National Park Service

Among the many outstanding prehistoric Indian ruins of Canyon de Chelly National Monument in northeastern Arizona is the White House, a masonry structure of the Pueblo III period of Southwestern Indian culture.

THE HEROIC HISTORY of a nation built upon a new concept of idealism is early introduced to young Americans. Important, too, is an understanding of the prehistory of the land; an understanding that is to be found, in part at least, in such ancient Anasazi ruins as that pictured above. Our national park system preserves many of these relics of the past to lend meaning to the present and encourage more stable attitudes toward the future.

THE NATIONAL PARKS ASSOCIATION helps to protect such bits of American prehistory, and you can assist it in this timeless work in a number of ways: by helping to secure new members; by raising your membership class; or by contributing to the general funds of the Association over and above regular membership. Contributions, and membership dues in excess of five dollars, are deductible for federal taxable income.

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