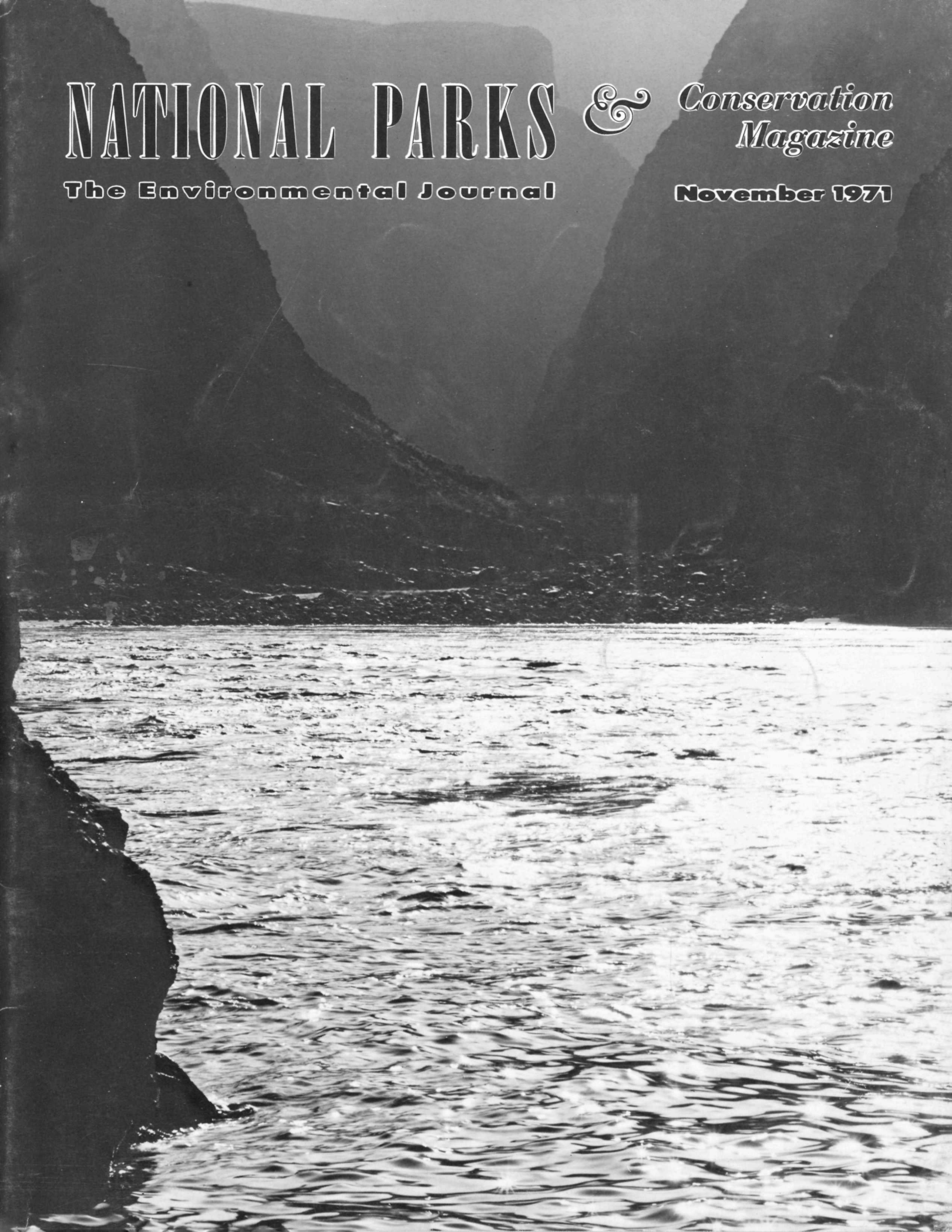

NATIONAL PARKS & Conservation Magazine

The Environmental Journal

November 1971

GOATS in the PARKS

THE GREAT NATIONAL PARKS of Hawaii, Volcanoes Park on Hawaii Island and Haleakala Park on Maui Island, were established by Congress for the protection of their unique scenery, plants, and animals for scientific and aesthetic purposes, and for compatible enjoyment by the people.

The impact of Western civilization on the isolated and delicate ecosystems of the Hawaiian Islands, not to speak of the aboriginal human cultures, has been disastrous. Exotic plants and animals, pests, parasites, and diseases invaded the islands from all over the world. Many native plant and bird species of incalculable aesthetic and cultural value vanished from the face of the earth. Among the worst of the exotic depredators was the domestic goat, insatiable, prolific.

FROM THE VERY BEGINNING, and until just recently, in a long series of programs, the National Park Service has labored to reduce the number of feral goats in the Hawaiian Parks as far as possible, always aiming at complete eradication. There were serious difficulties, including inadequate personnel and funds, the rugged terrain, and the cost of fencing, because the islands are overloaded with roaming goats, and they invade the Parks, but long practice and experience indicated that, granted an adequate effort, the goat could be extirpated from the Parks.

The purpose was always quite clear: to eliminate the goat as completely as possible as an exotic. The need was quite clear: to protect the native vegetation for its own sake, and for the sake of the birds and other animals dependent upon it, many of them threatened with extinction.

SPORTS HUNTING is prohibited in the National Parks by statute and long established policy. Hunting is expressly prohibited in the Hawaiian Parks by the Act of Congress which established the Parks. The reduction of excess game populations in the System generally by Park personnel or trained and supervised deputies has been recognized as necessary in some situations to prevent overgrazing or other serious ecological damage. The principle is applicable to exotic animals like the feral goats of the Hawaiian Parks.

The Advisory Board on Wildlife Management appointed by the Secretary of the Interior a number of years ago made recommendations with regard to surplus game populations in the National Parks generally which have been widely regarded since that time as expressing Department and Service policy; the controlling language is as follows:

> Most game reduction programs can best be accomplished by regular park employees. But as removal programs increase in size and scope, as well may happen under better wildlife management, the National Park Service may find it advantageous to employ or otherwise engage additional shooters from the general public. No objection to this procedure is foreseen so long as the selection, training and supervision of shooting crews are under rigid control of the Service and the culling operation is made to conform to primary park goals.

In other words, deputy rangers drawn from the general public, including sports hunters, may be used to reduce surplus game populations where necessary. The *selection, training,* and *supervision* of these agents must be under the rigid control of the Service. They are thought of as working in *crews.* The operation must conform to primary park *goals.* We say these goals are protective, and require the elimination, not the maintenance, of the feral goats in the Hawaiian Parks.

AGAINST THE EFFORTS of the Service to protect the Hawaiian Parks, many forces of exploitation have always been arrayed; among them the self-styled sports hunters, interested in perpetuating the goat for hunting, who have put heavy pressure on the Service to permit them to shoot goats in the Parks. They have opposed the enlargement of the National Park System in Hawaii because hunting is not permitted in National Parks. During the summer of 1970, they were quite vociferous.

It was as a result of this pressure, in our judgment, that the Service reversed its policy on the elimination of goats from the Parks last Fall. The Director of the Service visited Hawaii and stated publicly at the First Annual Hawaii State Recreation and Park Conference on October 16, 1970, that he had no intention of exterminating goats from Hawaii Volcanoes National Park. He confirmed the announcement thereafter in a letter to the organized hunters. He had met with officials of their organization to discuss the matter. Reports were carried in local newspapers at the time. We are satisfied that this change of policy was initiated by the Director, and not by the Superintendents of the Parks.

APPRISED OF THESE EVENTS by the newspaper accounts, arriving slowly by surface mail, we made informal inquiries at the Washington office of the Service and were advised eventually that hunting by deputies drawn from the public is indeed allowed in the National Parks of Hawaii, and that the policy is one of control, not elimination. These inquiries were laborious and protracted.

Jonas V. Morris, of NPCA, wrote to the Director thereafter, on April 1, 1971, to get confirmation or denial of this information. Was hunting carried on? Who was allowed to hunt? Was the purpose extinction or control? Was it possible to eliminate the goats? What about Service policy against hunting in the Parks?

Continued on page 35

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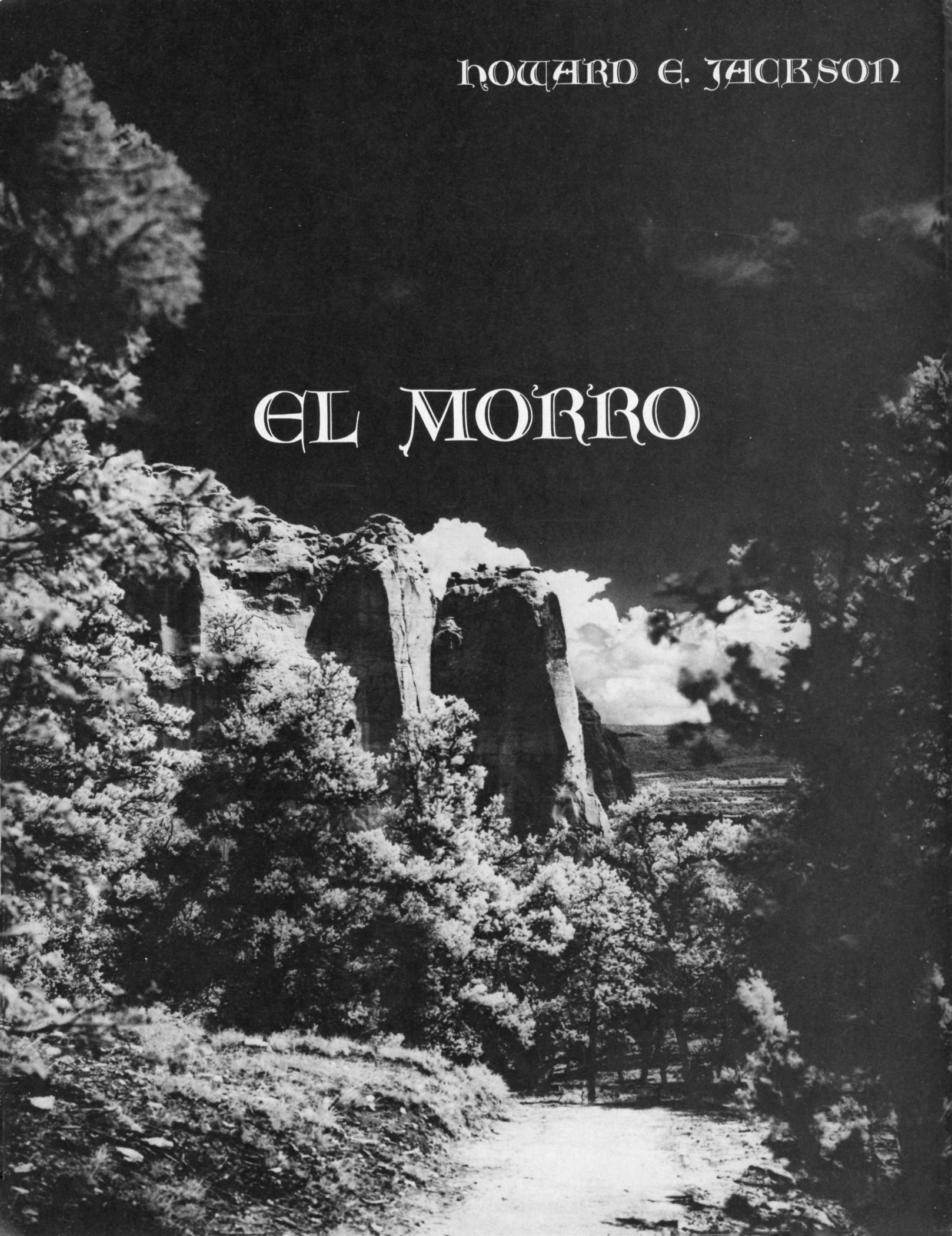
COVER *Upper Granite Gorge, Grand Canyon, by Philip Hyde*

Beauty, easygoing companionship, isolation from civilization, and adventure lure men to the inner gorge of the Grand Canyon to run the Colorado River rapids in boats. But its very popularity threatens the quality of the experience—and the purity of the wilderness river itself. (See pages 8, 10.)

National Parks & Conservation Association, established in 1919 by Stephen Mather, the first Director of the National Park Service, is an independent, private, nonprofit, public service organization, educational and scientific in character. Its responsibilities relate primarily to protecting the national parks and monuments of America, in which it endeavors to cooperate with the National Park Service while functioning as a constructive critic, and to protecting and restoring the whole environment. Life memberships are $500. Annual membership dues, including subscription to National Parks & Conservation Magazine, are: $100 sustaining, $50 supporting, $15 contributing, and $10 associate. Student memberships are $8. Single copies are $1. Contributions and bequests are needed to carry on our work. Dues in excess of $10 and contributions are deductible from federal taxable income, and gifts and bequests are deductible for federal gift and estate tax purposes. Mail membership dues, correspondence concerning subscriptions or changes of address, and postmaster notices or undeliverable copies to Association headquarters in Washington. When changing address, please allow six weeks' advance notice and include old address (send address label from latest issue) along with new address. Advertising rates and circulation data are available on request from the Advertising Manager in Washington.

HOWARD E. JACKSON

EL MORRO



Passed by here the Governor don Juan de Onate, from the discovery of the Sea of the South on the 16th of April, 1605."

This is a translation from Spanish of the oldest and most famous inscription cut into the soft sandstone at the base of El Morro. It was done by the first governor of New Mexico 15 years before the Pilgrims landed at Plymouth Rock.

Onate thought he had discovered the Gulf of California, but, of course, he was not the first Spaniard to look upon that arm of the Pacific Ocean. He was not the first Spaniard to stop at El Morro, either. El Morro, meaning "headland" or "bluff," rises 200 feet above the mesa floor some 53 miles southeast of Gallup, New Mexico, via state highways 32 and 53, and 42 miles west of Grants via state highway 53. The rock makes a striking landmark. From its summit, rain and melted snow drain into a large natural basin below, creating a constant, dependable supply of water. Quite naturally it became a regular camping spot for the Spanish conquistadores and, later on, for American travelers to the southwest. In its sheltered coves they found protection from sun and storm, and at the pool plenty of good water in a region where water was scarce.

In 1540, Francisco Vasquez de Coronado came up from Mexico with some 350 Spanish soldiers and crossed southeastern Arizona to Zuni, a pueblo 30 miles west of El Morro. Breaking up into several groups, they went eastward 70 miles to Acoma Pueblo and thence to the Rio Grande. At least one of the groups probably passed El Morro en route.

The first known historical mention of El Morro is found in the journal of Diego Perez de Luxan, chronicler of the Espejo expedition in 1583. Luxan stopped there for water on March 11 of that year.

From approximately 1500 to 1800, hundreds of Spanish soldiers and priests, en route between Sante Fe and Zuni, and the Hopi villages farther north, passed by El Morro. From 1605 to 1905 first Spanish, then American, travelers recorded their passage by cutting inscriptions into the soft sandstone. Onate was the first to sign his name and the date of his visit to the rocky register.

So important has El Morro become historically that in 1906 it was set aside as a national monument, and additional name-carving was prohibited.

The second inscription of note on the rock—in chronological order—is one of the longest and one of the most interesting, supposedly done by Governor Eulate in 1620. Translated from the Spanish it says: "I am the captain General of the Province of New Mexico for the King our Lord, passed by here on the return from the pueblos of Zuni on the 29th of July the year 1620, and put them at peace at their humble petition, they asking favor as vassals of his Majesty and promising anew their obedience, all of which he did, with clemency, zeal, and prudence, as a most Christianlike (gentleman) extra-ordinary and gallant soldier of enduring and praised memory."

The word in the parentheses is crossed out but seems to have been "gentleman." Somebody who knew the old boy apparently took exception to all the high-flown praise!

Eulate was not the only governor who wrote himself down in such high praise. The only poem on the rock is written by another governor in a similar vein. Of course, it does not rhyme when translated from Spanish into English, but the well-opinionated meaning is obvious:

Here arrived the Senor and Governor
Don Francisco Manuel de Silva Neito
Whose indubitable arm and valor
Has overcome the impossible
With the wagons of the King our Lord
A thing which he alone put into effect
August 5, 1629
That one may well to Zuni pass and carry the faith.

In contrast with those more florid writings and metered praise, most of the inscriptions are short and to the point. One of them is a marvel of Spanish "shorthand." Translated it reads: "They passed on the 23rd of March, 1632, to the avenging of the death of Father Letrado.—Lujan"

About the year 1629, Father Letrado had built the earliest mission chapel at what we call today Gran Quivira National Monument (near Mountainair, southwest of Albuquerque). He was transferred to Zuni in February of 1632 and was murdered just a week later. On hearing the news in Santa Fe, Lujan and a party of soldiers reached Zuni in remarkably fast time, but there is no historical record of what they did when they got there. Only the hint of history is written down in the sandstone cliff.

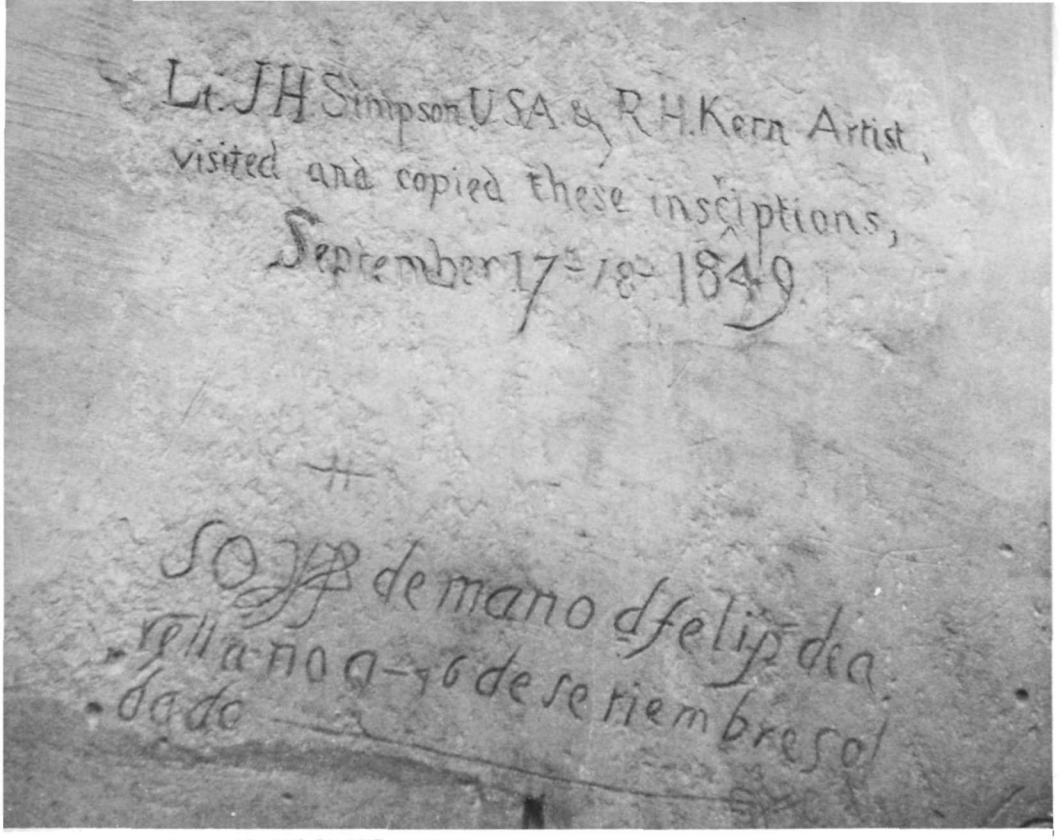
Knowing a bit about what happened to some of the personnae of the period makes their "we passed by here" signatures much more interesting. One such case concerns two of the three officers written about on the stone in 1636. Translated from Spanish we are told: "We passed by here, the Sergeant Major and Captain Juan de Archuleta and Adjutant Diego Martin Barba and Ensign Augustin de Ynojos, the year of 1636."

The "Sergeant Major" was not an enlisted man, as now—he was the officer in direct command of the troops. The ensign was the standard bearer, corresponding in grade to a second lieutenant. During one of the numerous civil disturbances that plagued the Spanish in New Mexico, Captain Archuleta and Adjutant Barba were accused of "aiding missionaries," a crime at the time, and they were beheaded in 1643.

A more glorious ending came to one of the most famous frontier governors New Mexico ever had. The General's inscription summarizes what he accomplished in one sentence. Translated: "Here was the General Don Diego de Vargas, who conquered for our Holy Faith, and for the Royal Crown, all of New Mexico at his own expense, year of 1692." Apparently here was a politician who believed in paying his own way!

Twelve years earlier, in 1680, the great Pueblo (Indian) revolt had taken place. Approximately 400 Spaniards and 23 priests lost their lives. The remaining Spanish, about 1,100 in all, fled to El Paso. De Vargas came back in 1692 and restored order. Later, he was imprisoned for 3 years in the governor's palace; still later he was released and restored as governor, and he died with honor in Bernalillo in 1704.

Not all the inscriptions are done by upper-echelon conquistadores, clergy, or civil servants. One such concerns three Spanish soldiers left to "guard" 2,000 Zuni Indians in 1699. The inscription says: "I am of the hand of [that is, written by] Felipe de Arellano on the 16th of September, soldier." The next year, the Zunis apparently thought the odds in their favor were good, so they murdered the three Spaniards.



PHOTOGRAPHS BY THE AUTHOR

Left, inscriptions left by Lt. J. H. Simpson, an engineer for the Army, and R. H. Kern, an artist working with the Army—the first English-speaking people to make a record of Inscription Rock. Also an inscription by a Spanish soldier left to "guard" 2,000 Zuni Indians in 1699. It reads: "I am of the hand of [that is, written by] Felipe de Arellano on the 16th of September, soldier." Unfortunately the Zunis murdered the soldier.

In a number of places the Spanish inscriptions are so faint that they have never been completely studied. In other places there are no dates. One lamp-blackened inscription reads: "Paso por aqui Miguel Alfaro." (Passed by here, Miguel Alfaro.) A date is not given, nor is the man known. Scholars, dating the inscription by letter style, say it was done about 1700.

The manner in which the inscription is written is always interesting—and may tell you more about the man than the message. One example is that of Ramon Garcia Jurado. His message is simple enough. Translated, it reads: "On the 25th of the month of June, of this year of 1709, passed by here on the way to Zuni—Ramon Garcia Jurado." But the inscription has a strong letter style and is boxed in a square with a rather large dooda drawing in the bottom left corner and a smaller one in the righthand corner. You feel that here is a man who wrote himself down as a bit above the ordinary in some way. Sure enough, you can find Senor Jurado's name in old Spanish documents. In 1728, he was the "alcalde mayor" of the Keres district, not far south of Santa Fe.

To evaluate an inscription you must often know what happened after it was written. One Spanish visitor wrote: "Year of 1716 on the 26th of August passed by here Don Feliz Martinez, Governor and Captain General of this realm to the reduction and conquest of the Moqui [Hopi] and [in his company?] the reverend Father Friar Antonio Camargo, Custodian and ecclesiastical judge."

What happened? Governor Martinez found the Hopi in no mood to accept Spanish domination, and after about 2 months of quarreling (mostly with words and fist-shaking) the expedition returned, quite unsuccessful, to Santa Fe. The good governor might have done well to go back and erase what he had written.

If you are a serviceman, you will appreciate this inscription. The first two lines read: "The 14th day of July 1736 passed by here the General Juan Paez Hurtado, Inspector." The second two lines—no doubt added when the good general's back was turned—read: "And in his company, the Corporal Joseph Trujillo!" One wonders what happened to the corporal when the general saw the addition. We can surmise he got a good chewing-out in Spanish!

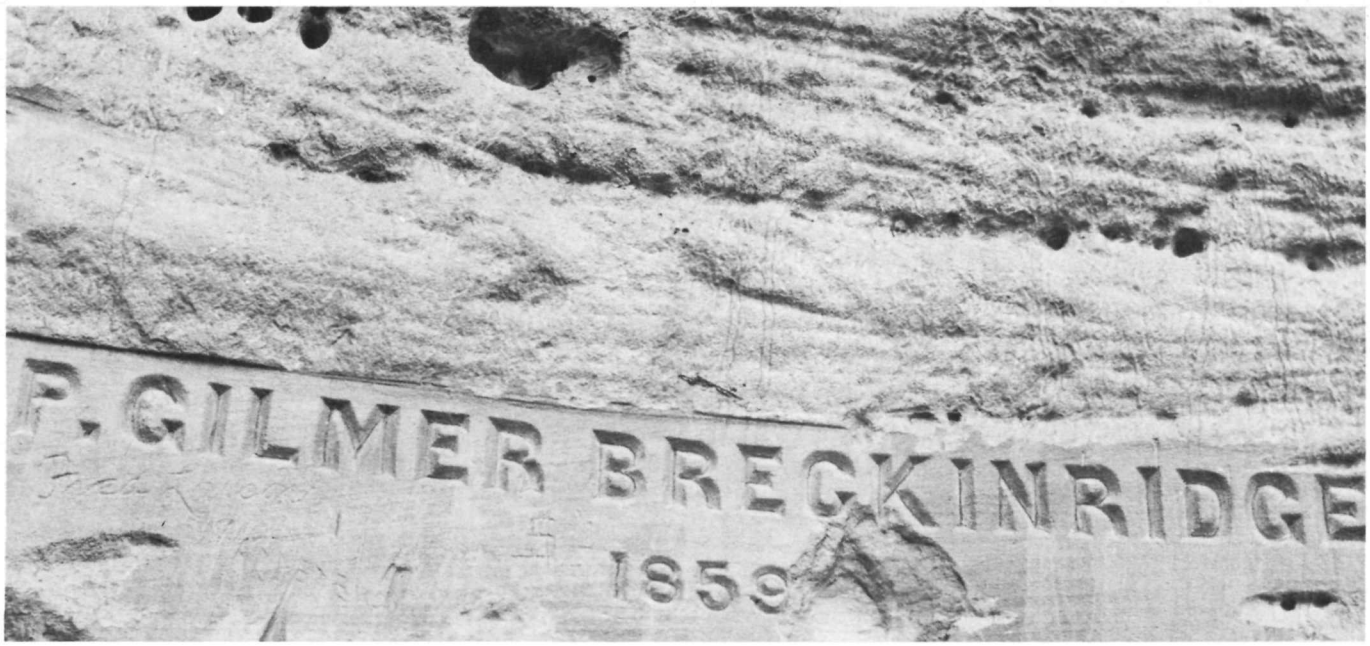
Sometimes one man would do the writing for himself and a separate message for someone else. Because they were written on the same day and seemingly in the same handwriting, we presume that the following two inscriptions were written by the same man. The first one says: "The 28th day of September of 1737, arrived here the Bachelor Don Juan Ignacio of Arrasain." The second reads: "The 28th day of September of 1737, arrived here the illustrious Senor Don Martin de Elizacochea, Bishop of Durango, and the day following, went on to Zuni."

The good "bachelor" was a Bachelor of Laws, not necessarily a single man. The event records one of the first visits to this territory by a Bishop from Durango, Mexico.

Another inscription is noteworthy mainly for its date: "By here passed Andres Romero, of the year 1774." This Spaniard is unknown. The date is important because it is apparently the last Spanish inscription before the coming of the Americans in 1849.

Soon after the occupation of Santa Fe by the army of General Stephen W. Kearny in August 1846, American army officers were traveling west in New Mexico. The first of them to visit El Morro was Lt. J. H. Simpson, an engineer for the army, accompanied by R. H. Kern, a Philadelphia artist who rode around with the army drawing pictures. They were the first English-speaking people to make a record of Inscription Rock.

Simpson and Kern left their own inscription: "Lt. J. H. Simpson USA & R. H. Kern Artist visited and copied these inscriptions, September 17th-18th 1849."



P. Gilmer Breckinridge, who carved his name in 1859, rode all the way across the country from Virginia to California, and return, just in time to get into the Civil War. He was killed at Kennon's Landing, Virginia, in 1863.

They spent the two days shown copying the inscriptions, and stated that when they were there, not a single English inscription could be found on the rock.

After their visit, many other names, including those of emigrants, traders, Indian agents, soldiers, surveyors, and settlers, were added to the rock. One early traveler of special interest was Lt. Edward F. Beale. In 1857, Beale's camel caravan passed El Morro en route to Zuni and the west coast. These camels had been imported for use in the arid Southwest.

Beale's pioneering of the route past El Morro popularized the trail to the extent that emigrant trains began to use it. One group of emigrants reached the area on July 7, 1858, and camped there overnight. On the rock appear many names they carved. "Williamson," "Holland," and "John Udell," all with the same date of 1858—whose names stand out—were known members of the first emigrant train to try this new route to California.

That was an ill-fated train. The party, consisting of 40 families and their equipment, finally reached the Colorado River, only to be attacked by the Mojave Indians. Several of the group were killed, and practically all their equipment was stolen or burned. The survivors returned to Albuquerque, walking most of the way. They passed El Morro en route, arriving in Albuquerque nearly starved in November 1858.

The prettiest signature on the rock seems to have been carved between 1850 and 1862. It probably was cut out with a knife after being sketched. It was done by "E. Pen Long, Baltimore, Md." in long flowing and curving lines. Nobody knows who he was, but he had beautiful penmanship!

There were some other fancy writers—a "Mr. Engle" who wrote in block print and "Mr. Byrn" who wrote in script—but they did not compare with Mr. Long.

Little or nothing is known about most of the Americans who left their names imprinted in the sandstone wall. There is a good account of a Mr. P. (Peachy) Gilmer Breckinridge, who signed his name, the date, 1859, and the fact he was from Virginia. He graduated from Virginia Military Institute and as a young man rode all the way across the plains to California. Remaining there only a short time, he rode back to Virginia just in time to get into the Civil War. He was killed in a skirmish at Kennon's Landing, Virginia, in 1863.

On the very top of El Morro lie ruins of Zuni Indian pueblos, abandoned long before the coming of the Spaniards. There are two ruins, largely unexcavated but here and there some walls still stand. Atsinna, a Zuni word referring to the "writing on the rock," is the larger of the ruins—approximately 200 by 300 feet. It is excavated sufficiently to show some of its many rooms, and square and round kivas. The Indians obtained most of their water from the pool at the base of the rock—as did the later Spanish and American travelers—but they also caught as much water on the mesa top as they could in bathtublike depressions still discernible.

Today, a trail begins at Monument headquarters and climbs gradually toward the rock. The hike past the inscriptions and back to the office normally takes from 40 to 60 minutes. If you wish, you can continue up over the top of the rock and visit the two Indian ruins. This extra hike requires another 1½ to 2 hours. Take it easy. It is 7,200 feet above sea level, and the altitude may bother you a bit.

Aside from a small picnic and campground area, no accommodations or other facilities are available at the Monument. There is a nominal fee that is waived for children under 12 years of age.

Oh—there is a modern register book in which you can sign your name, address, and date. If you want to give your inscription a little Spanish flavor you might start it: "Passed by here. . . ." ■

Walls

Bruce D. Cowan

When I joined an excursion down the tortuous path of the Colorado River through the Grand Canyon, what began as a pleasant adventure in the rosy splendor of Marble Gorge was to become an extremely moving experience. It amounted to more than just a journey through the world's best display of geological strata. The scenery added to the experience, of course. But just as a beautiful piece of music is more than the instruments that are its components, so was my reward greater than the combined features of the canyon.

Of course there were thrilling rapids, hundreds of them, each one a challenge. Moderate-sized green and white rapids foamed below the stately pink walls of Marble Gorge, where we bounced over choppy waves in the rubber boats, some of us straddling the side pontoons and riding bucking-bronco style. Later, in the deep black heart of the Grand Canyon, we approached huge muddy rapids in frozen, clinging helplessness. We slid down smooth tongues into the hungry mouths of giant waves that curled up like brown sea monsters amid black jagged rocks. Here the boats would drop into gaping holes, almost sinking from view, then shoot up suddenly and crawl like caterpillars on the crests of ensuing waves. Sometimes we were carried toward ragged cliffs in powerful swirls of water. At the last moment the backwash from the cliff would lift the front ends of the boats high into the air, and we would slide, screaming, back toward the middle of the churning river.

Sometimes there were long stretches of placid water between rapids. We would float through the unworldly beauty of high canyon walls, losing ourselves in contemplation or leaping from the boats to swim in the cool water. We had plenty of time to relax and simply enjoy life.

One evening we had just unloaded the boats to make camp on one of the beaches when a gust of wind whipped sand into our faces, and we felt a few large pellets of rain. The rain soon fell in torrents, and although it was not cold, it lashed our skin with stinging force.

The gathering dusk was interrupted by frequent flashes of lightning—like tiny fragments of noonday. Booming, crackling thunder bounced repeatedly from the cliffs and echoed down the canyon. In the lightning's glare we saw terrifying red cataracts of mud and rocks crashing down from the tops of the cliffs. In the downpour the whole canyon seemed about to crumble upon us.

My first impulse was to find protection against the mighty storm. But where? There was no shelter, no way out, no path to my dry comfortable home.

As I stood there anxiously watching, one wall did begin to disintegrate—the wall that has separated man from nature's realities since man first denied her. Here in the storm, where I met nature's savage face, fear began to drain from me and was replaced by awe. Again and again the lightning glared, revealing nature's power as she carved the canyon a little deeper, a little wider. The invisible wall collapsed and was swept away in the rising river, and I joyously became a part of the fantastic scene.

Another vivid experience happened in mysterious Granite Gorge, that formidable heart of the Grand Canyon. Gone were the friendly pink cliffs of Marble Gorge. In their place were glistening, jagged black ones, gaping like the jaws of a prehistoric monster. Dark clouds frothing through ragged bare peaks made the cliffs ahead even blacker. The aspect was forbidding, threatening, totally lacking the gentle warmth of Marble Gorge. Here the really big rapids would begin. I could well imagine the fear the explorer John Wesley Powell and his men must have felt when they ventured into its unknown depths. Even modern expeditions can leave one with a feeling of uncertainty. I found a piece of driftwood with the words, "We don't have long to live!" burnt with realistic humor into its twisted form.

While the Colorado River cuts deep into the earth, the whole central plateau of northern Arizona is gradually rising. Upward movement of the earth's crust has allowed the river to cut down into one of the oldest rock layers on earth. The hard black cliffs of Granite Gorge, formed of ancient Vishnu schist, are all that remains of a range of mountains that once were higher than the Himalayas. These strata have been formed by extreme heat and pressure into a barren black material, sometimes carved by the river into beautifully grotesque formations.

We found no fossils in Granite Gorge. Life capable of leaving such records perhaps did not exist when this ancient layer was deposited, and now the environment still seemed hostile to life. Not the slightest trace of greenery adorned this utter blackness. As I stood there in the heart of the Canyon, near the very bottom of Time, I was no longer of the twentieth century. I stood on the banks of the river, misplaced in a world of long ago. I saw the world as it had been before the stone ax and the cave. I submerged through oceans, deserts, mountains, and swamps where dinosaurs lifted snaky heads. I descended finally to where the protoplasm of life hardened into bare, black stone.

An exhilaration greater than that of riding dangerous rapids electrified my senses as I contemplated my experiences. I had seen nature's savage power, and I had traveled to a time eons before man. Like the Colorado carving the Grand Canyon throughout many millenia, in the course of only a few days the river had penetrated the protective layers of civilization that encrusted me and had eroded them away. There were only I, the river, and the towering canyon walls. Nature and I were one. ■

Bruce D. Cowan is an environmental horticulturist at Asilomar State Park near Monterey, California. As a free lance writer he has published in *National Parks & Conservation Magazine* and other publications.

PHILIP HYDE

Too many people on the Colorado River

Peter Cowgill

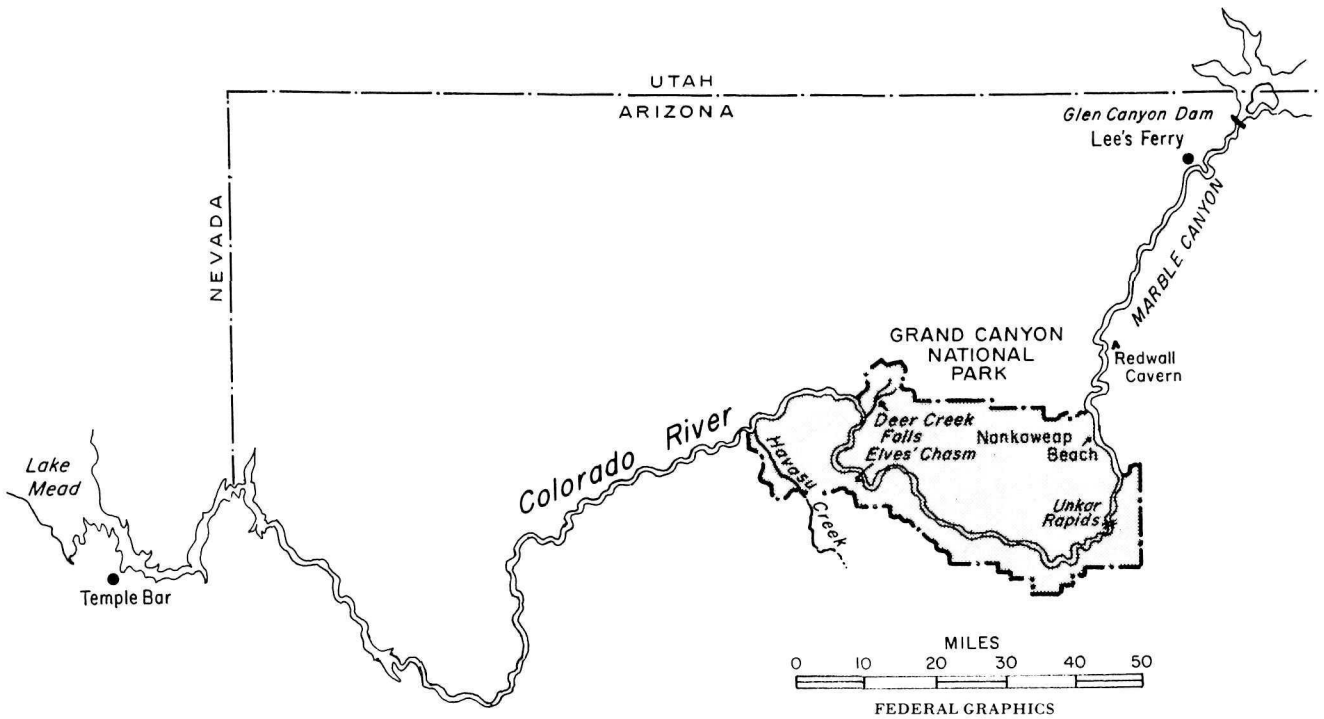
IT WAS A HOT AFTERNOON in August 1968 when the National Park Service patrol boat pulled up to Nankoweap Beach on the Colorado River at the bottom of the Grand Canyon. The big five-pontoon J-rig glided onto the clean-looking sand; and in a few minutes supplies, equipment, and food were unloaded, and we set up camp.

Our purpose was an historic one. The Park Service was putting up its first outdoor toilet in the wilderness of the Grand Canyon for the use of river runners.

The preceding day we had camped at Redwall Cavern at the end of our first day's run from Lee's Ferry. This is a huge alcove at the base of the 2,000-foot-high limestone cliffs in Marble Canyon, and it is partly filled with the cleanest and purest sand that can be found anywhere—at least that is what the sand looked like at first glance. The surface did sparkle. But what we found below the surface wasn't so sparkling.

While exploring Nankoweap Canyon we found plenty of other evidence that careless men had been here before us. I concluded that although pit toilets in the wilderness ordinarily are an unthinkable intrusion, something had to be done to preserve the shores of the Colorado. That was 3 years ago. Since then the problems of overuse have become so critical that many professional and citizen conservationists believe the only way to save the river is to make it a wilderness area—in which man may leave behind no traces of his visits. The Park Service does not agree. But the controversy still rages, and the fate of the Colorado in the Grand Canyon hangs in the balance.

The vast majority of people who have run the Colorado River have done so with commercial outfitters. Some of these guides use wooden boats somewhat in the manner of Major John Wesley Powell, who made his first historic trip in 1869, or they use 10-man life rafts. But the numbers of



people these types of craft can accommodate are small, and most outfitters use bigger, motorized pontoon rigs.

Fifteen or more people can be carried on some of these craft. When they run in convoys, upwards of 150 river runners can be in the same general area on the Colorado River under the jurisdiction of one guide. It is not uncommon for two or three guides to disembark from Lee's Ferry on the same day.

There is one stretch of Grand Canyon with almost unlimited beaches for camping, extending about 20 miles from just above the Nankoweap area to just above Unkar Rapids. Although parties can camp almost anywhere in this general area, most boatmen choose either Nankoweap, because of its pretty side canyon and the well-preserved prehistoric Indian ruins in caves above it, or the site of old Tanner Mine (vintage 1890), where there are remains of old log and frame buildings as well as the mine. Both locations are popular with "tourist" river runners, and camping at either spot is easier than along the rest of the beach strand. As a consequence these two areas are overused and contaminated by river runners, while the rest of the 19 miles of beaches is nearly virgin pure.

Before the construction of Glen Canyon dam and the filling of its reservoir, Lake Powell (just upstream from Lee's Ferry and a few miles below the Utah border in Arizona), the flow of the Colorado River through Grand Canyon was unchecked. During the late summer months the runoff from the high mountains of Utah, Colorado, and Wyoming trickled down to almost nothing. It was not unusual to record flows at Phantom Ranch of less than 2,000 cubic feet per second. With such flows many rapids cannot be run, especially by pontoon-type boats.

In contrast, during spring when mountain snows melt rapidly Old Muddy would thunder along at between 50,000 to as much as 150,000 cubic feet per second. Such high flows tended to smooth out the rapids. The greatest problems were unpredictable whirlpools at the base of the rapids that could suck a boat and occupants under and spit them out a quarter mile downstream. In pre–Glen Canyon dam days river running was tough and dangerous, and not many attempted it.

In the last 7 years, since the gates of Glen Canyon dam were closed and the reservoir began rising, the story has been different. Now the river is controlled. Consequently the river-running season has been extended from early spring to late fall—up to 8 months. The old river-running season, generally, was about half as long—during the spring until the summer runoff became too high, and following the summer runoff into fall, ending when the air and water temperatures became too intolerable for river runners. Now, during the summer months when most potential river runners take their vacations it is almost always possible to run all the way from Lee's Ferry to Temple Bar in Lake Mead in 8 days.

From just a hundred or so in pre–Glen Canyon dam days through 1963 the number of river runners jumped to 1,067 in 1966. The problems of overuse became apparent, particularly the problem of human waste sanitation. Although litter is an eyesore, it is generally not a threat to human health. Human excrement contains more than 100 viruses, bacteria, and protozoa that may cause disease and possibly death to persons who become infected. There are viruses like polio, Coxsackie, and ECHO; bacteria like typhoid; protozoa like amoebic dysentery; and infectious

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Pete Cowgill is outdoor editor and a columnist for the *Arizona Daily Star* in Tucson. He is an explorer by avocation and has backpacked extensively in Grand Canyon. He joined National Park Service patrol excursions in 1968 and again in 1970 as a journalist (paying for his own food) "to see what was going on." This article is one of several that resulted from these tours.

A Park Service patrol cleans up a popular camping site (above). A large number of river runners are transported by rigs like the two types of pontoon craft below, which require outboard motors to steer them through rapids. If the Colorado were placed in the Wilderness Protection System, motors would be banned and these huge craft undoubtedly would become extinct.

hepatitis. Because the level of the Colorado River varies greatly (up to 10 feet in narrow portions of the canyon) almost every day, human wastes on the beaches below the high or flood mark are washed into the main river. It is a common practice of river runners to drink Colorado River water. Flies that feed on excrement are also carriers of disease.

In 1967 then-Secretary of the Interior Stewart Udall made a trip down the Colorado River. Udall is a native of Tucson, Arizona, and an ardent explorer of the great outdoors. What he saw at Redwall Cavern, Nankoweap, and many other beaches made him angry—toilet paper "blooms" marking the sites of ad hoc toilets as well as mountains of trash and litter discarded by river runners over the years. When Udall returned to Washington, D.C., his orders were simple: "Clean it up and keep it clean."

Earlier that year a sanitation survey of the Colorado had been ordered by Howard Stricklin, then superintendent of Grand Canyon National Park. The surveyors went from Lee's Ferry to Temple Bar on Lake Mead. "At the close of the 1966 Colorado River running season it was

agreed modest sanitation facilities would be needed at selected campsites along the river," their report stated. They recommended eighteen sites for outdoor toilets. In addition eight potential sites were listed. Only four were eventually set up.

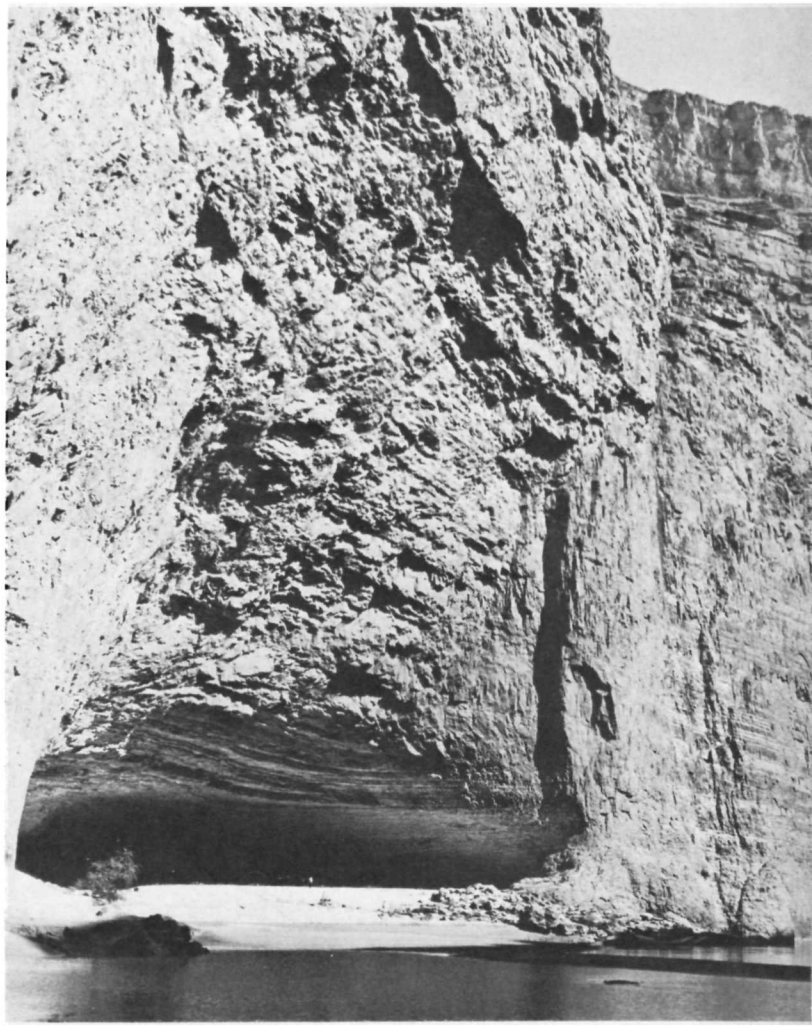
By the following spring the Park Service had hired a veteran river runner to be head boatman of its new patrol boat. The gunny sacks filled with trash and litter picked up by this "garbage scow" were indescribable. I was on the fourth trip, and we filled a dozen sacks.

But the problems of overuse were far from solved, according to Robert Lovegren, Howard Stricklin's successor as park supervisor. During 1969 more than 6,000 people floated down the Colorado, and in 1970 the users increased to 10,072. A total of 21 commercial outfitters carried 93 percent.

"The National Park Service, the Western River Guides Association, private groups, and individuals are alarmed about this ever-increasing volume of use," Lovegren said. Harm to the river and its adjacent environment had taken the form of oil, gas, and noise pollution; littering; health and sanitation problems; and damage to vegetation, wildlife, historic sites, and prehistoric shrines. The chain of solutions became clear: either shut down all river running or carry out all nonburnable trash, garbage, and wastes. The Park Service chose the latter. Pit toilets would disappear from the wilderness.

Four of the really beautiful and most fragile areas of the Grand Canyon were closed to camping in 1971: Redwall Cavern; Elves Chasm, where there is a series of delicate waterfalls; Deer Creek Falls, which is a torrent of water pouring down a 100-foot waterfall; and Havasu Canyon at the mouth of the Havasu Creek, the largest permanent stream entering the canyon.

"We are moving in the right direction toward solving our environmental problems," Lovegren said. "We are



PHOTOGRAPHS BY PETER COWGILL

The shoreline at Taperts Rapids (left) is characteristic of the lower part of the Grand Canyon. The area above and below the side canyons is rocky with only small patches of beach. Small parties, however, could easily find hundreds of good sites with plenty of sand and driftwood for fire. One of the most spectacular sites in all of Grand and Marble Canyons is Redwall Cavern (above). It is a "perfect" campsite—in fact, too perfect, as it has been contaminated by human wastes and trash. The Park Service has banned camping at the cavern.

particularly pleased that the commercial outfitters are cooperating very well in the search for solutions."

Another move to provide river runners with a "quality experience" was to limit the number of user-days for 1971 to the total of 1970. The Park Service defines a user-day as one person spending one day or a portion of a day on the river.

"Any increases permitted will be managed in such a manner as to enhance the river trip and protect the environment," said Warren H. Hull, River-Havasu manager for Grand Canyon National Park. "For instance, the heaviest use month last year was June with over 17,000 user-days. September, on the other hand, had less than 7,000 user-days, and it is considered a delightful month to enjoy a river trip. Small increases in the user-day limits may be permitted to encourage outfitters to offer non-motor, oar-powered trips. This would give a particular outfitter the economic base needed to offer excellent quality service and enjoyment to the potential visitor, and to better spread visitor use over the 8-month river-running season."

The user-day total for June of this year is 15,000. "For the year to date, therefore, river travel is down," Hull said. "Apparently, with the precedent of allotted user-days, the outfitters are not trying to set new records as was the case in previous years."

Since 1970 I have discussed with Lovegren, Hull, and other Park Service officials the possibility of banning all motors from the Grand Canyon. At that time there was general agreement among these people that such a recommendation would be made a part of the wilderness proposal for Grand Canyon that the Park Service planned to submit at a public hearing in 1971. A 5-year grace period would be granted to allow commercial outfitters to amortize the cost of their pontoons. When the ban became effective the volume of traffic would be reduced by about 75 percent.

"We know many visitors believe this area (the Colorado River and its environs) has many attributes they seek when they visit other primitive or backcountry areas," Lovegren said. According to a Park Service survey, people go to such areas to observe the beauty of nature; to get away from the sights, smells, and sounds of civilization; to get away from the demands of a workaday world; to have a change of pace or something different; to be away from crowds of people; to keep healthy with nature; and to enjoy easygoing companionship of camp life.

On the other hand, wilderness users listed several things that annoyed them: littered or run-down campsites; difficulty of isolation from other camping parties; very large parties traveling together; too few campsites; and helicopters and airplanes in the area.

But when the preliminary master plan and wilderness proposals were presented at a public hearing in May, the ban on motors was not included. The Wilderness Proposal included, basically, all the Grand Canyon below the rim—except the Colorado River. Nearly all of the large-volume river guides were opposed to a ban on motors because it would reduce the number of persons they could take on trips and would make their bridge pontoon and sausage craft obsolete.

At the public hearing in Phoenix on May 14 Frank Kowski, the Park Service regional director at Santa Fe, raised another objection. "Are smaller boats like the 10-man life rafts and the various types of wooden boats as safe as the more popular pontoon craft?" he questioned. In return some conservationists at the meeting asked whether it is the responsibility of the Park Service to assure river runners the safest of all possible trips through the Grand Canyon.

The preliminary Grand Canyon master plan has this to say about the Colorado River and river running: "The phenomenal growth in river running through the Grand Canyon during the last few years has brought to the inner canyon the first indications that uncontrolled use will lead to an end of a wilderness experience on the river. Sanitation problems are appearing at the larger beach areas. Faster boats are being made, and still faster ones planned, with the objective of racing through the canyon. Upriver trips present a challenge to the powerboat enthusiast.

"The continued high interest on the part of more and more people to seek the 'white water' experience of the canyon rapids will lead to heavy congestion on the river unless more intensive management of river running is undertaken. Noise pollution on the river is increasing and will reach undesirable levels as the number of boats grows. Human pollution and congestion, and a reduction of the river trip to a fast, thrill-type experience, must be prevented; such thrill-type trips are inappropriate in a national park and pose a threat to the maintenance of a wilderness quality within the canyon. The most desirable river experience is felt by some persons to be the slow, 10-to-15-day float trip, in small parties, without power—a true wilderness experience."

The draft wilderness proposal repeats generally the above two paragraphs in substance. It adds one sentence: "The plan for continued use of motors precludes wilderness classification for the river itself."

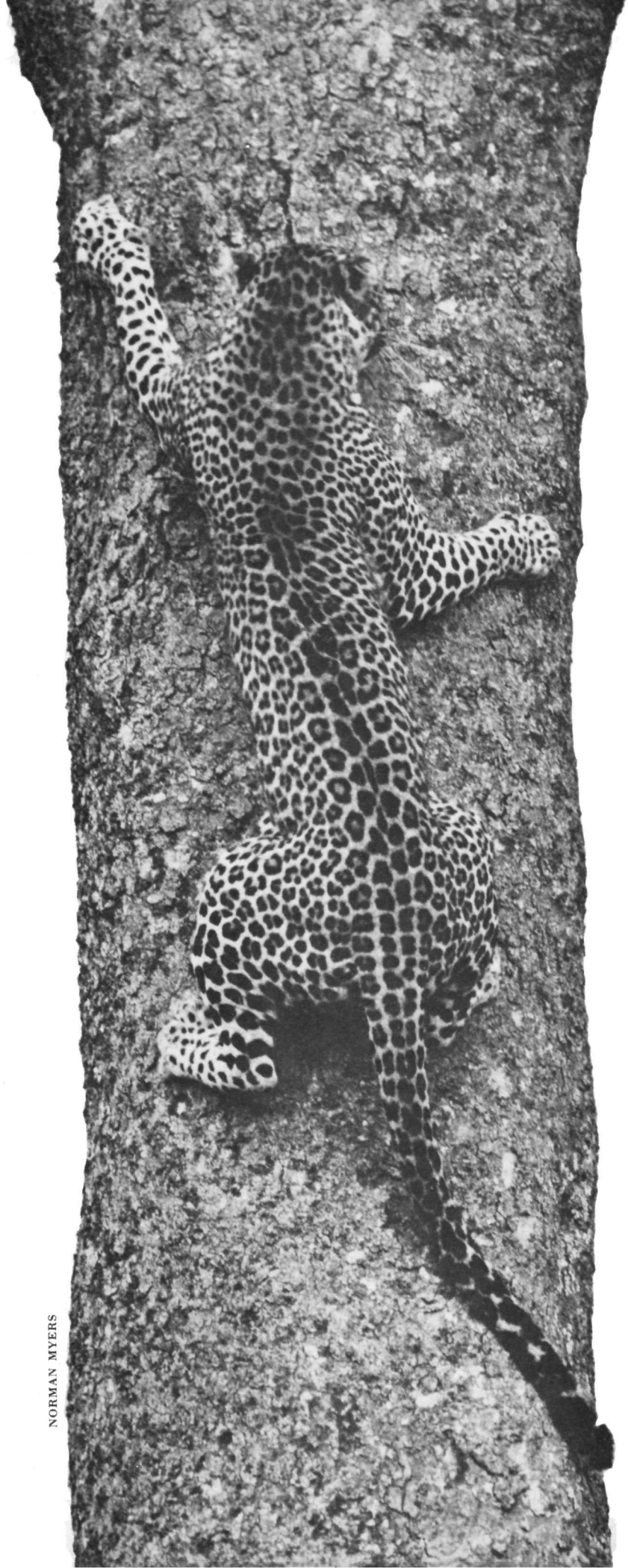
At the public hearings held in both Phoenix and Grand Canyon on the master plan and wilderness proposals nearly all the individuals and conservation organizations present, including National Parks & Conservation Association, testified that the two plans were generally very good—with one major exception, and this was the exclusion of the Colorado River from wilderness classification and the failure to ban motors for river-running trips.

In deciding the future of the Colorado River, the Grand Canyon, the entire national park system, and all wild areas, several questions must be answered. Should what is best for the Grand Canyon and the Colorado River be the determining factor in any plan? Or should what is best for people's recreation prevail? How should the Park Service interpret its mandates from Congress to protect the area for the enjoyment of future generations? Here at Grand Canyon, as in nearly every other unit of the national park system, these two mandates (protection and enjoyment) are in conflict.

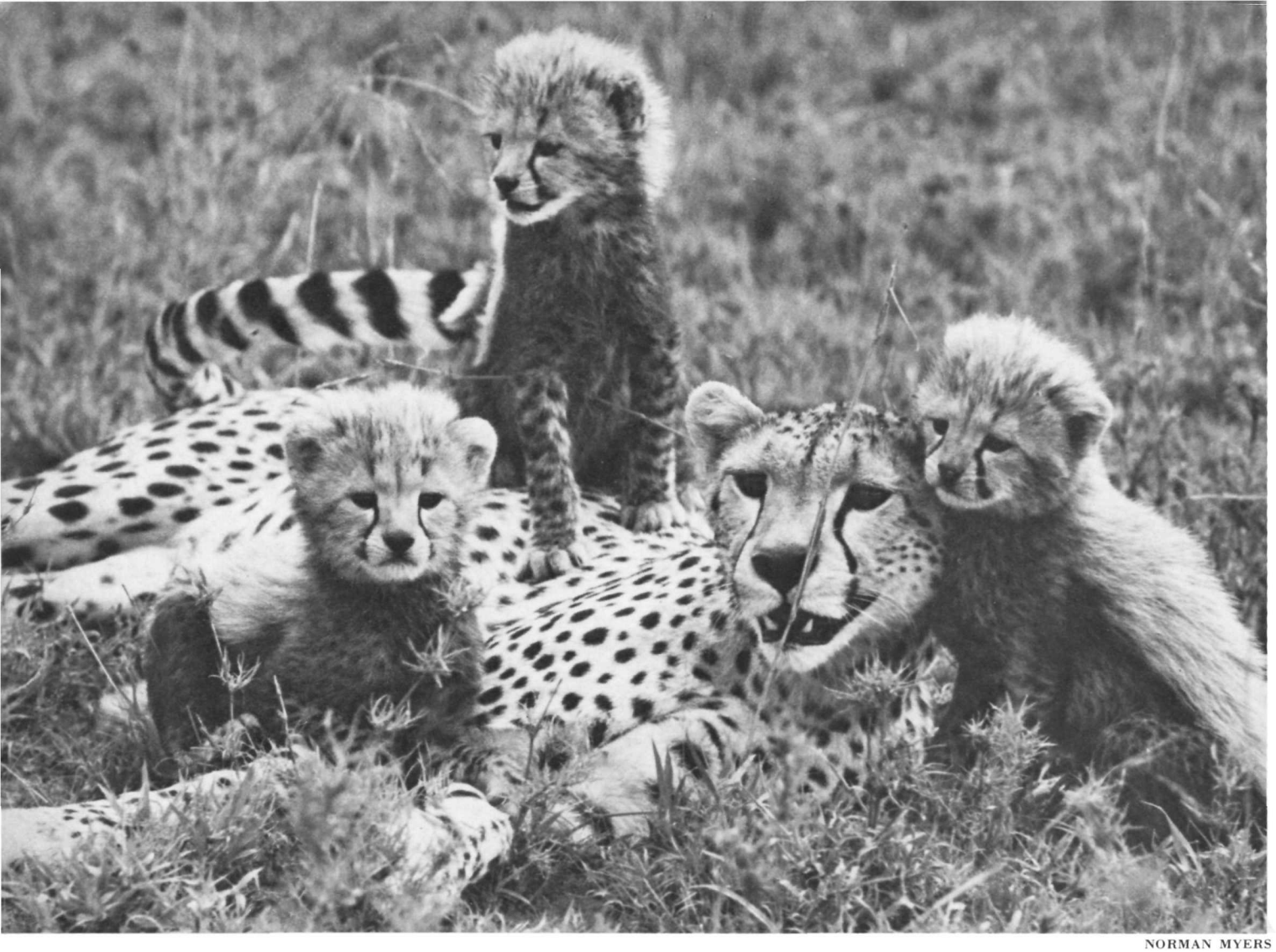
Some people have adopted two philosophical observations that may help provide some of the answers. First, when man goes into a wilderness he ought to do so on its terms and conditions, not on the terms and conditions that he would like to impose on the wilderness. Second, when man enters a wilderness he should be able to contemplate the experience in his own fashion—without interference from other men. ■

We Need The Leopard, Not Its Spots

robin w. doughty



NORMAN MYERS



NORMAN MYERS

She was beautiful. She was rich. And at a fashionable cocktail party she was alluring in a leopard-skin suit.

Unfortunately she also was an active participant in the impending extermination of one of the earth's precious resources, the great cats, which are being shot out of existence to gratify m'lady's pleasure in hats, coats, dresses, accessories, and even bikinis.

The demands of style have become critical. "All of the world's larger cats are now threatened with extinction," says Dr. John Eisenberg, field director of a Smithsonian expedition to Ceylon to study leopards and other animals. Fellow scientists share his concern, and there is a general feeling of pessimism over the future of this and other spotted cats like the cheetahs of Africa and the jaguars, ocelots, and small cat species (locally called *maracajá*) of Latin America. The International Union for the Conservation of Nature already has reported that three subspecies of *Panthera pardus*, the leopard, are in immediate danger of extinction.

Travelers can still buy the handsomely marked skin of the snow leopard from the Kashmir Government Emporium in northern India. The status of this rare predator presently is undetermined. An estimate in 1967 reported 600 individuals in the Indian Himalayas, which may be on the high side. A report this year from the same country says that tigers are down to 1,500, 5 percent of their numbers 20 years ago.

Perhaps our wealthy lady in her leopard-skin suit might be interested to learn the identity of her unseen partners in this tragic slaughter. Most obnoxious are the black marketeers, the under-the-counter men. Calcutta is prominent in the black-market trade in cat skins. A writer for the *Statesman* of New Delhi was led through sleazy city alleys to find "the largest collections of leopard skins" she had ever seen. In a small room were uncured leopard pelts, clouded leopards, and a single tiger skin. One dealer offered her up to 50 fresh tiger skins a month if she would but place an order.

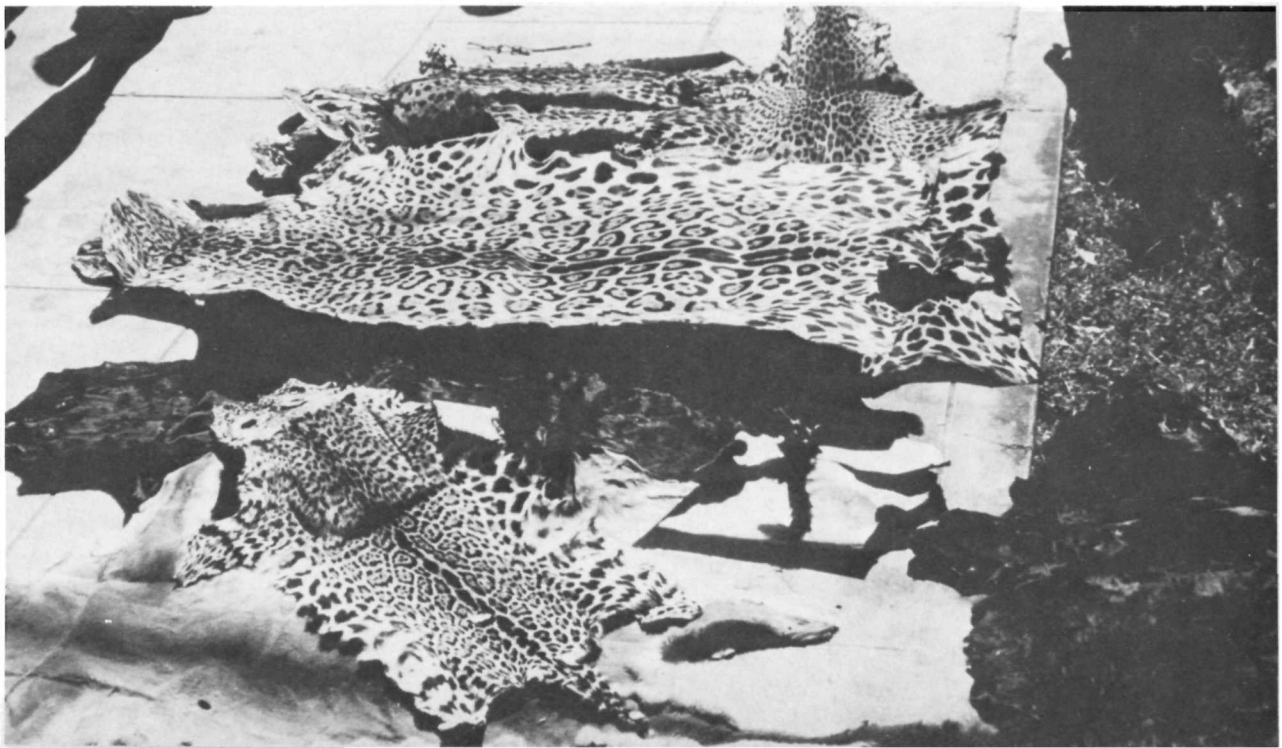
Illegal traffic in skins for the souvenir and costume market is not confined to India. Poaching occurs in Ceylon and also in East Africa, where bands of hunters play cat-and-mouse with wardens and officials hard-pressed to police vast areas.

Latin America is enjoying a skin-selling bonanza. Last year along the bustling waterfront section of Belém a trader told me that if I had a good-sized jaguar skin for sale he would be pleased to quote $180 as a starting price for bargaining. His warehouse, smelling of decayed flesh and preservative chemicals, attested to a brisk business. Skins were piled shoulder-high, many covered with tarpaulins

BELLEZZA

R. W. DOUGHTY

The cheetah, far left, although threatened with extinction, is prized in some quarters for its pelt. Left, a model displays a jaguar coat. A skin dealer in Brazil, above, holds up pelts of a jaguar and a smaller cat, both destined for export houses in Belém. Below, a variety of cat pelts is available in the backcountry of Brazil—from the large spotted jaguar and its black variant to the ocelot and smaller cats collectively called maracajá, *as well as unspotted cougar.*



R. W. DOUGHTY

against mildew and boring insects, awaiting the right price and orders telegraphed from overseas dealers.

Two other dealers in that Brazilian city at the mouth of the mighty Amazon compete fiercely with my trader acquaintance for good-quality animal products. From Belém all manner of creatures are shipped or flown to Europe, the United States, and Japan. Alligators, otters, several species of deer, the white-lipped and collared peccaries, and that strange 150-pound rodent, the capybara, accompany orders for jaguars and ocelots to such fashion marts as London and New York. In the past 5 years more than 40,000 pounds of small-cat skins have been exported from the State of Para, mostly through Belém, its capital. Compared with 1965, shipment of feline skins has increased fifteenfold to 20,000 pounds in 1969.

My contact told me that London agents prize cats from the remote and dangerous region of the River Xingú. I drove in stifling heat and clouds of red dust along the only road leading toward the drainage system of this southern tributary of the Amazon. Perils were many. My car was stopped by officials who sprayed it with insecticide against yellow-fever-carrying mosquitos. A party of jaguar hunters had been killed two days earlier, I was told, by interior Indians who have come to resent unregulated animal collecting by professional hunters in their torrid wilderness territory.

In a malaria-infested lowland town several hundred kilometers southwest of Belém and not far from the Xingú watershed one middleman took me to see his sizable skin collection. Stacked against the walls of his establishment, ostensibly an appliance store, were several dozen jaguar, ocelot, and puma pelts. He told me that the cats are trapped in the surrounding rain forest, shot through the head to avoid marking their coats, roughly cured, and sent downstream to Belém for export. As a tourist I was encouraged to slip some pelts into my suitcase, with assurances of no questions asked.

One should not be overly hasty in charging the local hunter or skin-dealer with callousness in his commerce in animals. Life in this region is hard and often is merely a hand-to-mouth existence. Malnutrition is endemic in the Amazon valley. Income from half a dozen cats, killed in the off-season for Brazil nut gathering, can be crucial to the local hunter, or to the farmer and his family struggling to make ends meet with plots of manioc, bananas, and a few domestic animals.

No, the "enlightened" approach to survival of these species rests with tourists and with women who buy coats, costumes, and rugs made from exotic cat pelts—articles that may cost thousands each. The desire to be eyecatching, elegant, and exclusive has increased pressure on wildlife populations of Brazil and other countries in recent years.

Is this tribute to vanity worth the permanent loss of superb creatures about which little is actually known? The sumptuously attired woman may feel somewhat unpredictable and dangerous in her tiger or cheetah skin, but the purchase price is the ultimate survival of the spotted cats.

Years ago when efforts were being made to halt the extermination of herons and egrets for their plumage, a slogan was coined and prompted by preservationists: "she wears the murderer's brand on her forehead." Today there are similar efforts to make costumes of endangered animal skins unpopular and morally wrong.

Last year the World Wildlife Fund, which has been active in the crusade to save spotted cats, cosponsored a Manhattan fashion show entitled "No Skin Off Their Backs." More than 500 fashion editors were attracted to the display of furs, either synthetic or from nonendangered species. The idea was to popularize artificial fur and that of farmed or domestic stock among ladies with a yearning to be different. The appeal has borne fruit in East Coast social circles. For example, an advertisement appeared in *Women's Wear Daily* in which 100 prominent personalities pledged no purchase of products made from wild or endangered species of mammals. During the summer of 1970 an article in the fashion section of *The Washington Post* told of Jacques Kaplan, whose firm stopped selling cheetah products 3 years ago. Kaplan was awarded a certificate of merit from the World Wildlife Fund for agreeing to forego sale of spotted-cat furs. During the fall of 1970 *Vogue* editorially promised not to print pictures of such products. The comment concluded: "At any rate, you won't see in the pages of *Vogue* any fur you can't buy, wear, and enjoy with a clear conscience."

Modern ecology stresses the interdependence of earth's complex life-support systems. Scientists argue that the carnivorous cats maintain healthy ungulate populations by removing the diseased, weak, old, or disabled. It also has been suggested that the predator cats represent gene pools that, for both practical and theoretical reasons, must not be allowed to vanish.

What has all this argument, persuasion, and pleading accomplished?

In Europe dealers in Paris, London, and Rome, under pressure from individuals and organizations, at least have become equivocal about the use of pelts of endangered species.

In the United States there has been a trend toward legislation curbing importation of endangered foreign animals. The national Endangered Species Act prohibits importation without special permit of any animal, bird, or reptile listed as endangered by the Department of the Interior. Although the departmental list is under constant revision, none of the spotted cats of Latin America is mentioned on it to date.

Many conservationists think the Act came too late. The fact that an animal is listed, they say, probably indicates that it cannot be saved. Furthermore, an animal must be endangered throughout its range before it qualifies for prohibition under the present law. Thus, three subspecies of leopard are prohibited from entry, but not the African leopard and some other subspecies used in the fur trade. Identification of a banned subspecies skin can be almost impossible if its source is vaguely declared or purposely falsified.

Some scientists say that it would be necessary to ban entire species to make the Act effective. William G. Conway, director of the New York Zoological Park, thinks the Act was emasculated from the start and says, "It fails to protect the very species that truly are endangered by United States commerce." The list, he says, affords no protection to African cheetahs or leopards or the snow leopard, although it protects nontrade animals like the bush-tailed rat-kangaroo and western mouse of Australia. Conway feels that the burden should be placed on the trade in proving that animals utilized are taken on a sustained-yield basis. At present, however, the burden of proof that a creature is indeed threatened with extermination lies on scientists and in a degree on conservationists.

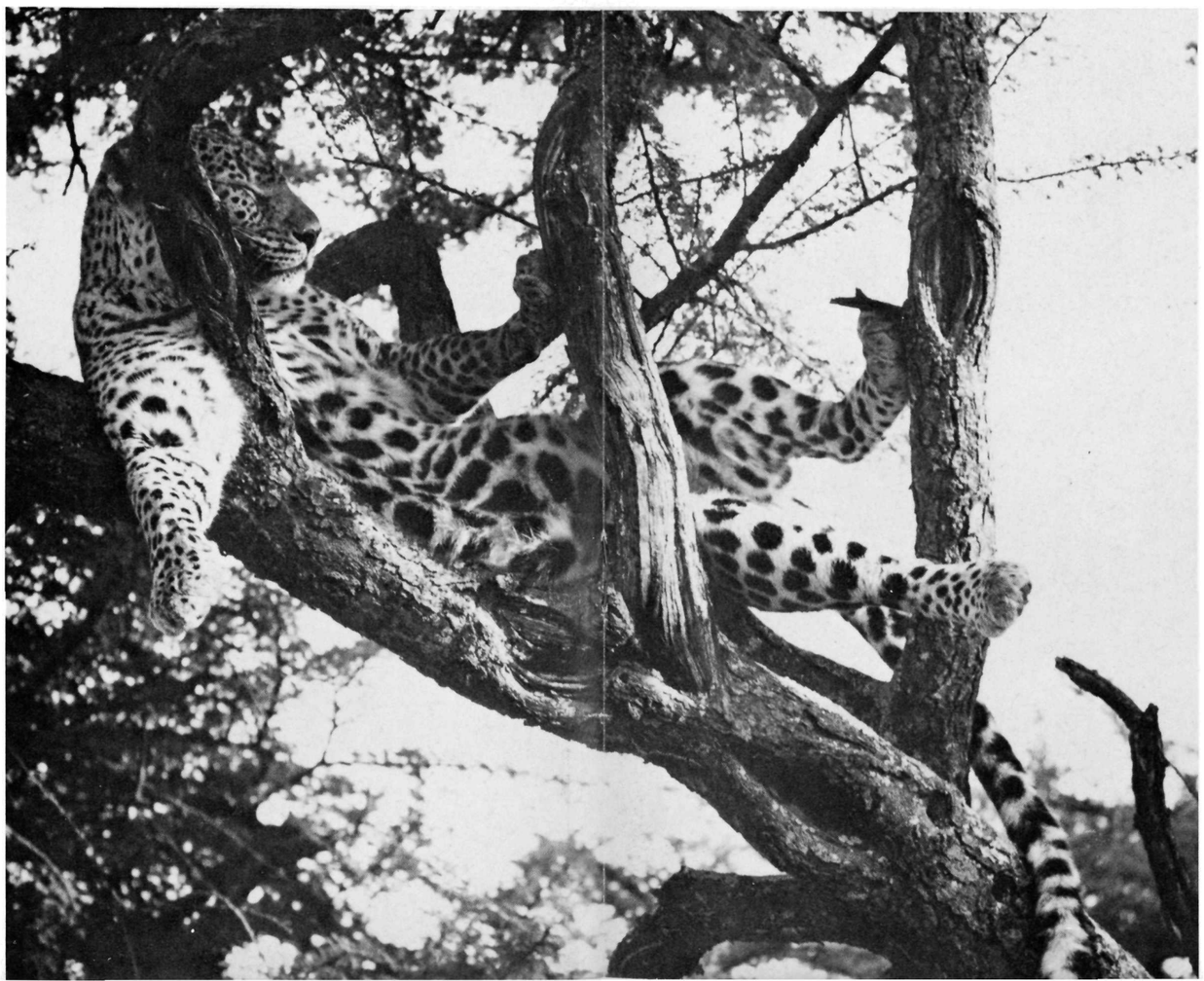
The case of the jaguar is pertinent to the point. Only now are studies being undertaken to determine basic facts about its habits and needs. What are its numbers in the torrid rain forests of Central and South America? What hunting range does one animal need? Does the cat increase its reproductive rate to offset losses to hunters? These and other questions concerning spotted cats remain to be answered. Until they *are* answered there should be a moratorium on killing them. A "business as usual" approach by the fur trade may prove only that the trade can destroy itself.

However, historians of costume warn us that few fashions have ever been legislated out of existence, and the future of the spotted cats really lies in the hands of women who buy their skins. Beyond the social question involved in the purchase of cheetah and jaguar coats, ecological, ethical, and esthetic considerations are being pressed on women able to purchase such tinsel luxuries.

We are eliminating today one species of mammal per year, if involuntarily. Should we further this loss with sacrifices on the altar of fashion? Will our children and their children accept artfully prepared museum specimens of many species as part of their inheritance? Is it our right to decide that African nights shall be without the rasping roar of the hunting leopard? We ourselves were denied the chance to see a Carolina paroquet in the Florida hummocks or to hear the thunder of passenger pigeon wings. Does this matter? Increasingly, people in this country and elsewhere are thinking that it does.

Historically, the cats have suffered under a misguided human philosophy that dictated that "the only good predator is a dead one." Today there is a somewhat different situation. It now seems likely that the future of the spotted cats, at least, may depend upon the whim of fashion. The beautiful animals have so far managed to survive the first assumption, but only a strong appeal to human sympathy will get them past the second. ■

NORMAN MYERS



Robin W. Doughty is keenly concerned about endangered species, especially those demanded for their pelts. Currently teaching at the University of Texas, he is interested in the status of certain reduced birds and animals and in alien creatures introduced into the state.

ROBIN MOYER

WOLF TRAP FARM
first national cultural park

ALICE DENNIS

Wolf Trap Farm Park, located in the wooded Virginia countryside 25 minutes from downtown Washington, opened in the summer of 1971 as the first component of the national park system to be dedicated to the performing arts.

Innovative as it is now, within three years the Wolf Trap Farm concept will offer even more: an in-depth program by the Park Service to establish a vital partnership between the public and the arts in a sylvan setting reminiscent of the ancient glades where music, mime, dance, and drama evolved in the first place.

Under the rather dryly titled "Division of Urban and Environmental Activities," the Park Service plans to introduce park visitors to the arts on a "let's try" basis and encourage them not only to observe and enjoy but to experiment with ballet, modern and interpretive dance, acting, conducting, and musicianship under the guidance of resident and visiting artists. The range would involve not only the classical repertoire but popular performing arts as well, including soul, jazz, blues, and rock.

"Lack of appreciation is sometimes only lack of understanding," says Gil Lusk, superintendent of the new park. "We want to bridge the communications gap and bring the public into contact with the performers and their media."

Wolf Trap Farm Park is a daring experiment and probably the first on such a broad public basis. Gerald Holmes, general manager of the Wolf Trap Division of Performing Arts, explains it this way: "In the 'Civilisation' film series, Sir Kenneth Clark pointed out that a civilisation is known ultimately by the book of its arts. It is our hope that 1971 may be marked in the records not for upheaval and violence but as the year that Wolf Trap Farm Park concept came into being, giving Americans a place where in a natural setting their artistic creativity can thrive."

This is pioneering on a grand scale. What has long been the province of the urban and suburban theater for a relatively small portion of the population hopefully will burgeon into enrichment of the many in a natural rural landscape. As Gerald Holmes points out: "The theater has come home."

During its first summer season the park activities revolved around the new Filene Center for the Performing Arts, a $2.3 million open-air auditorium, gift to the American people along with most of the park's 117 acres from Mrs. Jouett Shouse, significantly both a Washington art patroness and a devotee of the countryside. The former Shouse farmhouse, a 200-year-old log and mortar structure, remains a neighbor of the modern Filene Center, named for the donor's late parents, Mr. and Mrs. Lincoln Filene of Boston. The ancient farm building is used as a temporary Park Service headquarters. Named because wolves plagued the livestock of early settlers, the area that later became Wolf Trap Farm saw bounties on the wild animals paid during both the seventeenth and eighteenth centuries.

Mrs. Shouse raised horses and dogs at the farm. When construction of Dulles International Airport access highway divided the estate, she felt that she wanted to save "a bit of natural unspoiled land on the Virginia side of the Potomac River for the relaxation and recreation of people of all ages, where people could relax in a peaceful and historic setting and have an opportunity to listen to the works of great composers or attend performances of opera, ballet, jazz, the theater, and all other forms of the performing arts."

In 1961 she donated some 38 acres of her Virginia farm to the American Symphony Orchestra League (the national association of symphony orchestras) as a site for its national headquarters, and in 1966 she gave the balance of the farm to the Department of the Interior. The league followed suit to make the entire farmland available for an arts park. Although Congress had rejected the park offer once, former Secretary of the Interior Stewart L. Udall accepted plans on May 20, 1966, pending legislation to establish the area as a unit of the national park system. The congressional act came in October 1966.

Launching the first summer season was not without its crises, including a $650,000 fire in the Filene Center in the early hours of March 13, when the structure was only 5 weeks from completion, 85 percent ready. The fire began following a series of explosions at about 2:55 a.m. and raged up a cedar acoustical column and across the wooden stage facing to spread to the roof and its supports. Nevertheless, the center determined to open in July, and a reorder was immediately made for shipments of Oregon cedar, of which the building and stage facing are made. A special concert benefit to help pay for the fire repair was given at Constitution Hall in Washington in May by the New York Philharmonic Orchestra under Pierre Boulez and by Duke Ellington's Orchestra and singer Nancy Wilson. Tribute was paid to the indomitable Mrs. Shouse, who kept a weather eye on the reconstruction, hard hat and all.

The Filene Center is currently a roofed open-air pavilion for summer use, but it was designed so it could be enclosed, heated, and air-conditioned for year-round use. Vistas of the Virginia countryside and sense of open air now fall like living drapes among the acoustical cedar columns. At a single performance 3,506 persons can be seated under the roof and an additional 3,000 on the lawn sloping toward the entrances.

The 10-story-high stage area, second largest in the nation (next to that at Lincoln Center for the Performing Arts in New York), can hang 118 sets at one time. The proscenium arch is 70 feet wide and 28 feet high; stage width, 100 feet; depth, 64. Flanking the stage in graduated columns are the acoustical baffles, which descend in height with the roofline from stage to theater front.

The balcony is reached by a ramp and cannot be entered from inside the building. It accommodates 1,054 persons and boasts 50 boxes. Entry to orchestra level is via tiers of steps that cross the grassy outdoor seating. The rehearsal space at the rear of the stage is open to the backdrop of the Virginia woods. Accommodating 116 musicians, the orchestra pit is on the lower level along with a series of private and semiprivate dressing rooms, offices, wardrobes, instrument room, property room, movable dressing room units, sound equipment, general storage, and the elevator.

Chief architectural materials are Oregon cedar and fir, which will remain untreated to silver with time. The archi-

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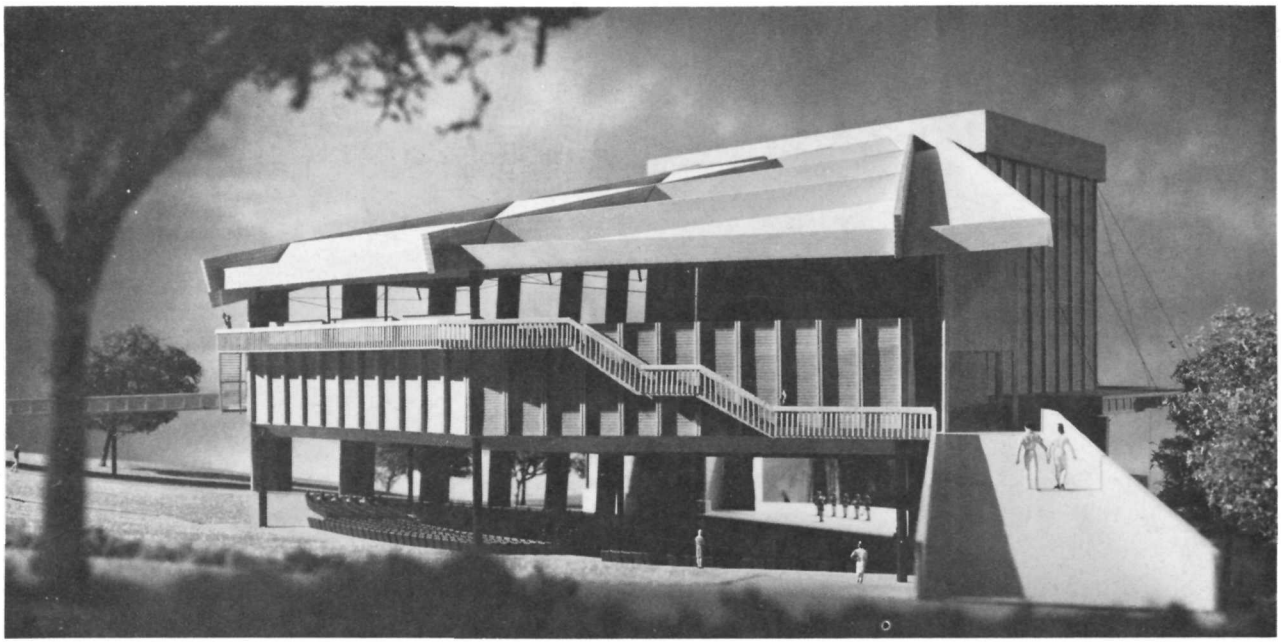
Alice Dennis, at one time a newspaper reporter and editor, is a freelance writer specializing in nature-oriented subjects. She has contributed to *National Parks & Conservation Magazine* among others.



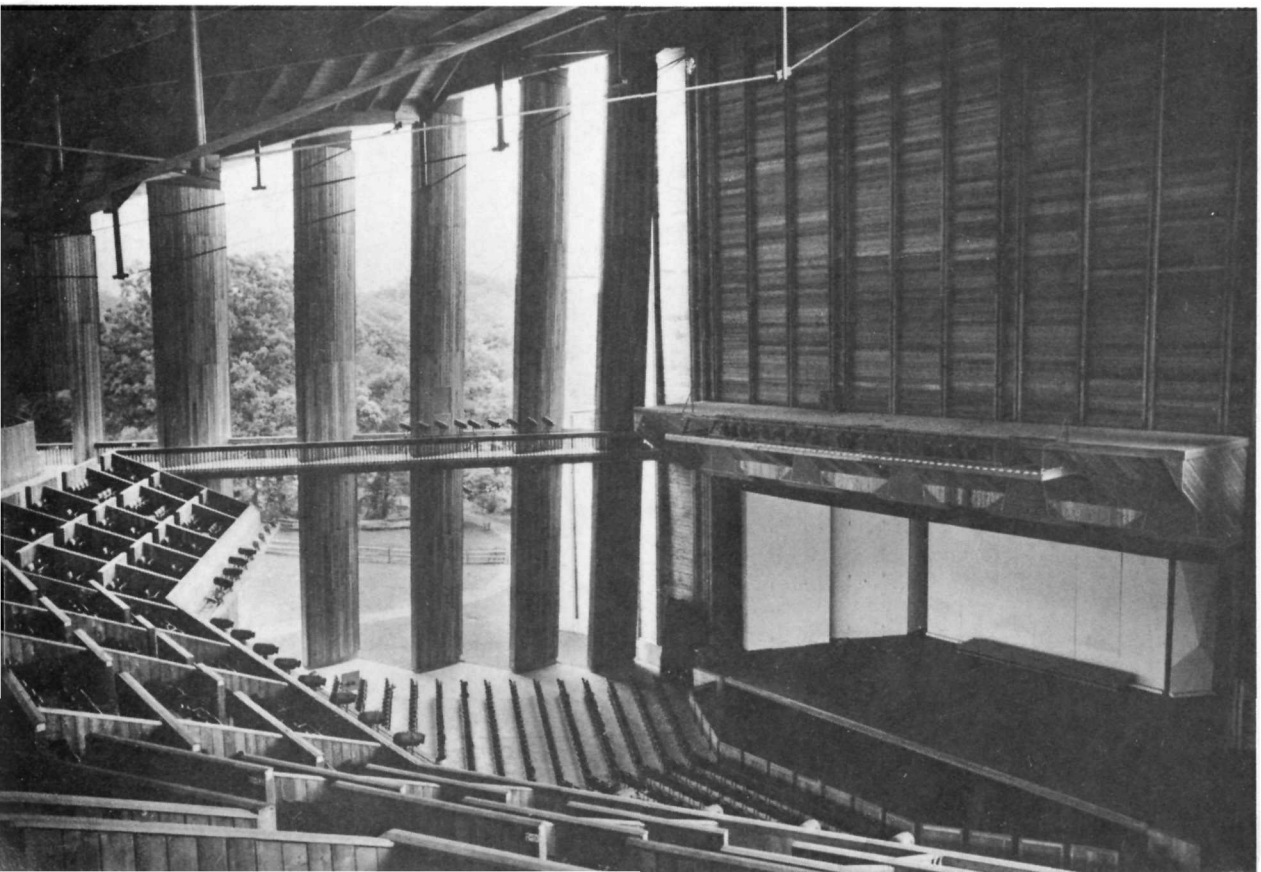
LOUIS CHECKMAN

tects, John F. MacFadyen and Edward F. Knowles of New York, who also designed the Saratoga Center for the Performing Arts in New York State, resisted the temptation to make the building rustic and turned out a svelte, sophisticated structure. The spectacular multicolored curtain of handspun mohair yarn was woven in Swaziland onto a nylon warp in deference to Washington's humid weather. With the pavilion always open, the elements, including wind and rain, make their presence felt.

The first summer's agenda offered the public a broad choice including American symphony orchestras, the Stuttgart Ballet, Voices of East Harlem and Watts, the thirty-third National Folk Festival, big band jazz, and the Ann-Margret Las Vegas revue, among others. An original production in August was mounted especially for the stage by the Wolf Trap Company, 60 young performers selected by competition for a resident musical theater ensemble at the park.

As general manager of the Filene Center, Gerald Holmes will develop and administer the presentations. Now a Park Service employee, he is a native of Hampton, England. He came to Washington in 1968 from Montreal, where he was executive assistant to the artistic director of the Expo '67 World Festival of Entertainment. Educated in London and

ROBIN MOYER



Between the cedar columns supporting the Filene Center the walls are made of woods, grass, and open air. Moon and fireflies take part in evening performances. The interplay of enclosed and natural spaces is an essential feature of the first national park for the performing arts.

CECIL STOUGHTON, NATIONAL PARK SERVICE

In spite of a damaging fire in March of this year, the Filene Center opened in July nearly on schedule. Mrs. Jouett Shouse (below), who donated both the park land and the building to the National Park Service, seemed undaunted by the setback. Crowned in a hard hat, she oversaw the reconstruction. The view of the model (opposite page) shows the Filene Center inside and out: ramps lead to the balcony, and the orchestra section extends onto grassy slopes.

JACK ROTTIER, NATIONAL PARK SERVICE

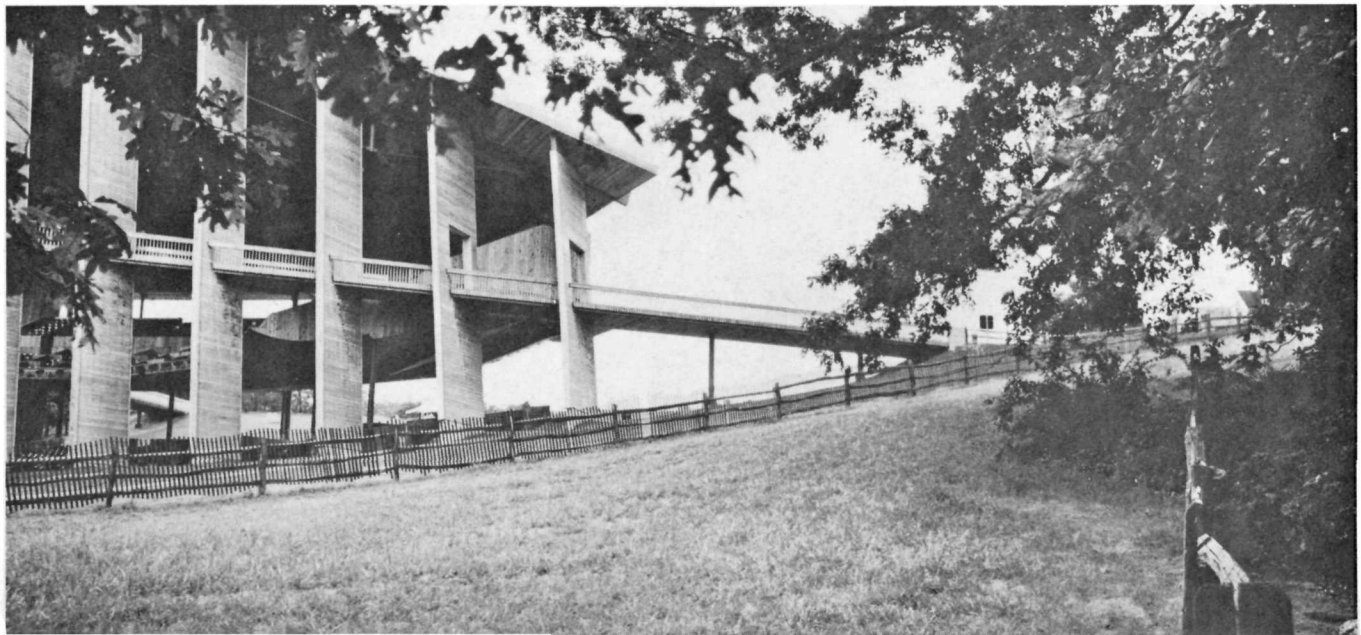
Paris, his background includes not only acting and stage management for Sir Laurence Olivier at the Chickester Festival Theater but house management for the Royal Shakespeare Theater at Stratford-Upon-Avon as well.

John Aho, a Park Service career officer who is chief of urban and environmental activities at Wolf Trap Farm Park, arrived in May 1971 after serving as an environmental and interpretive naturalist at Fire Island National Seashore. A young man who quietly combines his great respect for nature and the arts with enthusiasm and common sense, he immediately began arrangements with inner-city church, civic, and recreation groups to bus urban children to this haven of green meadows, trees, and woodlands, which enhance but do not dominate the sights and sounds of performers dancing and singing upon the stage.

The youngest superintendent in the Park Service, H. Gilbert Lusk, 27, is an 8-year career officer. He arrived at Wolf Trap Farm Park in November 1970 after serving as an environmental programs specialist for the southern Utah group of national parks (Zion and Bryce Canyon National Parks, Cedar Breaks National Monument, Capitol Reef National Monument, Pipe Spring National Monument) and as a visiting instructor at the Albright National Park Training Center on the south rim of the Grand Canyon.

Although the Park Service maintains and operates the park, the government provides no funds for programs. Hence, the privately financed Wolf Trap Foundation for the Performing Arts was established in 1968 to contract and finance programs for the Filene Center and to bring serious young artists to study under the critical direction of professionals. Mrs. Shouse is a donor to the foundation, whose board of directors includes many distinguished Americans.

ROBIN MOYER



Within the next few years a visitor pavilion will be built on park grounds. This facility will serve as a year-round resources center for study and interpretation of the arts, containing offices and information areas. It will also include a small theater accommodating 100 to 300 persons. The pavilion will be used for chamber music recitals, for appearances by individual artists, and for special area interest groups such as school and little-theater units.

Also in the offing are plans for three satellite "grove amphitheaters," each scarcely more than a small shell or platform raised within a bower of trees in an undisturbed setting. Widely separated, they will serve as accent stages where the public may witness the way music, dance, and drama originated and may interact with artists in order to learn, to try out, to understand, and to enjoy. When not committed to Wolf Trap Farm Park artists, the satellite pavilions will be made available to community groups via Park Service special use permits. The Activities Division hopes to integrate school programs with Wolf Trap Farm presentations and to use such resources as the grove amphitheaters to attune students to a more natural environment, showing how music, for instance, stemmed from such origins as the shepherd's pipe and bone rattles, and how ancient religious rites in wooded settings inspired the beginnings of formal dance and drama. Four cottages donated by the Wolf Trap Foundation will be scattered throughout the park for summer artists-in-residence.

As Gil Lusk says: "Unlike other national parks, Wolf Trap Farm has no prime resources except what man brings here. The performing arts are a major part of our cultural heritage and are of national significance. In a natural setting the public will be invited to learn why the arts are crucial to man and how they communicate the highs and lows of his emotional experiences."

Although picnic facilities will be available and the estate's bridle trails will be maintained through the forest, the park's emphasis is keyed to the arts. A minimum of recreation is offered—except for the soul.

A parking lot with 1,400 spaces has been located over the brow of a small knoll so it will not interfere with vistas near the Filene Center, which like a fine Viking ship crests out of the Virginia greenery. The Dulles International Airport access highway passes within a short distance of the center, but tall evergreens have been added as natural sound barriers.

Having disturbed as little of the farm environment as possible in constructing the Filene Center, the Park Service has consequently continued on neighborly terms with the wildlife indigenous to the surrounding forests and meadows. This summer city folks viewed pileated woodpeckers nesting near the cedar-robed pavilion, and visitors wandering the bridle trails glimpsed secret pleasures of undisturbed woodlands.

The sound of song and instruments registers among the leaves in practice sessions and during performances as they did in the days of those who gave us our first music. Performers joyously bow to applause from an audience that during intermission strolls beneath the Milky Way. There is nothing artificial about the meeting of people and the arts at Wolf Trap Farm Park. Hopefully there never will be. Mrs. Shouse gave the two a handsome common ground.

Joseph Godfrey, one of the National Park Service construction representatives at the Filene Center, looked up at the balcony from the huge stage one day just before the Park Service accepted the structure from the contractor.

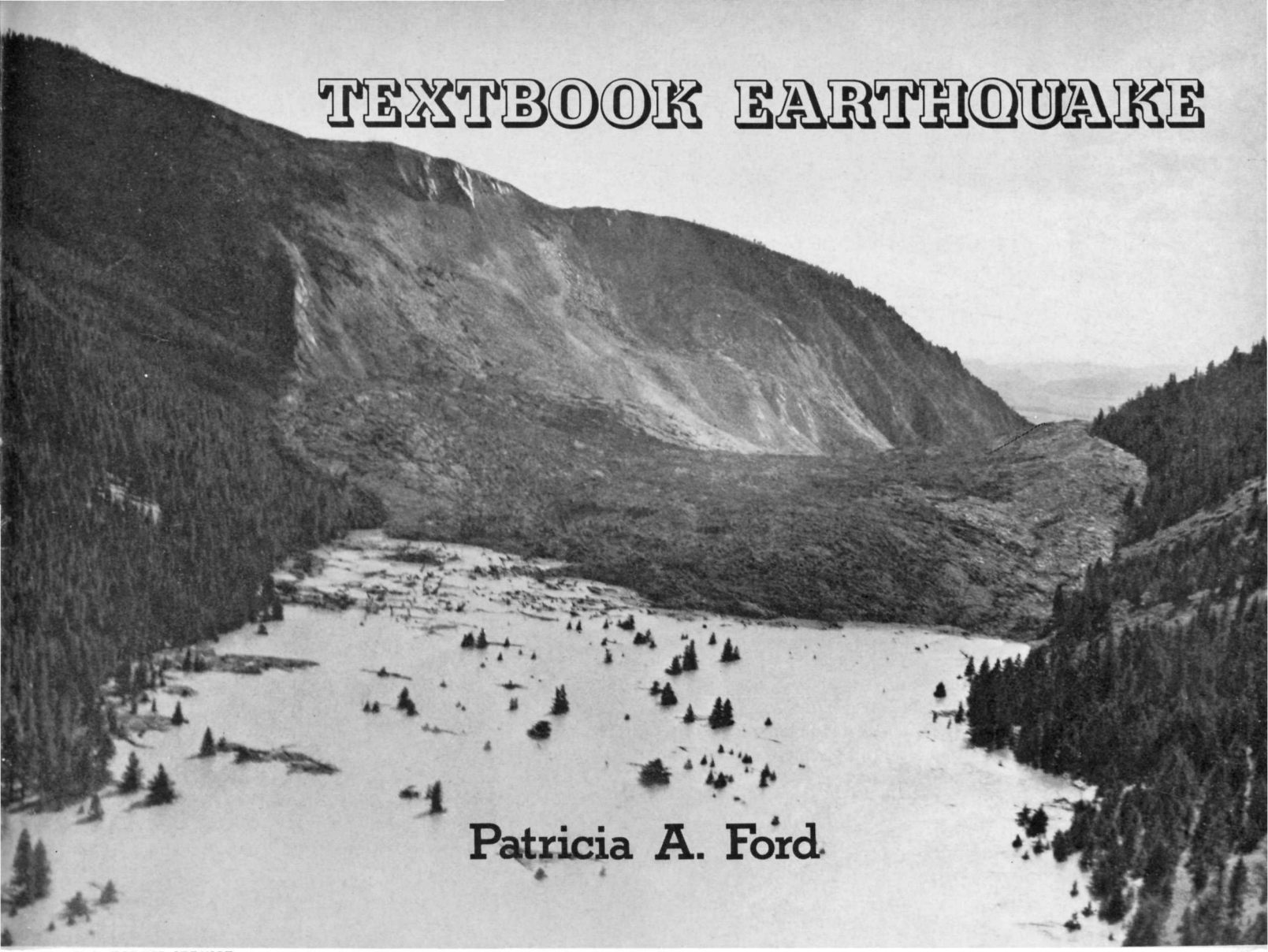
"Ah, yes," grinned Joe, as he watched nestlings being fed high upon a roof beam, "the birds have found us."

And so have the people. ■

ROBIN MOYER

TEXTBOOK EARTHQUAKE

Patricia A. Ford



U.S. FOREST SERVICE

Earthquake Lake forming behind slide. Origin of slide is top of mountain on the left.

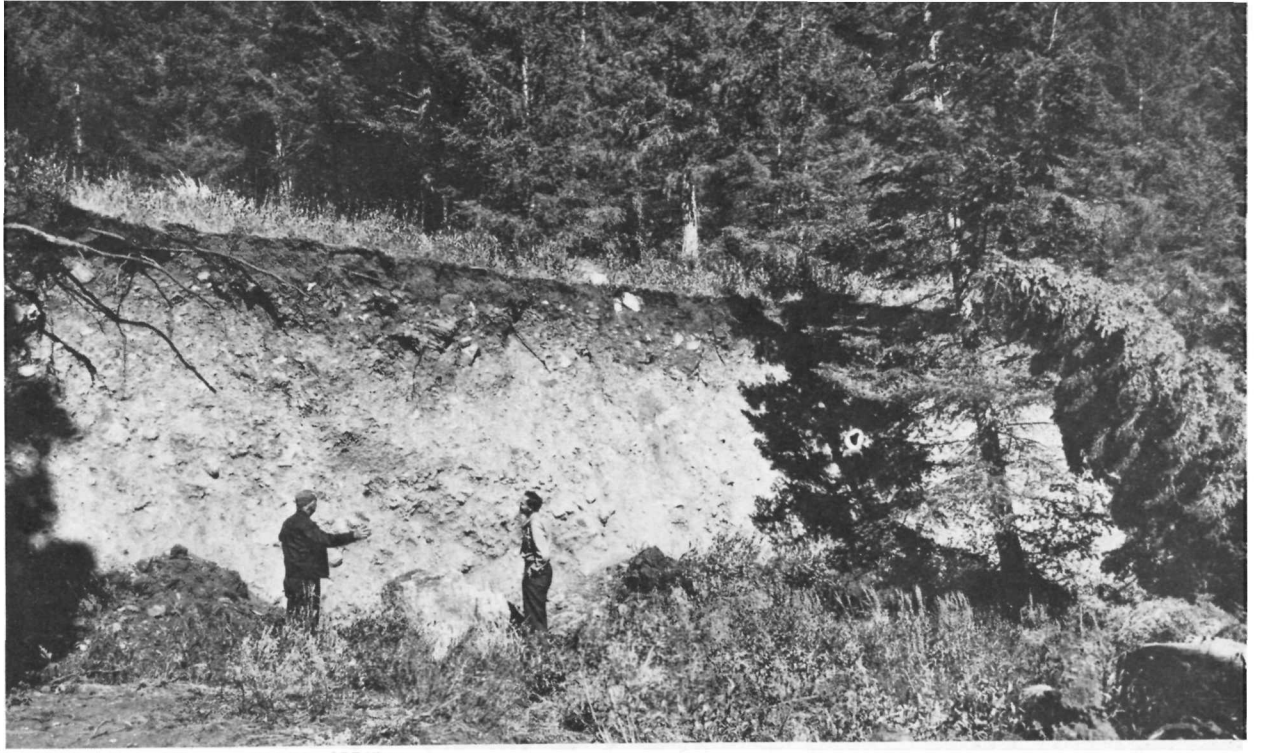
In the Gallatin National Forest of southwestern Montana, some fifteen miles west of the Yellowstone National Park boundary, the U.S. Forest Service has created a memorial to nature in a violent mood. For the benefit and study of Americans the Forest Service has preserved a great earthquake and the changes it wrought in the canyon of the Madison River.

Twelve years ago the Madison River Canyon was a favored locality for campers and fishermen. Flanked by steep pine- and aspen-covered walls, the river sparkled in the sunlight of the valley floor.

At midnight on August 17, 1959, the earthquake struck. One of the strongest ever recorded in the United States—7.3 on the geologists' scale of intensity, as compared with the 8.2 of the great San Francisco quake—it toppled a mountain, dammed a river, and created a lake. With a power estimated as equal to that of 2,500 Hiroshima bombs, the mighty tremor triggered one of the largest quake-caused slides ever recorded in North America. It reactivated an ancient earthflow, left 20-foot-high fault scarps, and pitched resort cabins into Hebgen Lake.

In fact, the enormous shock did almost everything an earthquake can do, and for that reason geologists have called it "the textbook earthquake." Because the region so graphically illustrates the effects of a major earthquake on man and his environment, the Forest Service has set aside 37,800 acres in this corner of the Gallatin National Forest as a geological reserve. In the reserve, officially called the Madison River Canyon Earthquake Area, the scene has been allowed to remain, so far as possible, as it was the morning after the quake.

The most dramatic chapter of this lesson in living geology begins with a landslide that looms at the western end of the canyon. Before the quake the towering mixture of rock and trees had formed the top of a 7,000-foot mountain, beneath the pine-covered surface of which lay strata of soft, weathered rock. Only a marblelike ridge of dolomite held the layers in place; and, as geologists later noted, "It

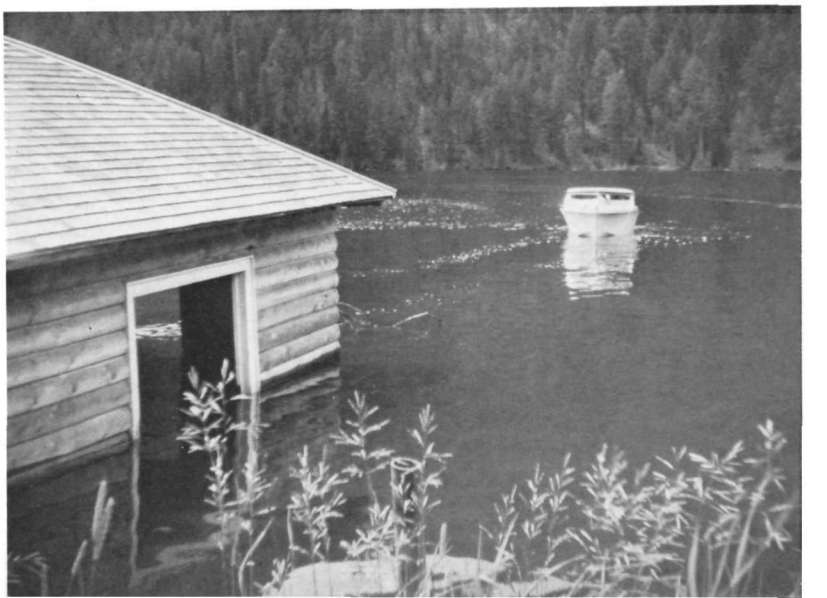


W. E. STEUERWALD, U.S. FOREST SERVICE

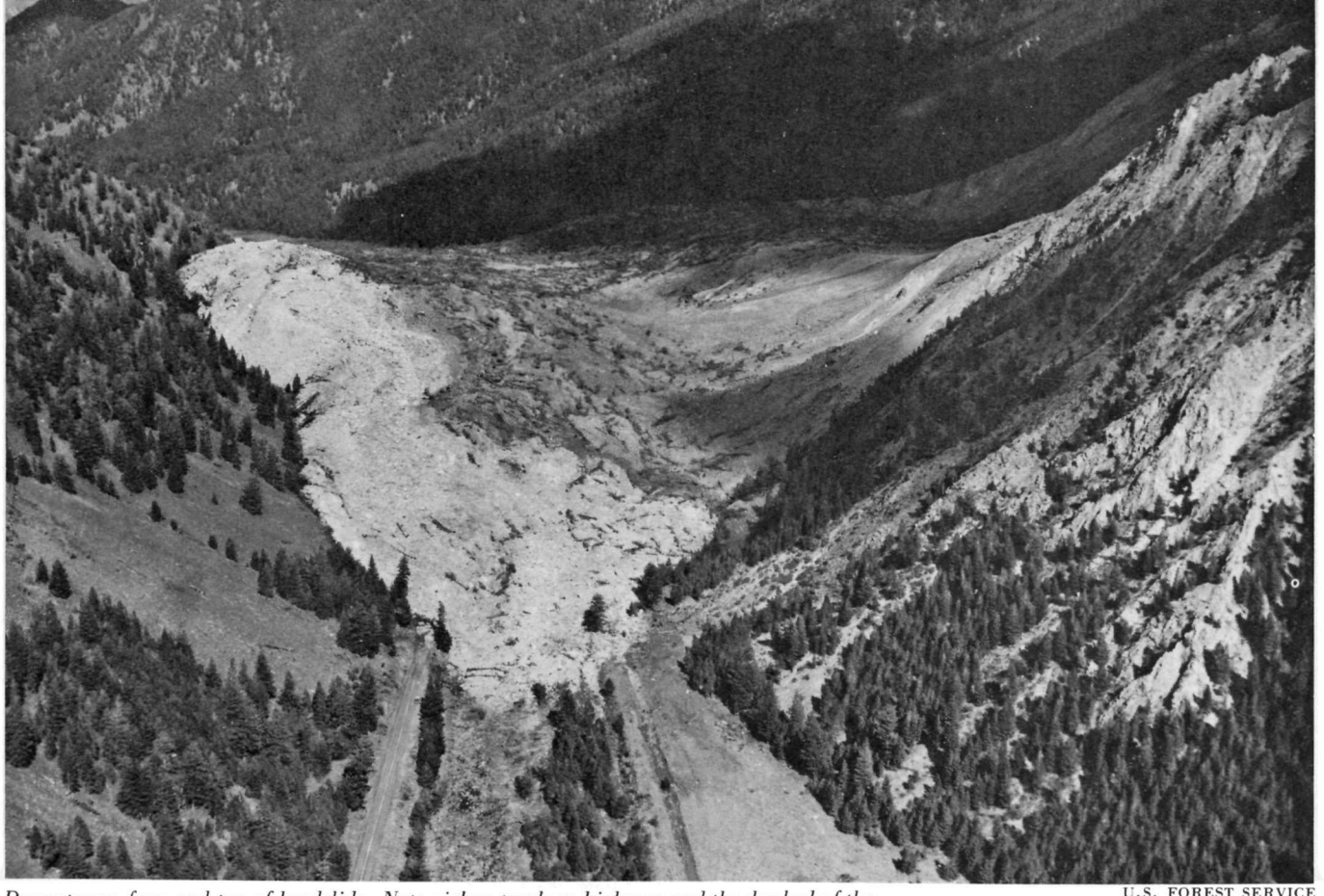
U.S. FOREST SERVICE

Above, fault scarp, or vertical displacement where the earth fractured and dropped, across side of a mountain paralleling Hebgen Lake. Left, large sections of the highway were plunged into the lake. Fault scarps parallel the northeast lake shore for several miles.

PATRICIA A. FORD



Cabins on the north shore of Hebgen Lake were flooded when the earthquake tilted the basin of the lake.



Downstream face and top of landslide. Note pickup truck on highway and the dry bed of the Madison River paralleling highway.

U.S. FOREST SERVICE

was a dynamically unstable slope ready for a period of unusual rainfall, a violent flood, or an earthquake to set it in motion."

When the quake struck that August night, the mountaintop shattered. Eighty million tons of rock moving at a hundred miles an hour thundered down the canyon wall and slammed into the Madison River, the momentum carrying part of the avalanche 400 feet up the opposite wall of the canyon.

Out of this violence came another story in earth-shaping: the birth of a lake. When the landslide roared into the valley it blocked the Madison River, which backed up swiftly, shoving a wall of mud and rock before it. In a matter of minutes "Earthquake Lake" began to rise. Although a spillway was later cut through the impounding slide, the young lake today is 100 feet deep.

The forces that created the new lake also made some alterations in an old one. Hebgen Lake, at the southeast end of the canyon, actually is a 7-mile-long reservoir created in 1913 when a power company dammed the Madison River. The quake broke the earth's crust beneath the Hebgen reservoir, tilting its basin to raise the south shoreline 8 feet over its previous level. Roads and cabins on the north shore were inundated by the change in contour.

The earthquake also caused another geological phenomenon. Great waves, technically known as "seiches," began to surge back and forth across the lake. Four times the oscillating water swept across the lake, alternately flooding one shore and then the other, swelling and receding with a freight of boats, docks, and debris. Although dropped 9 feet by the quake, the big earth-core dam miraculously held.

Near Cabin Creek, immediately downstream from the dam, the earth was fractured by the quake. The exposed face of the break—the fault scarp—is as much as 16 feet high at this locality and is one of the freshest and most spectacular scarps in the country. Great trees with roots exposed still hang precariously near the edge of the displacement.

Other earthquake phenomena such as sand spouts, ground fissures, and earthflow are scattered throughout the area. Although erosion alters them constantly, the phenomena are dramatic witness to one of the forces that has shaped our planet.

Another and sadder chapter in the geologic drama enacted here tells of human tragedy. Twenty-eight persons lost their lives in the valley that night, and the Forest Service has dedicated in their memory the Madison River Canyon Earthquake Area "for all its values . . . its resources, its geologic history and its deep human meanings."

Already more than 2 million people have come to Madison Canyon to study its earthquake story. Today, 12 years after the quake, the canyon is once more a scene of natural beauty. Lupine and goldenrod cover the valley floor, children play in campgrounds. Deer and elk graze the riverside meadows, and the Madison flows swiftly northward to its meetingplace with the Missouri. All is calm.

But masked beneath the outward tranquillity of the Madison River Canyon the ageless forces of earth-shaping work quietly at their slow tasks, perhaps one day to be quickened again by an episode of violence. ■

NPCA at work

On the Cannikin test The position of the National Parks and Conservation Association on the proposed Cannikin nuclear test shot, scheduled by the Atomic Energy Commission for late October at Amchitka in Alaska's Aleutian Islands, was made clear in an editorial that appeared in the August 1971 issue of this Magazine under title of "Amchitka." The editorial said that the test ought to be canceled, explained why, and appealed to the President to order it canceled.

As the AEC moved closer to the test date, several scientific, environmental, and concerned-person organizations, including this Association, challenged the government's position—that the test should proceed—in U.S. District Court for the District of Columbia. Suit was filed on the grounds that the AEC's environmental impact statement did not meet requirements of the National Environmental Impact Act; that some official environmental impact reports possibly adverse to the nuclear shot had not been considered; that the Amchitka shot might violate the Limited Test Ban Treaty of 1963, and that the effects of the five-megaton test on animal life at Amchitka, including several endangered species, would be disastrous. During the latter part of August District Court Judge George L. Hart, Jr., rejected these arguments.

The organizations then appealed the District Court ruling to the U.S. Court of Appeals. On October 5 a three-judge panel of the appellate court remanded the case to District Court for further consideration, saying that the earlier proceedings had foreclosed the chances of environmentalist and other interested organizations to prove their arguments. Proper procedure under the National Environmental Impact Act involves "setting forth the environmental factors involved in order that those entrusted with ultimate determination whether to authorize, abandon, or modify the project, shall be clearly advised," the Court of Appeals said.

Planning at Yosemite The outline of wilderness in the park system continues to take shape. During September the National Park Service held public hearings in California on its wilderness and master plans for both Yosemite Park and Point Reyes Seashore, on which occasions Jonas V. Morris, the Association's park system representative, presented NPCA's comments.

Summed up briefly, the Association felt that the Service's wilderness plan for Yosemite seems to be the best so far produced for a park system unit. The plan includes nearly all federally owned park lands suitable for designation, with emphasis on the vast Yosemite backcountry. The one major exclusion—the Hetch Hetchy region with its reservoir and related structures—seems well justified, as is the exclusion of certain small management and research tracts within the park.

A minor change recommended by the Association was elimination of the Service's proposed eighth-mile-wide buffer zone between wilderness and adjacent national forest lands for management purposes, to prevent possible future developments. Also recommended were wilderness lines drawn at roadsides rather than along road corridors.

Comment on the Service's master plan for the park mainly concerned the increasingly obvious need for getting the private automobile out of the park, with substitution of public transportation; and the need for severe restriction of further park development. This would mean, the Association said, no additional roads, lodges, or cabin facilities, reasonable limitation on more campgrounds, and careful control of visitor facilities and services, which might well be located at convenient sites adjacent to the park but outside its boundaries.

Planning at Point Reyes At Point Reyes Seashore in California, where the Park Service has not been so generous in wilderness planning as at Yosemite and where terrain is even more delicate, NPCA has proposed several alterations in Service wilderness and master plans. As developed by the Association, wilderness at Point Reyes would include, with a few minor exclusions, the entire Seashore except for beach areas along the southwest coast of the peninsula and the Coast Guard reservation at its tip. Suggested major changes in the Park Service master plan were transfer of most visitor facilities—particularly overnight facilities and campgrounds—to locations outside Seashore boundaries, and abandonment of private automobile transportation in the preservation. Under NPCA's alternatives, the visitor parking area and access point to the Seashore would be at NPS headquarters, with public transportation to and from beaches and trailheads by shuttlebuses and coaches having ample luggage capacity for hiking and picnicking gear.

The Association also recommended that the Park Service reduce the number of campgrounds now seen for the Seashore in the master plan and said that those built in future should be small, simple, and compatible with wilderness surroundings. This, the Association said, would mean phasing out automobile-associated camping at Point Reyes.

More TVA dams? The Tennessee Valley Authority currently is proposing 14 impoundments on the French Broad River and its tributaries in western North Carolina, for flood control, water supply, and recreation. At a TVA hearing on one of the units of the project (the Mills River dam) NPCA's views on the matter were presented by E. W. Johnson, of the Upper French Broad Defense Association, based at Brevard, N.C.

Briefly, the Association questioned whether the project could be justified either economically or environmentally, saying that it appeared little or no serious thought had been given less destructive alternatives. The project would flood some 6,000 acres of farmland and displace 600 families. With a very low cost-benefit ratio based in part on recreational benefits, the project merely would

Continued on page 30

T 438

"In the heart of the wilderness" — May the Joy of Christmas be with you, etc. — **Lenox**

T 561

"Open face of heaven,..." — May every happiness be yours at Christmas, etc. — **Lowdermilk**

T 445

First Snow for Grizzly Cubs — Good Will at Christmas and...all the New Year — **Van Howd**

T 439

Mallard Wings — May the Peace and Happiness of Christmas be with you all Year — **Van Howd**

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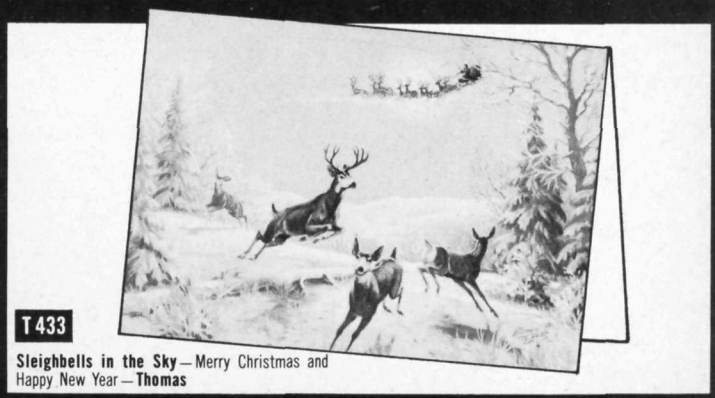


T 433

Sleighbells in the Sky — Merry Christmas and Happy New Year — **Thomas**

T 749

Cathedral in the Forest — May you have the Spirit of Christmas which is Peace, etc. — **Husberg**

T 447

Moose Country — Christmas Greetings and Best Wishes for all the Year — **Peters**

T 434

Bobwhite Flushed — May there come to you an abundance of the precious things, etc. — **Van Howd**

T 444

"Thou fill'st the solitude" — May the Spirit of Christmas Abide With You, etc. — **Barks**

T 442

Starlit Pronghorn — Best Wishes for a Merry Christmas and a Happy New Year — **Lenox**

T 441

Canadian Paradise — May the Spirit of Christmas Abide With You, etc. — **Van Howd**

T 453

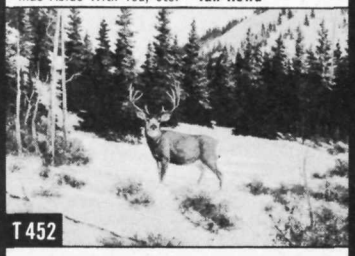
Rainbow Wilderness — With every good wish for Christmas and the New Year — **Van Howd**

T 440

"...old days, old times, old friends" — Merry Christmas and a Happy New Year — **Nicles**

T 372

"Lift up mine eyes unto the hills..." — May you have the Spirit of Christmas, etc. — **Chamberlain**



T 452

"In Wildness is the Preservation of the World" — With every good wish for Christmas — **Peters**

T 450

The Elk's Call — Happy Holidays and Best Wishes for the Coming Year — **C. M. Russell**

T 435

"In the heart of the wilderness" — May Peace be your Gift at Christmas, etc. — **Barks**

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Continued from page 28

substitute reservoir recreation for natural stream recreation, which already abounds in the region. The flood control value of big dams has always been questionable, NPCA said; a better approach to the problem of flood damage would be rational floodplain development—where development is indicated—along with flood insurance, zoning ordinances, covenants, easements, and public acquisition where necessary.

In regard to the water quality aspects of the project the Association noted that the dilution of pollution, as proposed, merely washes pollution problems downstream to become the concern of others. Effective enforcement of clean water standards would take care of pollution problems, making environmentally destructive projects like that proposed for the French Broad River unnecessary.

On sea mammals The House Subcommittee on Fisheries and Wildlife Conservation recently held hearings in Washington on the present serious position of most oceanic mammals and on a proposed measure to halt their prospective extermination through overhunting. Under terms of the measure ocean mammal protection would be public policy in the United States and would be urged as international policy through negotiations with foreign governments. Animals covered by terms of the bill are seal, whale, walrus, manatee or sea cow, sea otter, sea lion, polar bear, porpoise, and dolphin.

NPCA generally supported the aims of the measure in testimony presented on invitation by John W. Grandy IV, Association administrative assistant for wildlife. Grandy suggested, however, that for the present at least it might be better to eliminate the fur seal from the bill's provisions, since relaxation or elimination of the treaty under which seals are presently taken might well lead to extermination of the animals. The point was also made that the existing seal treaty provides clear evidence that international agreements on wildlife protection are workable.

Grandy agreed with a provision of the bill allowing Indians, Aleuts, and Eskimos to continue taking sea mammals for their own food and shelter in accordance with long-held traditions.

Another good provision of the measure, as seen by the Association, was that which would bar sale of ocean mammal products in the United States, an important first step in comprehensive protection. Also recommended was additional protection for the manatee, or sea cow, through exclusion of powerboats from coastal waters in which it concentrates.

It was suggested further that an Ocean Mammals Review Commission be established to administer and support research on ocean mammals. Specifically, NPCA desires increased and continuing study of the life history, behavior, and ecology of these splendid animals, Grandy testified.

Teton River dam NPCA recently has written both the chairman of the Council on Environmental Quality, Russell E. Train, and Secretary of the Interior Rogers C. B. Morton arguing against construction by the Reclamation Bureau of the proposed Teton dam on the Teton River in northeastern Idaho. The dam would flood about 2,700 acres of valley and canyon lands including winter range for some 1,000 deer and elk. It also would destroy about 17 miles of trout stream in a highly scenic canyon, with alteration of downstream ecosystems common to the big impoundments.

Benefits of the dam, seen for the most part as irrigation, flood control, and recreation, seem overestimated, the Association said. High-cost reclamation and irrigation projects like the Teton dam are not needed; and if national agricultural production stood in need of further stimulation, more fertile lands in other parts of the country would be better suited. As to the flood-control features of the proposal, NPCA said that the value of the big dams for the purpose is economically questionable and results in transfer of flooding problems downstream; that a policy of zoning, covenants, easements, flood insurance, public acquisition, and minor local flood-protection works would be the better approach to flooding problems. So far as recreational benefits of the dam are concerned, NPCA questioned whether reservoir-based recreation could ever compete with the benefits of a free-flowing river like the lower Teton.

Predator control The Secretary of the Interior's recently appointed Task Force on Predator Control Programs, which is looking into the nation's rodent and predator control policies with special reference to those of the Fish and Wildlife Service's Division of Wildlife Services, recently requested the views of interested conservation organizations.

In responding to the Task Force's invitation, NPCA has recommended complete protection for the wolf, mountain lion, grizzly bear, black-footed ferret, and eagle, only excepting cases where a clear menace to public health or safety exists. The Association also suggested an end to the kind of indiscriminate wildlife poisoning associated with control programs based on aerial broadcasting of treated seeds, and a halt to current ineffectively controlled use of poisons like 1080 and strychnine, used in coyote control. Such poisons, said NPCA, seem to eliminate offending animals only by chance, if at all, while killing other carnivorous or omnivorous birds and mammals. Results of the poisoning programs, it was indicated, are hardly consistent with a Wildlife Services' objective of "maintenance of varied native wildlife and wildlife habitats."

In its letter to the Task Force chairman, Dr. Stanley A. Cain of the University of Michigan, the Association posed the question of whether Americans should be subsidizing ranchers through a federally financed program of wildlife control on private lands. NPCA suggested that losses from predatory animals might be viewed as a cost to ranchers in raising animals, rather than a cost to society because ranchers wish to raise animals. It strongly recommended a thorough analysis of the benefits of predator control.

The Oregon Dunes During September a measure (S. 1977) to establish the Oregon Dunes National Recreation Area came be-

fore the Parks and Recreation Subcommittee of the Senate's Interior and Insular Affairs Committee for hearing. On invitation, NPCA expressed its views in the matter, saying that the terrain to be protected by the proposed unit is one of great natural attractions and that its protection for recreational purposes seems highly desirable.

The Association commended the bill on its sound administrative proposals, particularly in regard to mining, which the measure would forbid within the area. It had one suggestion concerning administration of the Recreation Area, however, which it felt the Subcommittee might wish to consider. In view of the fragile nature of dunelands generally, the Association pointed out, it might be wise to amend the legislation to specifically restrict area use of off-the-road vehicles such as dune buggies.

conservation news

PINE BARRENS PROGRESS

The new plan for protection of especially fine areas of the New Jersey Pine Barrens, discussed in some detail in the July Magazine and based essentially on environmentally oriented commission management of the region, seems to be making progress.

The Federation of Conservationists, United Societies, Inc. (FOCUS), which mainly has carried the regional burden of conservation planning in the Pinelands, says in a recent issue of *The Pitch Pine* that a state fund of $100,000 to get a Pinelands Environmental Commission into business awaits only the approval of Governor Cahill. The second step—purchase of a needed 25,000 acres in the East and West Plains of the Barrens—will call for much heavier funding by the state, however, and FOCUS has suggested that New Jersey's recently adopted Green Acres program may be useful in implementing land acquisitions. The commission-type land management approach to protection being taken in the Pine Barrens was worked out in collaboration with the National Park Service, and environmentalists all over the country have been following its progress with interest as one possible answer to natural area protection in historically settled regions.

STEERING COMMITTEE NAMED

The steering committee for the Nineteenth Annual Session of the National Watershed Congress, to be held in San Diego next June 4–7, will consist of: Gordon K. Zimmerman, of the National Association of Conservation Districts, chairman; James B. Craig, of the American Forestry Association; C. R. Gutermuth, of the North American Wildlife Foundation; Carl J. Johnson, of the Soil Conservation Society of America; Clifford G. McIntire, of the American Farm Bureau Federation; Ted Pankowski, of the Izaak Walton League of America, and David G. Unger, of the National Association of Conservation Districts.

The session, built around the theme of "Watersheds within River Basins," will encourage examination of the role of the small, upstream watershed program within a broader context of river basin planning and management. Commenting on the aims of the 19th Session, chairman Zimmerman points out that: "It has been seven years since the Water Resources Planning Act was enacted to provide a central mechanism for water and related land use planning at the federal, regional, and state levels. The small watershed program is very much a part of this mechanism; indeed, an essential part." He added that the various proposals of recent years on national land-use policy, creation of a Department of Natural Resources, and coastal-zone management "add urgency to our forthcoming proceedings."

NPCA is one of the participating organizations in the conference and a founding member of the Congress; and Association members interested in good watershed man-

agement—with emphasis at the 1972 meeting on upstream watershed programs—are invited to attend as individuals.

PARK MEDALLION SERIES

The National Parks Centennial Commission, primarily responsible for the park-idea centennial celebration this coming year, will issue a series of national park medallions to help raise the $300,000 in private money necessary before $250,000 in public funds becomes available for celebration purposes. Under a contract negotiated for the commission by the National Parks Foundation, medallions will be struck for each of the national parks except Yellowstone, which will have four, devoted to its history and development.

The contractor for the medallions (Roche Jaune, Inc., of Kalispell, Montana) is to pay the Foundation $50,000 immediately and thereafter a royalty of 10 percent of "approved sales prices to the public." Many NPCA members, numismatically inclined or not, doubtless will take an interest in the commission's project, and the Magazine will follow the matter with information as it becomes available.

HELP NEEDED AT BACK BAY REFUGE

In 1938 the Back Bay National Wildlife Refuge, of some 9,000 acres of beach, dune, marsh, and brackish water on the coast of Virginia south of Norfolk, was established by the Fish and Wildlife Service "as a breeding ground and refuge for migratory birds and other wildlife." It was acquired by the American public as a unit in the growing system of refuges designed, to paraphrase the language of the Bureau of Sport Fisheries and Wildlife, for preservation and restoration of wildlife and its habitat for the continued enjoyment and benefit of Americans. The refuge concept includes those forms of outdoor recreational activities—wildlife observation and photography, swimming, nature study, hiking, fishing, to name a few—that are compatible with the main purpose of a particular refuge.

The national refuge system has been for the most part tremendously successful in its purposes. Over the years it has restored failing wildlife populations, game and nongame alike, and in some cases has stood between a native species and extermination.

For the past several years the Back Bay Refuge in Virginia has been unable to fulfill either its primary mission as a wildlife breeding ground or its secondary objective as a bit of scenic shoreland in which humans can relax and enjoy nature and the sea in a leisurely fashion. In spite of the earnest efforts of refuge managers and staff Back Bay has largely lost its refuge characteristics and has acquired those of a public playground. The reasons for the situation are quite clear.

Since establishment of the refuge the population of Virginia Beach, just adjacent to the north, has grown to some 170,000, and there has been a tendency on the part of the city to view the refuge beach and dunes as a backyard amusement park. Fishermen, beachcombers, nature students—all those visitors usually associated with a shore park or refuge—have been driven out by a vast seasonal traffic of dune-buggies, motorcycles, and various other off-road conveyances that roam destructively through the area, causing erosion of both beach and dunes.

Compounding the off-road vehicle problem has been a constant pressure by shoreland developers for a back-of-the-dunes highway through the refuge south to the beaches and dunelands of southern Virginia and on to the Outer Banks of North Carolina.

In 1970 the managers of the refuge promulgated a beach use program designed to severely restrict use of the refuge as a theater for mechanical sports while at the same time providing reasonable owner access to private

In summer the beach and dunelands of Back Bay National Wildlife Refuge in Virginia are invaded by a horde of off-road vehicles.

shore properties below the refuge. The program essentially looked toward a reorientation of refuge use toward wildlife protection and compatible human use and enjoyment.

A public hearing on the plan was held in Virginia Beach in 1970, as a result of which the Bureau felt obliged to modify its program; and the refuge beach and dunes remained open to destruction and nonconforming uses.

Conservationists and conservation organizations in Virginia and elsewhere have been increasingly critical of the state of affairs at Back Bay, although sympathetic with the Bureau in view of the area's physical location. Many feel, however, that the main question to be answered now at Back Bay Refuge is whether the American public is in charge of the refuge, through the Bureau's Fish and Wildlife Service and its refuge managers, or the off-road vehicle enthusiasts and their associations. Beyond the use of off-road vehicles at Back Bay specifically, it may be noted, increasing use of the machines throughout the country is posing a major problem for all natural areas.

The National Parks and Conservation Association understands that the Bureau is working on a new plan for the refuge, to be ready for the summer recreational season of 1972, which would eliminate indiscriminate public vehicular use. The new plan, fully promulgated and enforced, should go far toward solving the severe public use problems at Back Bay.

Efforts of the Bureau and Service to plan and carry out a good use program at Back Bay Refuge merit the support of conservationists everywhere. Members of this Association who feel strongly about the matter may write C. Edward Carlson, Regional Director, Fish and Wildlife Service, Peachtree-Seventh Building, Atlanta, Georgia 30323; and while doing so, they might send carbon copies of their letters to Hon. Rogers C. B. Morton, Secretary of the Interior, Washington, D.C. 20240.

conservation docket

Public hearings on the establishment of wilderness within Carlsbad Caverns National Park will be held beginning at 9 a.m. November 20 at the Municipal Library Annex, Halagueno Park, Carlsbad, New Mexico.

The proposal for the Guadalupe Mountains National Park will be considered at a meeting at 1 p.m. on November 23 at the Holiday Inn, Interstate 10 and Airways Boulevard, El Paso, Texas.

Every Congress considers thousands of bills related to environmental problems. We cannot list them all; therefore, below is a selection of those so far introduced in this

Congress, together with their House of Representatives (HR) or Senate (S) numbers and the committee(s) to which each has been referred. Members, as citizens, are free to write to these committees to request that they be put on a list for notification when bills come up for public hearing. When notified of hearings, they can ask to testify or they can submit statements for the record. To obtain copies of bills, write to the House Documents Room, U.S. Capitol, Washington, D.C. 20515, or to the Senate Documents Room, U.S. Capitol, Washington, D.C. 20510. When requesting bills, enclose a self-addressed label.

National park, monument, and recreation area legislation introduced recently and referred to House or Senate Interior and Insular Affairs committees includes:

MONUMENT: HR 10567, to authorize the Secretary of the Interior to establish the Gardiners Island National Monument on beach and dune terrain in Suffolk County, New York.

PARK: HR 10462 and S 2490, to provide for establishment of a Guano River National Park of not more than 10,000 acres in St. Johns County, Florida, for the purpose of preserving a relatively unspoiled area of ocean beaches, freshwater lakes and ponds, and associated uplands.

PARK: S 2539, to authorize the acquisition of certain lands for addition to Isle Royale National Park in Michigan.

WILDERNESS: HR 10655, to designate certain lands in California national parks and monuments as wilderness.

RECREATION AREA: HR 10529, to provide for establishment of an Upper Mississippi River National Recreation Area of up to 650,000 acres in Illinois, Iowa, Minnesota, Missouri, and Wisconsin.

Bills bearing on national forest matters include:

FORESTRY PROGRAMS: HR 8817, to further cooperative forestry programs administered by the Secretary of Agriculture; ordered favorably reported by the House Committee on Agriculture.

Measures recently introduced on matters concerning fish and wildlife are:

OCEAN MAMMALS: SJ Res 115, instructing the Secretary of State to call for an international moratorium of 10 years on killing of all species of whales; passed, with amendment, by the Senate and cleared for the House.

DISASTER CONTROL FUND: HR 10698, to provide for the establishment and administration of a national wildlife disaster control fund; referred to the House Committee on Agriculture.

RECREATIONAL DEVELOPMENT: HR 10384, to amend the act of 1962, as amended, to release certain restrictions on acquisitions of lands for recreational development in fish and wildlife areas administered by the Secretary of the Interior; bill has been the subject of hearings by the House Subcommittee on Fisheries and Wildlife Conservation.

ENDANGERED SPECIES: HJ Res 873, instructing the Secretary of the Interior to call for an international meeting on the preservation, conservation, and protection of endangered species of wildlife; referred to the House Merchant Marine and Fisheries Committee.

Proposed measures affecting the nation's rivers, shores, and estuaries, and actions taken on them, include:

WILD RIVERS: S 2386, amending the National Wild and Scenic Rivers Act to include several rivers in Oklahoma as possible components of the wild rivers system.

SHORE & ESTUARY: HR 2492, HR 2493, and HR 9229, to provide for the effective management of the nation's coastal and estuarine areas; by the House Subcommittee on Oceanography.

Other legislation of general interest to conservationists that has been introduced or acted upon is:

POLLUTION: HR 9727, to regulate dumping of material in the oceans, coastal or other waters; passed by the House.

SWAMP STUDY: HR 10511 and S 2441, to authorize the Secretary of the Interior to conduct a study on the best means of protecting and preserving the Great Dismal Swamp and Dismal Swamp Canal in Virginia; referred to House and Senate Interior and Insular Affairs Committee.

WILDERNESS: S 2390, designating an Upper Selway Wilderness in Idaho; introduced and referred to the Senate Interior and Insular Affairs Committee.

NATIVE LAND CLAIMS: S 35, to provide for the settlement of certain land claims of Alaska natives; ordered favorably reported with amendments by the Senate Interior Committee.

NATIONAL LAND USE: HR 10604 and S 2542 to establish a system for the development of mineral resources on public lands of the United States; referred to the Interior Committees of House and Senate.

Continued from page 2

We received a reply from Assistant Director Hummel on April 13, stating that because the goat population was excessive, it was thought necessary to use deputies. The question whether goats could be eliminated was not answered; the concern of the Service was whether goats could be controlled at levels permitting perpetuation of the rare and unique plant communities of the Parks. A biologist had been assigned to evaluate the goat situation and make recommendations for control. Responsibility for supervision was pinned on the superintendents. It appeared from the letter that the goal of elimination had been abandoned. The letter was not otherwise responsive to our questions.

Thereafter, on April 22, William L. Canine, of NPCA, wrote to the Supervisors of both Parks and the General Supervisor for the Park Service in Honolulu, making similar inquiries and received similar self-serving declarations in response.

CONFRONTED WITH SUCH REPLIES, the President of NPCA wrote to the Director of the Service on May 12 protesting against the program, urging complete extirpation, and branding the operation as sports hunting in the guise of deputy ranger control. An explanation was requested.

More than a month later, on June 17, the Director responded that the killing of goats by deputies was not sports hunting, but he went on to say:

> I suspect the majority of our differences concerning this issue could be resolved if I were willing to retract my statement that it is not our intention to eliminate goats from the Hawaiian national parks. This, regardless of how tempting and simple a solution it appears, I cannot do.

And why not? Well, it seems that the goat may be helping to keep down exotic plants. A lot of studies will have to be made. Obviously, this defers the day of reckoning. Our information in NPCA is that the native vegetation can defend itself against exotic plants but not against the goats. The Hawaiian Botanical Society had written to the Director demanding an effective program of feral goat eradication. The Society ought to know. The notion that goats are ecologists is ridiculous.

OUR INFORMATION was and is that any hunter licensed by the State of Hawaii may apply for permission to shoot goats in the Parks. On displaying the State license, he is permitted to go out alone to shoot goats. The hunters do not work as a crew; nor under any supervision; nor is there any training whatsoever. They are usually inclined to take the rams, leaving the nannies and kids to maintain the population. They are opposed to the elimination of goats in the Parks. They are much inclined to stay close to the roads, because the rugged back country is difficult. Everyone closely acquainted with the matter knows that this is the situation. If the Service can demonstrate the contrary, let it do so.

The deputy hunter program is absurdly ineffective. To suppose that it contributes anything significant to goat management or elimination is ludicrous. Goat drives by rangers took 458 boars in July 1971. Direct reduction by rangers accounted for 125, for a total of 583 goats taken by regular rangers in July. Sixty-three deputy hunters got 22 goats, less than four percent of the total, three men to get a goat. The Service can hardly have failed to notice the ineffectiveness of the hunter program; hence there must be other reasons for continuing.

When a hunter checks in to get his permit he is given a mimeographed sheet called *Goat Management Information and Regulations.* In October 1970, these regulations specified that participants were urged to reduce goat herds as much as practicable. The hunters organized an uproar; they would not participate in the program if the elimination of goats was the objective. Obligingly, the Service modified its regulations; the edition issued in January omitted the offending sentence. This is but one example to show who is in the driver's seat, running the goat program in the Hawaiian National Parks.

THE USE OF SPORTS HUNTERS to shoot goats in the Hawaiian Parks is, in our judgment, a sports hunting program, not a legitimate management program. It is also directed toward the wrong objective, maintenance of the goat populations, not their elimination. It violates the Hawaii Volcanoes National Park Act, the spirit of the National Park Service Act, the principles laid down by the Secretary's Advisory Board on Wildlife, national parks management policy as established and maintained for a century, and the Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere.

If the Service really wishes to eliminate goats from the Hawaiian Parks, as it should, there are plenty of things which can be done. An official researcher for the Service recommended to the Director as long ago as 1964 that Haleakala Park be fenced; that as many of the goats as possible be driven out of the Parks to adjacent lands where they could be shot for meat and sport; that all other goats in the Parks be shot; that all fences be maintained in repair; and most particularly, that not one feral goat should be allowed to remain on national park lands. The recommendations are still valid; the situation has not changed, except that it is worse than ever, because nothing effective has been done.

IT WAS THE EFFORTS of the organized hunters of Hawaii which brought the deputy program into being; their purpose is to provide more opportunity for hunting throughout the Hawaiian Islands. The nature of the program as actually carried on proves the point, even if the history did not. No new Advisory Board is needed or acceptable; a return to the basic National Park principles is needed. This is an intolerable situation which calls for investigation and correction at the Secretarial, and if need be Presidential, levels.

At stake is the survival of many irreplaceable species of native plants and animals of the Hawaiian Islands. Sanctuary for such species for aesthetic, scientific, and cultural purposes was a cardinal purpose in the establishment of the Parks. Permitting and encouraging sports hunting in the Parks for the pleasure of the hunters violates the trust placed by the American people in the National Park Service.

—Anthony Wayne Smith

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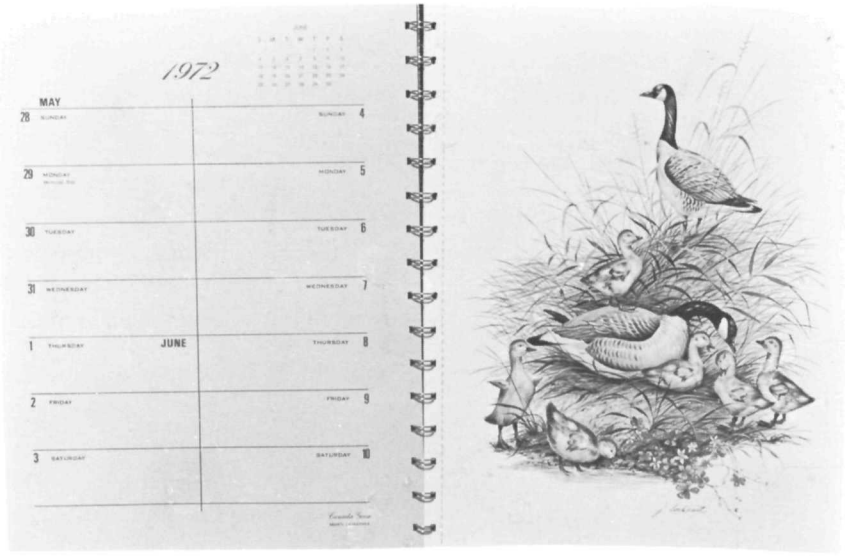

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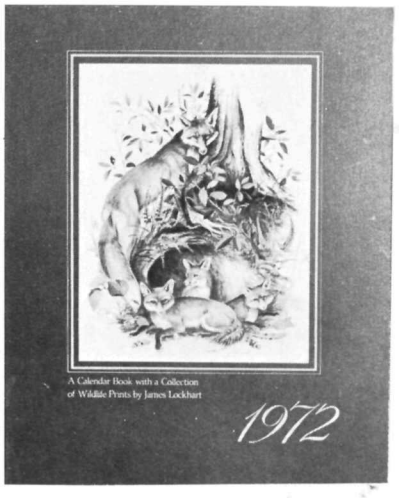

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