# NATIONAL PARKS *Magazine*

**Floor of the great kiva of Casa Rinconada,
Chaco Canyon National Monument, New Mexico**

*November 1968*

# *The Ebb and Flow of Battle on the Potomac*

THE FINAL REPORT ON THE POTOMAC RIVER BASIN SUBMITTED recently to the President of the United States by the retiring Secretary of the Interior is an unfortunate document.

Some four years ago the President gave the Secretary an assignment unique in history, to develop a model program of water management and conservation for this great river basin.

The reason for this assignment was well known to all; namely, that a broad coalition of farm, labor, conservation, and citizens organizations had successfully opposed the plans of the Army Engineers to construct 16 major deep-drawdown mass-eviction reservoirs on the main river and its tributaries, mainly for diluting and flushing sewage.

The reasons for the opposition were also well known: the reservoirs would flood out farms, homes, businesses and communities needlessly, destroying stream valleys valuable in themselves, and for the forest, wildlife, scenic, and historic treasures they contain.

The constructive alternatives proposed were the prevention of pollution at source instead of storage for dilution and flushing: headwaters impoundments for flood control and local water supply; and a supplemental intake and pumping plant on the broad fresh-water estuary of the Potomac at Washington to meet the needs of the Metropolitan Area during periods of low flow and drought.

This past summer, after so-called hearings which were utterly contemptuous of due process, the Army produced a compromise plan (the second in a series) to get its foot in the door, involving seven of its destructive impoundments. Interior, by way of fulfilling its assignment from the President, and from the people of the Basin and the Nation, has now endorsed the Army's program for these seven Army-type dams.

This capitulation to the Army has been published in attractive documentary form, with pretty pictures, simplistic maps and diagrams, and much rhetoric, as *The Nation's River.*

The report constitutes an abject surrender and an abdication of responsibility, and returns the struggle to the point where it stood seven years ago when the Army first broached its archaic proposals.

True, the computerized planners in Army and Interior have now recognized certain elemental truths which we have been preaching for some time, as for example:

(1) The estuary of the Potomac at Washington contains 125 billion gallons of fresh water, not a mere 5 billion as they were contending as recently as a year ago;

(2) Releases of water stored in reservoirs will not work to dilute or flush pollution in the estuary;

(3) Pollution is a problem to be dealt with by prevention at source, not dilution and flushing afterwards;

(4) Big reservoirs will not solve the flood problem, which should be handled by headwaters management, flood plain protection against occupation, flood proofing, flood insurance, and local protective works, even at Washington.

To grasp the full significance of the capitulation, one must understand that the choice was between launching a program promptly for the utilization of the fresh-water estuary to satisfy Washington's emergency needs for the indefinite future, or on the other hand, initiating the construction of a number of Army-type dams now as a starter, and because the correct solution had not been undertaken, moving ahead over the next few years with a total of perhaps 20 of these destructive impoundments.

The basis of the decision purports to be that although the quantity of fresh water available in the estuary is adequate (a fact only now admitted), the quality is uncertain and we must await more miracles of modern technology.

This fundamental premise of the report is completely erroneous. Both the quantity and the quality of the water of the estuary are amply sufficient for the emergency needs of the Washington Area for the foreseeable future. No recycling is now involved; purification of effluents from treatment plants will be essential, but this will be true regardless of water supply methods. These facts were amply set out in the engineering study *The Potomac River Estuary* by Ellery R. Fosdick, published last January by this Association.

The Army program, which Interior has now endorsed, will involve the expenditure of from $500 million to $1 billion in big dam construction before it is completed; counting the minimum time required for legislation and construction, the first dams cannot be completed for six or eight years; meanwhile the hypothetical drought may well occur.

The superior alternative, which we and others defending the Basin have recommended, construction of a supplemental intake and pumping plant on the estuary a short distance below Little Falls, could be accomplished quickly at a cost of about $5 million for the first phase, and another $5 million 25 years later, and it would solve the problem permanently.

At a time when vast expenditures are still required for military purposes, it seems unlikely that the necessary authorization and appropriations for the Army Engineers' program, as endorsed by the Interior, will get very far very fast; the water problems of Washington and the Basin may remain unsolved for a long time.

At a time when America's cities are crying for rehabilitation, and the Nation is torn by factional wars, arising in part from a prolonged neglect of urban problems, the expenditure of hundreds of millions of dollars on useless and destructive dams and reservoirs is inexcusable.

The realities in this situation are in our judgment as follows:

(1) An agreement was reached between the Army Engineers and the Secretary of the Interior as long ago as the spring of 1965, shortly after the President gave the job to the Secretary.

(2) The deal was to build three reservoirs in the Middle Basin, ostensibly for Washington's water supply. Interior may have thought of the agreement as workable solution; the Army made it clear that it was merely the first step.

(3) Certain powerful and harmful economic and political forces are at work in the Potomac Basin, but these realities do not show for a moment through the untroubled surface of the document the Secretary has given us.

(4) The industrial and municipal polluters of the upper reaches of the tributaries want the people of the United States to finance the dilution and flushing of their filth in the river and have applied powerful pressures toward that end.

(5) Well-entrenched real estate speculators of the hit-and-run variety, waiting to sell second homes to unsuspecting buyers on the banks of deep-drawdown reservoirs, have also been employing heavy pressures for construction.

(6) A powerful bureaucratic-profiteering combination is at work here, consisting of the job holders and career men in the Army Engineers, and the big urban construction contractors who sell sand and gravel, and pour concrete for dams.

It was within this context that the Secretary, wittingly or unwittingly, made his crucial decision. As a retiring public official, he had a great opportunity to take a courageous stand for the right solution, but abandoned the fight.

It is within this context, furthermore, that the coalition which stopped the Army Engineers' program, beginning in 1961, which will not be without powerful allies, will unquestionably regroup and continue the battle. —*A.W.S.*

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*Front cover photograph by O. F. Oldendorph*

In the front cover view of the floor of Casa Rinconada's great kiva, the square masonry-walled fireplace is at the left. The larger rectangular masonry enclosure is one of the two foot-drums; at its far end the masonry encompasses the pit that held one of the roof supporting posts. The south entry steps and anteroom are at upper left, while a bit of the circular trench, a second post-socket and the end of the long trench in the kiva floor show in the lower right corner. If estimates are correct the trench in the floor gave hidden access to the interior of a brush shelter that used the circular trench as a "foundation."

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

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*View of the floor, wall and bench of Casa Rinconada's great kiva. Stone steps from the anteroom descend through an opening in the carefully-laid masonry to terminate on the bench. The trench in the kiva floor disappears under the bench at the foot of the stairs; hidden steps connect the trench with a second anteroom at outside ground level.*

# CASA RINCONADA

By O. F. OLDENDORPH

Photographs by the author

In the ancient American Southwest a kiva was a special room, usually underground. It served as a site for religious ceremonies, as a place where men could set up their looms or where they could find relaxation and conversation with their friends. Even today most Pueblo Indian villages include several kivas that are used in this manner.

Prehistoric Indian ruins in Arizona and New Mexico contain the remains of many kivas. Most of them were circular rooms 18 or 20 feet in diameter; but some villages boasted "great" kivas that were several times larger. Ceremonies attended by large numbers of villagers were probably held in these underground sanctuaries. Casa Rinconada in Chaco Canyon National Monument, located about 60 miles north of Thoreau, New Mexico, is such a great kiva, one of several in the national monument. It is over 63 feet in diameter. Today it is a ruin, a stone-lined hole in the ground a dozen feet deep, only a partial picture of a great structure that was built and used about 700 years ago by the residents of Chaco Canyon.

Casa Rinconada was similar to other great kivas in most respects. The masonry wall, even today, shows careful workmanship. The roof is missing, but the masonry-lined floor pits that held the large roof-supporting posts are visible, as is the centrally located fire pit. Two stone vaults—open-topped masonry boxes—are also still in place on the kiva floor. These were probably covered with planks and acted as booming foot-drums under the rhythmic stamp of dancers' feet. On the north and south sides of the large circular room, narrow stone steps led through the kiva wall from ground-level anterooms down to the kiva floor.

But Casa Rinconada included some distinctive features. One was a narrow and shallow stone-lined trench forming a 16-foot circle in the kiva floor. A deeper and wider stone-lined trench, one through which a crouching man could pass, led from the circular trench to a point *under* the north entry steps. Most curious of all was a second set of stone steps, immediately under the entry steps but completely hidden from them. The secondary steps connected the end of the long trench in the kiva floor with a ground-level anteroom, separate from that which comprised one of the two main entries to the kiva.

Why were such elaborate trenches and stairs built into this structure? Answers are speculative, but archeologists think the circular trench may have been the foundation for a brush enclosure built on the kiva floor. The larger long trench was probably covered with planks and mud to make an under-floor tunnel. With the secret stairs, it allowed hidden passage between the brush enclosure and the separate anteroom.

Dancers in a kiva ceremony could have donned their regalia in the anteroom, and could have reached the brush enclosure unseen by the audience. Once in the enclosure they could have emerged, mysteriously, as from the very earth itself, in accordance with the Pueblo Indian belief that the gods live in the underworld and that their own human ancestors emerged from that world into this many generations ago. That emergence was via a passage connecting the two worlds, the "sipapu."

The drama and impact of the appearance of masked dancers impersonating spirits from the underworld into a fire-lighted kiva can readily be imagined. The outsized, moving shadows of the dancers cast by the firelight on the kiva walls and ceiling; the persistent beat of the foot drums; the clack of the rattles, and the sober chants of the dancers must have added an impressive element to the ceremony. A return to the "underworld" at the conclusion of the ceremony could have been equally mysterious. Imagine a skeptical member of the audience, on his way out of the kiva, stealing a glance into the brush shelter only to discover that it was empty!

If you give your imagination free rein and half-close your eyes, even today you can feel the throb of the drums, the presence of the masked figures, and the mystery of their coming and going when you visit the Casa Rinconada in Chaco Canyon National Monument. ■

# OKEFENOKEE

By JULIAN RHINEHART

Photographs by the author

THE GREAT OKEFENOKEE SWAMP OF GEORGIA, ONCE called by the Indians the "Land of the Trembling Earth," is in many ways still a biological puzzle to scientists, who feel that the swamp's fascinating ecology makes it one of the nation's most important wilderness study areas of its type.

"The biological balance of the Okefenokee Swamp is unique," says Dr. Fred Parrish, biologist at Georgia State College, who has actively engaged in research in the swamp since 1963. "The water of the Okefenokee, for instance, is very acidic and has a high carbon dioxide content. The addition of humic acids—of which one is tannic—from the partially submerged trees gives the water a coffee hue."

"Although many areas of the swamp have been tested extensively, no fresh water sources have been found so far," notes Dr. Parrish. "Even in times of low water the characteristics remain uniform. These consistent findings indicate that the water of the swamp has a high buffering capacity—a balance."

Adding to this swamp's individuality is an interesting geologic substratum that extends over some 630 square miles of southeastern Georgia and a portion of Florida. A bottom of sand, deposited during a stage of the Pleistocene Period when ocean level stood higher than it does today, formed a sandbar at what is today the eastern edge of the swamp. As the level of the world's seas was gradually lowered by a lock-up of water in the form of glacial ice, water was trapped in a depression formed by the sandbar on the east and the continental slope on the west. Fresh water from rainfall also collected in the pocket thus created. Volume was increased by other water percolating down through the higher Georgia coastal plain, free from sediment which might eventually fill the depression. Overflow was carried off by the Suwannee River, with a small amount escaping through the St. Mary's River which flows through northern Florida.

As the salinity of the water decreased, the upper layer of the sand bottom became covered with peat. Through the many intervening years the layer of peat has thickened to the extent that depths of 20 feet have been recorded in the swamp. The peat floor has contributed several interesting phenomena to the Okefenokee. The under layers, decaying in water, assume a loosely packed and spongy nature, and easily yield to pressure from above. Since the Indians found that heavy footfalls would cause nearby land and trees to quiver, it is easy to understand why they named the swamp "Land of the Trembling Earth."

Often pockets of marsh gas (methane) accumulate during the decaying process. When the buoyancy of the peat layers above the gas exceeds the strength of their attachment, small clumps of peat rise to the surface in the form of tiny floating islands, or "batteries." While in a free-

*The shallow expanses of an Okefenokee prairie teem with aquatic life. Chase Prairie above.*

floating stage and exposed to air and sunlight these patches of peat serve as substrata for new forms of life. In time ecological succession progresses to the point that a tree seedling sprouts, usually cypress; and as the tree grows the roots become anchored in the peat floor below. Now the island is stationary, and is called a "house." The name probably originated with early travelers of the swamp, who deemed camping safe only on such anchored land.

The batteries usually form in the prairies, which are vast expanses of open, shallow water. Winds gusting across these flats are capable of moving the batteries to the edge of the prairies. Lakes with deeper water also occur in the swamp, and lakes and prairies furnish completely different natural habitats.

Prairies are very shallow, with a depth often recorded in inches. Here many of the vertebrates find ideal feeding on aquatic life. Many water birds also find a home in such shallow flats. The list of birds that finds the swamp a refuge from man includes sandhill cranes, herons, ibises, egrets, wood ducks, and water turkeys, or anhinga. The rich waters contain an ample food supply for such residents.

The depressions from which these bodies of water are formed are the result of fire. A peat fire resembles a mattress fire; after the initial blaze is extinguished, underlayers will burn for some time, so that on occasion fires in the Okefenokee have lasted several months. Dr. Parrish, who is currently studying the relation of fire to the swamp's balance, explains that: "A certain amount of peat removal is necessary for the perpetuation of the swamp. Without it, peat will eventually fill up the depressions, and the swamp will no longer exist." The level of the water in Okefenokee —although its surface is contiguous throughout the swamp —varies as much as 15 feet. This phenomenon is also due to peat and vegetation. Water, trapped in the various areas, is unable to filter rapidly across the fibrous peat floors of the shallow connecting channels. Alien species of fishes have been introduced into the Okefenokee by man, but unsuccessfully. The dark waters have biologically resisted the intruders, and they have perished; equilibrium has been maintained.

*In the foreground of the photograph above is a peat "battery," which may be moved about the swamp by the wind. Trees and shrubs pictured below occupy a "house" that provides a landmark on Chase Prairie.*

### *A Refuge From Man*

The Okefenokee Swamp is a primitive refuge for wildlife. Not only does it provide a prime habitat for many species of plants and animals but in addition is sparsely traveled by man, who has historically traversed it with great difficulty. The Indians were able to press into the depths of the swamp only by wading, stumbling, and swimming. Few cleared waterways were available for boat travel. The white man began to clear out primitive trails in the latter part of the 19th century, but even then travel was limited to small, flat-bottomed craft propelled by pole.

Although no species of vertebrate animal is known to be peculiar to the Okefenokee, its fauna is diverse. Dr. Parrish points out that "many of the invertebrate species of the area have not been adequately treated taxonomically. It is also quite possible that endemic races of species have developed here which could not survive out of the Okefenokee."

The native animals do their share in preserving the swamp's balance, with a notable contribution by the Ameri-

can alligator, who finds a varied diet among the native fishes and other animals. During times of drought the alligator uses its muscular tail to dig holes in the shallow prairies, thus helping to retain water for alligators and other wildlife alike. The Okefenokee is an ideal refuge for the great saurian, a rapidly dwindling native species. Playful otters may greet a visitor a short distance from the edge of the swamp, if alligators are hibernating; but during the remaining months of the year their appearances are few. Other small animals like mink, muskrat, raccoon, and turtle also find a congenial habitat.

This century has witnessed the disappearance of the panther or cougar from the Okefenokee; but smaller members of the cat family are still prevalent. Bear and deer may be found in the interior, particularly on isolated "houses." Sometimes deer may be seen grazing in the shallow prairies.

Many striking forms of plant life are at home in the swamp. Spanish moss, actually a rootless flowering plant, drapes the trees. One of the swamp's insectivorous plants, a species of the pitcher plant, produces green flowers in the late spring. Tranquil, lily-padded waters are pierced by the golden spike of the "never wet" and the long-stemmed "hatpin."

The trees of the western portion of the Okefenokee are approaching an ecological climax of blackgum and redbay. If normal plant succession is allowed to continue in the eastern half, this same combination will probably ascend to dominance, replacing the now existing cypress and pine.

The human inhabitants of the swamp have also followed a line of succession. A. H. Wright, in his history of the Okefenokee region, lists five Indian tribes as possible former residents. This list includes separate periods of residency for the Uchees, Yamasees, Apalachees, Timuquas, and Seminoles. The last tribe, a branch of the Creek Nation, was driven from the Okefenokee by soldiers in the middle of the 19th century. The occupants of the swamp for the next 50 years were limited to a few hearty white settlers who lived there sporadically.

### *Lure of the Cypress*

The bald cypress lured man to make his first mass invasion of the swamp, and the early part of this century witnessed the removal of millions of board feet of this tree's lumber. Canals were dredged and a temporary railroad constructed. The swamp was in serious danger. Dwindling cypress supply curtailed the lumbering operation, but hunting and fishing continued. In 1937 the greater portion of the Okefenokee Swamp was purchased by the Department of the Interior and established as a national wildlife refuge; and since then the tremendous regenerative powers of the swamp have enabled nature to regain her balance to at least some extent.

The future of the Okefenokee at this time is uncertain. Man still illegally or unknowingly violates the area. Poaching of the American alligator has long been a problem, and each additional road and canal poses a threat to the already strained equilibrium. James A. McKay, chairman of the Georgia Conservancy, says: "Members of the Conservancy appeared at a recent hearing in Waycross, Georgia, and expressed their support in favor of the inclusion of the Okefenokee Swamp in the National Wilderness Preservation System. We are convinced that unless stronger protective measures are adopted, the very existence of the swamp as a priceless natural resource is threatened."

"Inclusion in the wilderness system will insure future protection of Okefenokee's resources," notes R. R. Rudolph of the Bureau of Sport Fisheries and Wildlife in Atlanta. "The measure . . . would prevent any future development of the Okefenokee Swamp without prior legislative approval. This would help to preserve the swamp's present state."

In contrast to the proposals of conservationists, those of developers seriously threaten the integrity of the swamp. It has been suggested that the swamp be drained and used for the growth of sugarcane. Another suggestion looks toward an expansion of the canal system for promotion of tourism. Both of these ideas would threaten the swamp with possible extinction by fire, if nothing else. A lowered water level would dry out the peat, and there is no inorganic silt to prevent its burning.

Dr. Parrish, with an eye to the nation's as yet unresolved population explosion, says that: "In the years to come we may possibly find a use for the peat as a food component. It could be mined in such a manner which would not only preserve the swamp, but also create artificial lakes. We do not yet know enough about the swamp to make these decisions. Until research gives us the needed information, the Okefenokee should be left just as it is." ■

*An American alligator commences his food patrol in the Suwanee Canal of Okefenokee Swamp.*

*Truman C. Everts*

# TRUMAN EVERTS in YELLOWSTONE COUNTRY

By Hazel M. Thomson

THE INDIANS CALLED IT "ROCK YELLOW RIVER." That was their name for the magnificent reserve we now call Yellowstone National Park when the first large-scale exploration of the region took place in 1870. A group of influential Montana citizens were determined to find out for themselves just how much truth there was in the tales about the wonders of the area.

John Colter, following his release from the Lewis and Clark Expedition, had entered the area in 1807. Trappers worked in the region in the early 1820's, and Jim Bridger probably made his first visit as early as 1829. The fantastic stories told by Bridger, mountaineer-trapper-explorer, persisted and grew, leading to the Folsom-Cook-Peterson exploration of 1869. In 36 days this group visited areas now called Tower Falls, the Grand Canyon of the Yellowstone, and Shoshone Lake; crossed the Continental Divide which they called "the dike," and emerged into the Lower Geyser Basin.

Their expedition in turn gave impetus to the Washburn-Langford-Doane Expedition of the following year. Although the area was no longer entirely uncharted, still the potential dangers made it difficult to obtain enough men for safety on that trip. Twelve men finally agreed to go—enough to stand guard every night—and Surveyor General Henry D. Washburn was placed in command. He had been a major general in the Civil War and had served two terms in Congress. Among the party were Nathaniel P. Langford, Judge Cornelius Hedges, Samuel T. Hauser, Walter Trumbull, Benjamin Stickney, Warren C. Gillette and Jacob Smith. Two packers, two cooks, and a military detail from Fort Ellis made a total of nineteen men. Thirty-five horses and mules carried a month's supply of provisions as the expedition started August 17, 1870.

Another of the explorers on the expedition, Truman C. Everts, who was then 54, is seldom mentioned today; but his story is as strange and exciting as some of those said to have been told in earlier days by Jim Bridger.

When the Washburn group emerged from almost impenetrable woods and came upon their first hot springs in Yellowstone country, they gave them names indicative of the region in which Satan dwells: Devil's Slide, Hellbroth Springs, Brimstone, Devil's Hoof, Hell's Half Acre, and Hell Roaring Mountain. They also gave names to natural phenomena the other explorers had seen, such as Tower Falls and Mount Washburn.

They named the Grand Canyon of the Yellowstone, too, and here they found the origin of the Indian expression "Rock Yellow River." The nineteen men were awed by the spectacle before them as they stood on the brink of the great chasm, the sun lighting the many colors of the gorge. Langford said: "This is the high spot of our trip. Surely nothing can surpass this."

### *"War Drums" Spatter Mud*

One afternoon they heard a series of thuds, which some of the men thought to be war drums. Others thought the rhythm different from any war drums they had heard, for the sounds seemed to come from inside the earth itself. Following the sounds to their source, the men came upon the bubbling and boiling of the Mud Volcano and the

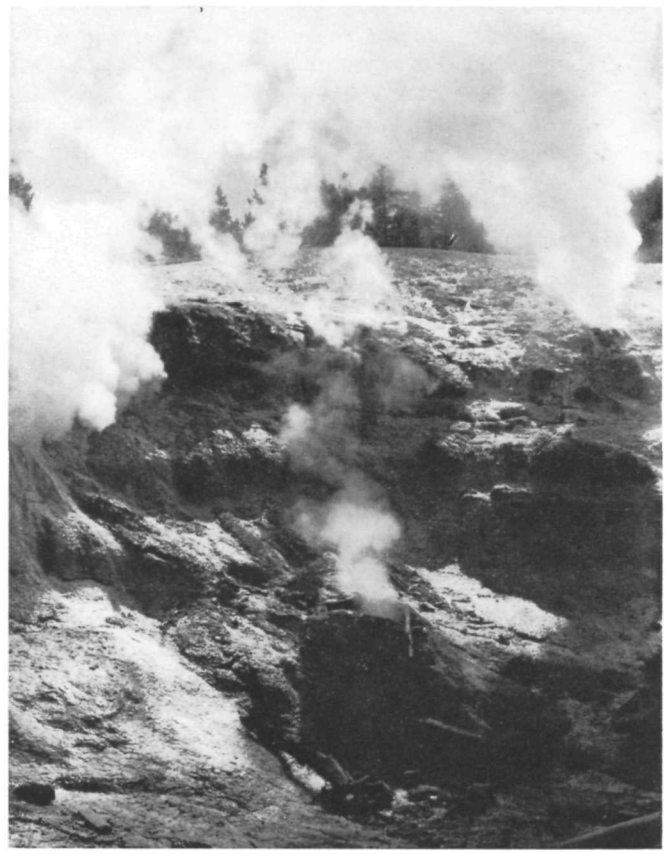
frightening vent which they named Dragon's Mouth. The two growled and groaned, churned and raged before the fascinated eyes of the men.

"We think we've seen all there is to see, then come upon something like this," said Washburn, wrinkling his nose against the acrid smell. "It is both wonderful and loathsome at the same time."

Back again along the river the forests of fir and lodgepole deepened. When at last the party reached the north end of the lake, members forded the river at its outlet and made camp, preparing to follow the eastern shore. Everts and Hedges were assigned to scout for a route along which they could take the pack train without too much trouble. The two men separated, striking out in different directions.

It was a beautiful early September day. Everts gave himself over to the enjoyment of the scenery, the lake that he glimpsed occasionally through the dense forest, the deep blueness of the sky mirrored in the waters—an everchanging panorama of primeval beauty. He rode for several hours, exploring possibilities of moving the pack train in this direction. Suddenly he brought his horse up with a start. He had lost sight of the lake and realized he was unsure of his directions; but shouts and shots brought no answer.

When night came, Everts was still alone. He built a fire, unrolled a blanket and slept well, confident that he would rejoin his companions presently. The following morning he attempted to retrace his route. But when he climbed the highest prominence he had passed on the previous day he was disappointed to find the forest equally dense there. He returned to the clearing where he had left his horse just in time to see the animal disappear into the woods with blankets, rifle, pistol, fishing tackle, matches—everything except the clothes he was wearing, a couple of knives and a small opera glass.



Photograph by Franz Lipp

*Thermal phenomena were among many marvels of Yellowstone country which persuaded even its earliest white explorers that the region should not be given into private ownership but reserved for the enjoyment of the American public.*

***Lost in Yellowstone Wilderness***

His search for the horse was fruitless, and night found Everts completely exhausted. The next morning hunger pangs were extremely severe, and apprehension turned to frenzy. He screamed until his voice gave out; his head whirled from want of food; he ran in circles. He met that night's darkness with broken spirits and tears.

With the coming of daylight his spirits again rose, and for the first time he faced his situation squarely. He had no food, no fire. He was a hundred-fifty miles from the nearest trapper's cabin. His one hope of survival was to rejoin his party.

But even in his half-starved state he could still appreciate the beauty of a little lake that he came across. The sunshine shimmered on its surface, bringing to mind the gold of his daughter's curls. "I shall name it Bessie," he said. "Bessie Lake."

As Everts looked across the water he saw what might be a canoe with a single oarsman. Heart pounding, he hurried to the shore, eyes straining for a better look. Then an enormous pelican stalked from the water. It shook itself and flapped its wings at him, as though to mock his disappointment. Eyes and mind had worked together to deceive him, and the lost man now realized that his life depended upon keeping his thinking clear. Though conscious of the need for food, he now felt no particular cravings. Occasionally a sense of faintness or exhaustion would sweep over him as he scrambled over logs and through thickets, moving around the edge of the lake, and often he said aloud, "This won't do. I must *find* my company!"

One afternoon he noticed a small green plant near the water's edge which he had missed before. He pulled it up and found the root was long and tapering, not unlike a white radish from his own garden. He wiped it clean and tasted the root. It was not unpleasant. He gathered more and had his first solitary meal. Then he slept.

He was awakened by a shrill scream. He had answered so many similar cries during his wandering, thinking them human, that he answered this one almost unconsciously. The sound of his own voice awoke him completely, and he recognized the cry. A mountain lion! Quickly he swung himself up into a tree just out of reach of the animal. Everts shook the slender tree in an effort to frighten the big cat. He crawled from side to side among the branches, then broke off limbs and threw them down at the growling animal, but to no avail. Finally it occurred

to him to try silence. Clasping the tree trunk with both arms lest he should doze and fall, he sat for a long time without moving—how long, he did not know. At last the cat gave another piercing scream and ran into the forest.

From the beginning, nothing had given Everts more concern than lack of fire. This experience served to intensify his desire for a blaze which would have offered some protection against such encounters.

### *Recipe for Thistles*

He came now into an area of hot springs where he tried cooking thistles in the boiling water. He found that they tasted better cooked, and also felt easier in his tortured stomach. He could lie on incrustations around the springs, and was content for a time to eat thistles and sleep on the warm, rough crust.

When the autumn storms came Everts found some protection under the low-hanging pines, then afterwards crept back to the springs for warmth. The nights, always cold, grew bitter. Without cover or fire his feet had been frostbitten and were beginning to fester. Then one night the incrustation broke while he was asleep and he fell through. Hot steam scalded his left hip, dimming the pain of sore feet. Progress was impossible for two or three days, and in distress he spent long hours just sitting, watching the waves lash against the lakeshore.

The soles of his boots were worn through, so with a knife he cut the uppers from them and fashioned a pair of moccasins, lacing them together with a strip of the leather. From the rest of the leather he made a bag to carry thistles when he left the lake.

Everts could not, of course, know that his company had moved by now into the Upper Geyser Basin. As the party emerged from the woods the sight of a giant geyser vaulting its white spray into the blue heavens moved Lieutenant Doane, head of the military detail, to declare: "The earth affords not its equal. It is the most lovely inanimate object in existence!"

With the names they gave the geysers in this area they attempted to equal the grandeur they had witnessed: Giantess; Grand; Splendid; Fan; Castle; Grotto, and especially, Old Faithful. The pools were also given descriptive names: Emerald, Sapphire, Gentian, Grand Prismatic, Rainbow, Topaz, and Morning Glory.

Everts could not know, either, of the men's search for him, or their caching food they could scarcely spare in the hope he would find it; nor of their sadness at realizing they must continue their journey without him. Nor could he know then of their discussion around a campfire at the junction of the Madison and Gibbon Rivers, when Cornelius Hedges voiced the opinion of the men who had seen these wonders—that the whole of them should be set apart as a reserve for the people. "Furthermore, each and every one of us should make every effort to have this purpose accomplished."

Everts, back on the shores of Bessie Lake, was still possessed by the thought of obtaining fire. As the storm cleared away, a ray of sunshine lit up the lake. "With the lens from my opera glass I could get fire from Heaven!"

Wondering why he had not thought of it before, Everts prepared some dry shavings, removed the now precious lens and held it over the shavings. A wisp of smoke smoldered into a fire.

With this new development, his drive and confidence increased. There were three possibilities open, now that he could travel and dared to leave the lake: south to the Snake River, where he knew there were trapper settlements; back-trail through the forest, retracing the expedition's route; or follow the original plans around the lake and head for the Madison Range.

He chose the last, but it led to an insurmountable cliff. He tore at the rocks with his hands only to fall back on the shale at the bottom. Slowly he got to his feet, knowing he must go back down the river, the way he had come. Traveling back to the Yellowstone Lake, he arrived at the expedition's abandoned base camp, but unfortunately failed to locate their notice or the food they had cached for him nearby. He found only one dinner fork and a small container they had left behind, which he felt he could use for cooking. In his surge of disappointment he repeated his vow, "I will not perish in this wilderness."

His container's usefulness was limited, for he was unable to catch the fish to be seen in the river. Then he found one, perhaps dropped by a gull, cooked it, and drank the soup. He also found a small snowbird and a gull's wing. These and the few berries available, with an occasional edible root, gave him strength to press on.

One night he slept in a bear's den in a hollow tree. He built a fire to keep the bear away and awoke to find himself in the middle of a forest blaze from which he escaped with singed hair and beard. The next afternoon he discovered that his lens was missing. The night was cold, and in the morning it began to snow. His very bones seemed numb.

### *Gives Up Hope*

"I have done all that a man can do," he thought. "I have reached the broad trail. My remains will be found. My friends will be relieved of doubt as to my fate."

Then, groping his way up the side of a hill, he looked up through half-closed eyes at two rough but kindly faces.

"Are you Mr. Everts?"

"Yes. All that is left of him."

"We have come for you."

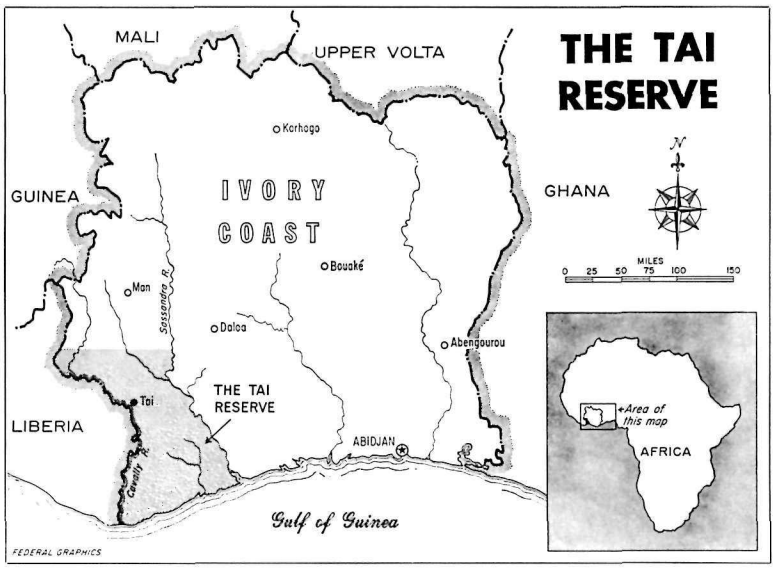
"Who sent you?"

"Judge Hedges and other friends."

"God bless him, and them, and you! I am saved!"

The men carried Everts to a trapper's cabin, where he was given a pint of bear grease as medication before receiving any food. During the span of his eighty-five years he was to live to see his own words become prophetic:

"In the course of events the time is not far distant when the wonders of the Yellowstone will be made accessible to all lovers of sublimity, grandeur and novelty in natural scenery, and its majestic waters become the abode of civilization and refinement; and when that arrives, I hope, under more auspicious circumstances, to revisit scenes fraught for me with such thrilling interest . . . to enjoy in happy contrast with the trials they recall, their power to delight, elevate and overwhelm the mind with wondrous and majestic beauty." ■




# THE IVORY COAST'S TAI RESERVE

## By Henry S. Kernan

THE AIR IN A TROPICAL RAIN FOREST IS USUALLY STILL and, except at night, carries no noise. Therefore the sight of shaking branches, even a hundred feet up and barely visible through the foliage, was enough to stop the line of porters and to cause Maurice, their foreman, to signal for his gun and to take aim with a heavy charge of shot. What he saw was a troop of big red-and-black colobes —forest-dwelling monkeys with long, strong tails and hindquarters matched by short forearms and thumbless hands. During the late afternoon they were returning at a leisurely, desultory pace from their feeding-grounds to some dense cover against the storm clouds that threatened from the southwest. One had chosen to stop and face us from where he could best stare straight down at the gun.

The next instant he seemed to start into the air and then begin a crazy, flopping descent downward from branch to branch until stopped at the ground with a thud. Twelve throats let out whoops of delight and two dozen eyes gleamed with the thought of meat roasted for the evening meal. Preparations began an hour before dusk; but not until nearly midnight was the last human voice still and the last flame sunk to embers and ashes, the jungle left to deepest black and the noise of tireless callers.

Although we were travelling well outside the Ivory Coast's Tai Reserve and were well within the open season for game, I could not but feel regret at having witnessed the natural human desire for protein being satisfied with such haphazard waste. In no sense is the chance killing of a monkey an efficient way to supply protein to a population of which more is being required in the way of hard and attentive work. Wild game can no more survive indiscriminate killing than can a flock of domestic fowl. The Ivory Coast, along with many other countries in Africa, may soon find itself with no wild animals and nothing to take their place; a quarter of a million firearms and not a creature to kill. Africans are not squeamish about their diet; yet even they may soon be hard put to find a feather to pluck or a hide to flay.

Some take the gloomiest view of man's increasing mastery of the earth and its creatures. In this view, man's needs will soon leave neither wild space nor wild life. I prefer to believe that this mastery will enable mankind to eat in a satisfactory manner without blowing out of a tree an interesting and harmless creature which is, after all, scarcely edible in any universal or popular sense.

Here in the southwestern part of the Ivory Coast the people are principally nomadic farmers. With tremendous toil they clear, sow and harvest small jungle patches of yams and cassava, moving about every few years as the soil wears out. Their almost unvaried diet of pure starch leaves them with a craving which the possession of firearms helps to relieve but cannot satisfy. The hope is that before the game has been shot out and their health deteriorated, they will be raising rice, poultry and swine. A project to help them is under consideration, with plenty of advocates to sustain it with sound, humanitarian reasons.

Here let us consider a position that is less obviously humanitarian and defensible. The southwest region of the Ivory Coast, between the Sassandra and Cavally Rivers and north to the 6°30′ parallel, has long been forsaken and remote, one toward which people, capital, and development money do not naturally flow. In 1922 the French Colonial Administration here designated on the map—but not on the ground—about 1,300,000 acres to be protected

against all exploitation, and thus set up the Tai Reserve. Today about a million acres remain, but menaced on all sides by logging concessions, roads, and moving farmers with their perennial cravings for meat.

The days are long since past when natural reserves can be created by governmental fiat just because they are remote, little known and almost uninhabited, as was the case of the Tai Reserve. For many years the Reserve remained unexplored. Now, under closer scrutiny because of rising demand for game, timber and land, even enthusiastic believers in national parks must look beyond the usual arguments—which carry little weight in the Tai Reserve.

Within its boundaries there is no breathtaking scenery of mountain, river or shoreline. The wildlife is for the most part either sly and hard to see or downright dangerous and better left alone. Barring an occasional tree of tremendous size, most of the trees are slender and tall rather than large, and present to the burning tropical sun a monotonous surface of leathery, dull-green leaves. As for the vaunted joys of wilderness travel, Heaven forbid that one should seek them out in the Tai Reserve.

Such observations are intended to be realistic, but by no means to suggest that the Tai Reserve be traded for its modest agricultural and timber resources. Very soon a piece of unspoiled earth may be among the most precious assets which a country can have, an asset which man cannot create and cannot move. If tropical forests are to be destroyed, loss of their reservoir of genetic diversity will permanently disrupt the course of plant evolution. The effect of forests upon climate is controversial; but at the very least, the trees of the Tai Reserve pump moisture back into the air to help water Central Africa. Finally, trees as economically important as the rubber plant or oil palm may be growing there.

The Tai Reserve was not established and cannot be defended for its spectacular scenery, big game or magnificent forest; but a plea may be entered at a more modest level. Here are a million acres of natural earth where lives a host of humble creatures which often appear superficially to be uninteresting, annoying or even disagreeable. No one defends them, because they are not thrilling to watch or kill or sell. They will not entice tourists and create foreign exchange. Yet they are part of the web of life. They are the creatures of the night, those who come to life in the deepest shadows to call, cry, hoot and sob as they did eons ago before man invaded their lives with axe, fire and gun. The Government of the Ivory Coast has decided to try to keep the Tai Reserve intact; and it deserves the support of conservationists everywhere in its attempt. ■

**At the time this article was written Mr. Kernan was associated with the World Forestry Institute of the State University College of Forestry at Syracuse University.**

*Of the approximately 1,300,000 acres of the Tai Reserve which were originally designated for protection about a million acres remain today, menaced on all sides by logging concessions and roads. In the photograph below a logging operation near the Reserve fells a huge African red mahogany.*

*Photo courtesy L. Normand Photo Service, Abidjan*

*A phenomenon encountered now and then on the Western plains is the "buffalo ring," believed to have been created during the days of the great buffalo herds when the big mammals were engaged in life-or-death struggles with hungry gray wolf packs.*

*Photograph by the author*

# BUFFALO RINGS

By Henry Schipman, Jr.

THE PRAIRIE LAY BURIED BENEATH A BLANKET OF WHITE. The wind was strong and icy but the buffalo did not drift before it—as did the white man's cattle—until they dropped from exhaustion. The hair on their heads and shoulders, longer, thicker, and woolier than on their hind quarters, made it more comfortable to stand facing into the wind. They were equipped to survive the coldest and worst snowstorms. All were thin from the long winter, but it was almost over. Already each cow had a new calf at her side. Very soon patches of green would appear in the white blanket, and all would have enough to eat.

The old cow blew her breath out hard, switched her tail and moved forward to nibble at a bush sticking through the snow. Suddenly she stiffened. She had caught the scent of wolf. Looking around, she saw a gaunt, gray figure slinking up to the calf of a young, inexperienced cow which had forgotten to stay alert. The old cow bellowed and charged. The wolf dodged but the mother, whose attention was now aroused, charged, too, and caught and tossed the wolf. He landed on his side with a yelp, jumped to his feet and ran—but not far. He soon turned back to attack again, and the cow saw many other gray shadows drawing near. The wolves were attacking in force. Bellowing a loud warning the old cow rushed about gathering cows and calves together and then ran to call the bulls; for among the buffalo a wise old cow, not a bull, guards the herd, warns of danger, and leads the way to safety.

Within seconds the whole herd was running, all in one direction. The old cow led the way to a nearby hillside with the other cows and calves following and the bulls in the rear. The wolves ran with them. On the hillside the cows and calves bunched together and the bulls surrounded them to fight it out; and so began a death struggle that would last for days, until every defending bull and every attacking wolf was completely exhausted. Although the participants on both sides are long gone, although some of the

fights doubtless took place a full century ago, it is still possible to identify these animal battlegrounds in some parts of the American West.

I learned about this a few years ago when I visited Bob Brislawn at his "Cayuse Ranch" at Oshoto, Wyoming, in order to meet him and see his mustangs; flesh and blood horses, not cars. Bob is a real old-time Westerner; lean, lanky, and weatherbeaten, with a gray mustache. He is now in his mid-seventies, but is still called "the Wyoming Kid" by many. For years he worked for the National Survey, carrying equipment through rugged mountains by packhorse. During this time he studied the various horses carefully and concluded the mustang was the best. As they were nearly extinct he devoted his life to saving them, and has worked at it for nearly 40 years. He now has probably the largest and most authentic herd of Spanish mustangs to be found anywhere in this country.

Bob kept emphasizing the point that this part of Wyoming is still, for the most part, unsettled land, changed very little from the wilderness found by the first white men. He took me around to see all the things of interest, including the Texas trail over which the first Texas longhorns had come to Wyoming. Then he said he was going to show me the buffalo rings. Buffalo rings? The first thing that came to mind was the kind of bullring I am familiar with; the small, metal ring placed in a bull's nose to control him. Bob explained: buffalo rings are the still-visible sites of the places once chosen by buffalo to fight it out with a wolf pack. The herd, usually a comparatively small herd in these cases, would form a tight circle with the cows and calves inside and the bulls in a ring around them, each bull with his head pointing outward. The circles were made as small as possible so as to allow no space for a wolf to charge in between two bulls. A row of buffalo bulls, all facing one way with horned heads lowered for business, is a pretty stout fort; and unless the wolves actually outnumbered the buffalo, which is unlikely, it is quite doubtful that the wolves ever won such battles. At any rate, Brislawn says the fights actually lasted for days at a time.

As the bulls stood and fought they were constantly pawing up the ground beneath them, and with it their dung and urine, which accumulated in large quantities in perhaps three or four days of siege. This "cultivation" caused the grass to grow thicker, taller, richer and greener in the ring where the bulls had fought than in surrounding areas. The rings of rich grass marking these old animal battlegrounds are the buffalo rings.

### *Details of the Rings*

There are several peculiar features about the buffalo rings. All seem to be on hillsides. The buffalo seemed to have learned that they could defend themselves best this way. The wolves seemed to have wanted gravity working for them as they charged down on the buffalo. Bob Brislawn says the predators always attacked from the uphill side. Therefore most of the bulls faced uphill, and the rings were not complete circles but were left open on the down-hill side. The rings vary in size, but the average ring may encircle a plot of ground 50 yards in diameter. The ring of grass itself is 15 to 20 feet wide, and the gap left in the downhill side of the circle is perhaps 10 to 15 feet wide.

These fights could occur at any time, no doubt, but the long, drawnout struggles were probably always in late winter when the wolves were hungriest and most determined. Melting of snow and seepage of churned-up buffalo chips into the softened, pawed-up ground of the ring gave the spring grass a good start. In sudden, hard rains the water ran off, especially on hillsides; but while it ran off the rest of the hill it soaked into the soft, mushy surface of the ring, giving the grass there an advantage. Today, when grass is tall and thick and rain comes, the extra-thick grass in these rings catches and holds more water than the surrounding grass, helping to perpetuate the rings. Best time to see them is in the fall, when the soil in them is both richer and damper than that surrounding and the grass is greener and dries out later. In cold weather, when all surrounding grass had died, that in the buffalo rings is still tall and relatively green.

Buffalo rings are marked by mushrooms as well as particularly thick grass. Rancher Brislawn says a few mushrooms can almost always be found in the rings in summer, and after a rain more and larger mushrooms spring up in the rings than elsewhere. This apparently was especially true in earlier days. Settlers gathered many a meal from them, and modern ranchers still occasionally eat mushrooms from the rings.

In some places only a half or a fourth of a ring remains, the rest having been washed away by a flash flood, grazed off by cattle, or destroyed in some other way. The Wyoming State Historical Society preserves some of the rings by occasionally cultivating and fertilizing them.

The circle method of fighting is, incidentally, the natural way for all species of wild cattle—of which the American bison is one—to defend themselves. ■

*Bob Brislawn, old-time Western rancher of Oshoto, Wyoming, took the author around the Cayuse Ranch on which a number of "buffalo rings" occur and explained how the bull buffalo defended their herd.*

*Photograph courtesy Bob Brislawn*

# Back Yards in Paradise

By Florence Lewis

I FELL IN LOVE WITH YOSEMITE WHEN I WAS A CHILD, ten years old. I fell in love in a geography book. The teacher was asking us to memorize the exports of China, and although among the exports of old China was bird's-nest soup, and I dearly loved to linger on the taste of such delicacies, the teacher had asked us to turn to page 78, and along the way to 78 I found Yosemite. Our geography book had everything in it except the pronunciation of place names in California. It did not make any difference that for many years I could never call Yosemite anything but Yo se mit with the total accent on the yo, as in yo ho ho. I was in love.

It was a picture of El Capitan protecting in granite majesty a dainty body of water, a small and secret pool. The pool was just my size. I took immediate possession of it. While class and teacher listed and inspected the exports of China, I stripped off my clothes, flung them to El Capitan, and began to swim silently in my lovely, only pool. Of course, I didn't know how to swim, but between the pages of a geography book anything is possible. Neither did I know how cold, how stunningly cold, the water of the Sierra can be.

In later years, in other droning classrooms, in crowded subway trains, I would return to the privacy of the Yosemite. I, who loved teeming villages, crowded alleys, narrow streets, crooked cobblestone paths, how could I love what was so natural, so wide, so free? I guess it was the best in me that had not yet been fully cowed or shamed or thwarted. It was the girl, still unspoiled. In my naked swim through the waters of the Merced, there was no nudity, no awareness of seduction, no one watching me from behind a rock as I swam dainty as a trout in the cool, I mean icy, mountain waters. There was only El Capitan and me, I, ten years old. There was privacy. I had never known real privacy except through that picture. I kept that dream of Yosemite for thirty years. It sustained me. And one day I came to Yosemite.

I should have known. I should have known that if John Muir's home could be permitted to stand virtually in the middle of a freeway, El Capitan would also be surrounded with cars. Well, so is the whole valley, surrounded, inundated—the valley where once my pool was private and secret—that valley has now become a gigantic garage and public filling station. It has also become, quite naturally, a trailer park. One trailer disemboweled, next to another trailer, equally disemboweled. All the comforts of home near-by—the laundry line stretched out, the canned food piled high in cabinets or on shelves, the table set for breakfast, dinner, lunch, or snack—the Coleman stove parked near the table, the bedding bountiful and strewn all around. And to complete the picture, the lady of the trailer sitting in a fold-up patio lounge chair, drinking coffee with a lady from the neighboring trailer. And the kids? The kids are right down the bank. They are pushing air mattresses down the shallow stream. All you have to do is get up and yell, yell down the stream. They can hear you. Or else they are riding bicycles up and down the valley floor, riding with their fathers, riding madly, up and down, up and down, up and down, see them go, up and down, where the cars also come and go, up and down, endlessly. And the smell of gasoline fumes trails you from Camp 4 to Camp 5 to Camp 12 to Camp 14, from Yosemite Lodge to Camp Curry and back again, because in the Valley nobody walks.

Then why in God's name do they come to Yosemite? If not to walk, not to hike, not to dream, why Yosemite? Why bring their back yards to paradise? Why turn paradise

into a dirty trailer court? They want a change of scenery? How do they find it, if they never move out of the trailer camp except to go to the shops at Camp Curry or Yosemite Village to pick up a souvenir that invariably bears the label *Japan*. Why Yosemite, if their tastes run to Coney Island?

I hear voices crying out the following recriminations:

"People have a right to go where they want."

"Do you own the park, lady? You're a newcomer yourself."

"It's the population explosion."

"It's more money, more people, more time to go, and simply not enough education."

"What do you want, paradise with people in it?"

To each of these I have an answer of the smart-alec variety because I think there is another recrimination which no one wants to hear. The organization that has the franchise to "run the park" can put a stop to the carnival. It may sound paradoxical to insist that the park belongs to everyone and then to get sore at the Curry Company for doing just that, permitting everyone to belong to the park. I am well aware that hundreds of people are turned away each year because they have not made reservations six months in advance. Is the park any the less crowded because hundreds of people are turned away? Can you walk or sit anywhere in the valley and have a sense of privacy or dignity? I am not objecting to people as much as I object to those who are tied body and soul to their cars and their trailers. Under present conditions, the Valley floor belongs to the car because it belongs to those who can't go anywhere without the automobile. Let us suppose for a moment that no car could enter the park—no car, no truck, no trailer—only people on foot or on bikes or on horses. Yes, there would still be the Curry buses, and the number of these buses would no doubt have to be increased, but think of it, no cars and no trailers. People could camp, as of yore, and those who couldn't, wouldn't. They could lodge at the lodges. Simple? Then why doesn't someone call a halt? Because the public likes it this way. The public gets what it asks for, and the public loves what it gets, and the vicious circle goes round and round. You shake your head in disbelief. You are the public. You don't like it.

"Lady, really why don't you go to another part of the park? Why don't you go to the Tuolumne Meadows? They're more for you and your kind. Really, lady. Why don't you go? Huh?"

Because I happen to love the Valley. I said that before. There's nothing like it in the world. The Valley is Yosemite.

I submit that if you keep the car out, you can then preserve the park for those who care; you can preserve it for another generation, too. It's not impossible to do this. The City of Fresno, one of the gateways to Yosemite, has a shopping mall where the people have to walk in order to do their shopping. Is this mall going to hurt the merchants of Fresno?

People used the park before the car came. They will still use the park. Every available tent and cabin will be taken. The restaurants will have standing room only. People will use the buses or wagons. Think of it, wagons. Why not wagons? Or else we will learn to walk all over again.

If we do it now! Otherwise we have the prospects of another Times Square or lower Market Street in San Francisco. It isn't that a place goes down; it goes low; it goes junk. And we can prevent it. All we need is an awareness that those who run parks for the public, those who administer as well as govern, have a responsibility to us. They have a responsibility to keep out the car if the car serves only to degrade.

The dream of a ten-year-old is not necessarily a false dream. My dream was one of peace and privateness. It was not a dream in which I shut others out. It was a dream wherein I found myself for a moment. The world of nature, God's world, is supposed to do this for man, not only when he is ten, but particularly when he is twenty and thirty and sixty and more. For it is a renewal, a reaffirmation in the goodness of life that man seeks when he walks the mountain trails and less hectically when he walks through the Valley of the Yosemite. And this renewal, this encounter, this revival should not be denied him. ■

## WIND IN THE PALMS

Bright green palm leaves sway under the sun
In a sky of white billows and thunderheads,
As a passing shower darkens the western sky.
With gusts of wind, coconuts plunk down,
And waves chop into mangrove roots,
While banyans creak in the seaward breeze.
Stinging raindrops cut across a glade,
Anhinga birds seek refuge in mossy oaks.
A humid, planty smell permeates the air.
Again palm leaves sway under the sun.

—*Richard F. Fleck*

# *News and Commentary*

### *Wilderness in Chiricahua*

The Park Service continues its wilderness review of the nation's park system with a public hearing at Wilcox, Arizona, on establishment of legal wilderness in Chiricahua National Monument, 10,000-acre preserve in the arid, sculptured canyon country of southeastern Arizona. At the hearing, held on the 5th of the month, the National Parks Association was represented by Professor Richard C. Bradley of Colorado College, who detailed the Association's wilderness plan for the monument and the way in which public and private lands in the surrounding region could help absorb the unit's accommodations and facility load. The thrust of Professor Bradley's statement on Chiricahua centered around one of the dismal facts of American life today—that genuine wilderness, with its host of fascinations and its potential for soothing the national nervous system, is in ever-shorter supply. With this in mind, it would seem reasonable that the Park Service should take advantage of the opportunities for protecting wilderness on its own lands; that with the abundance of conventional recreational opportunities existing in the lands around the parks and monuments there ought to be no excuse for diminishing park wilderness with developments that could be shifted as well to other suitable lands, either public or private.

The Association's plan for Chiricahua as outlined by Professor Bradley would establish two wildernesses covering all but a small portion of the monument, with no wide corridors along park roads to invite future development. Here, as is usually the case with Western parks and monuments, vast tracts of Forest Service, Bureau of Land Management and private lands create a patchwork of recreational opportunity in the vicinity—fishing, boating, swimming, hunting, camping, picnicking, and so forth—and there are ample private and urban facilities in the immediate region for those inclined to be less active or more luxurious. But in Chiricahua itself the geologic story, the remarkable scenery, the representative Sonoran Desert mountain ecology and the historical background as ancestral home of the Chiricahua Apaches, all combine to form a significant feature of the national landscape. Here special management should be oriented toward protecting and exhibiting those features.

To summarize, Professor Bradley's statement recommended that the Park Service retain the monument in as natural a condition as possible through the device of legal wilderness and to allow other agencies and individuals to help with the facility and accommodations burden.

### *Forest Wilderness Reviews*

Twenty-one more primitive areas in the national forests will be reviewed for possible classification as wilderness areas by the U.S. Forest Service between the spring of 1969 and late 1971, according to a recent announcement by the Service. As will be recalled, the primitive areas were created by administrative order and their protection fell somewhat short of that accorded to the original administrative wilderness areas.

The Wilderness Act of 1964 provided for administrative review of their suitability for inclusion in the permanent wilderness system established by Congress. Hearings will be held on all these primitive areas, and the dates will be published as they become available. All interested persons are invited to participate and hopefully to provide "hard analytical data." A useful map of the wilderness and primitive areas in the national forests, dated January 1, 1966, can be obtained by writing to the U.S. Forest Service, Washington, D.C.

### *Cost of Pollution*

A total of 11,591,000 fish were reported killed by identifiable pollution sources in 40 states during 1967. Industrial pollution led both in the number of fish killed, accounting for 71 per cent of the total, and in the number of incidents. Pollution from farming practices was second, replacing waste from cities, which moved into third place. Some 1,806,000 game fish were killed and 2,510,000 fish taken out of the commercial market by pollution.

These figures are from *Pollution Caused Fish Kills—1967*, published by the Federal Water Pollution Control Administration. Descriptive data on selected incidents, several statistical analyses, and a complete listing of all reported 1967 kills are contained in the booklet, which may be obtained from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402, for fifteen cents.

### *On the Public Lands*

The public land you litter may be your own! The Bureau of Land Management estimates that every American may consider himself the proprietor of about two and one-half acres of the 453 million acres it administers in the United States. And BLM's "Johnny Horizon" has recently begun an intensive campaign to draw on American pride in cleaning up the public lands and protecting natural beauty. Unlike the national parks, which have entrance gates, or the national forests, which are marked and patrolled, the vast acreage of the public domain is without signs. People often do not realize that it is *their* land.

*(continued on page 20)*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I certify that the statements made by me above are correct and complete: Paul M. Tilden, editor.

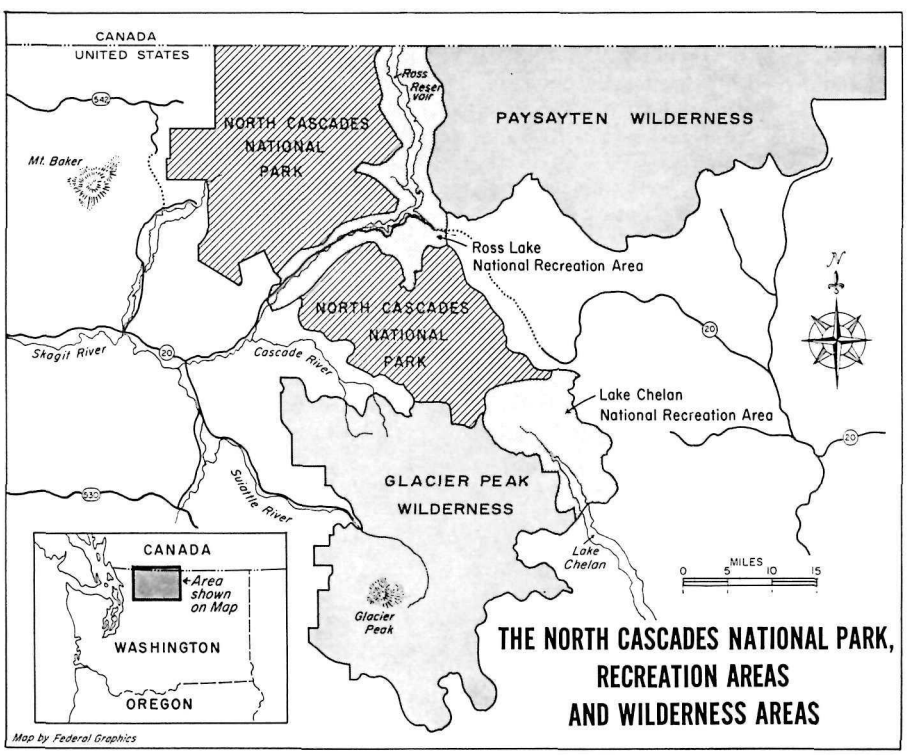
### *The New North Cascades National Park and a Recreation-Wilderness Complex*

Many years of interest on the part of American conservationists, and more recently much detailed study by Interior and Agriculture department specialists and planners, has resulted in the creation of a fine new national park, two national recreation areas, a spacious new national forest wilderness and additions to an existing forest wilderness, all in a setting of magnificent mountain country in the North Cascades of Washington. Signed by the President into public law October 2 was legislation creating the North Cascades National Park of 505,000 acres; the Ross Lake and Lake Chelan recreation areas covering nearly 170,000 acres; a Pasayten Wilderness of 520,000 acres in Okanogan National Forest, and two additions to the existing Glacier Peak Wilderness Area totalling 10,000 acres. These additions consisted of partial filling of salients into the west side of the Wilderness along the upper reaches of the Suiattle and White Chuck rivers. Boundaries of the newly designated units are shown below.

Creation of a park, recreation and formal wilderness complex was foreshadowed almost three years ago by the publication of a joint Interior-Agriculture study report titled *The North Cascades*. This book detailed conclusions of the departmental specialists and policymakers; and it must be said that the conclusions of the agencies concerned left some pretty broad canyons to be crossed by the team chairman and coordinator of the final report, Dr. Edward C. Crafts of the Bureau of Outdoor Recreation. But Dr. Crafts was able to fashion a plan for the North Cascades suitable in general aspect to the Park Service, the Forest Service, and countless conservationists; and the matter has solidified pretty much in accordance with the chairman's recommendations. One significant modification, however, is the creation of the Lake Chelan Recreation Area from land originally seen as part of the park.

A major factor in excising land from the park and reclassifying it as recreation area seems to have been pressure from sportsmen's groups, who have historically conducted back-country hunts in the Stehekin Valley and its surroundings. Beyond that, there has been some development in the area at the upper end of Lake Chelan, and it was felt that the terrain in the vicinity of the settlement of Stehekin might serve for further development to accommodate visitors to both the park and recreation areas.

Mr. Roger J. Contor, former superintendent of Craters of the Moon Monument and more recently assistant superintendent of Canyonlands National Park, has been appointed superintendent of the new North Cascades Park; he will also administer the Ross Lake and Lake Chelan recreation areas.



Officials hope that the new outdoorsman symbol and the theme *This Land Is Your Land* will stimulate both pride and respect for the public lands. Costs of cleaning up litter outside developed sites —from ubiquitous beer cans to abandoned cars—runs about $17,000,000 annually, for which BLM has no budget. The Bureau is offering attractive plastic, free litterbags, available from any of its offices in the West or its headquarters at the Department of Interior in Washington, to encourage travelers to bring out their trash and, hopefully, the trash of any others ahead of them who may have been careless. Already some private companies have offered to assist in distributing the litterbags. We hope Johnny Horizon will be as familiar, in time, as Smokey Bear—and as effective.

And, speaking of signs on BLM lands (though this time in a different sense) Secretary of the Interior Stewart Udall has recently signed new regulations that will control billboards and other advertising along road rights-of-way on the public lands. No permits will be issued by BLM for billboards within 660 feet of roadways until the Department of Transportation adopts quality standards for advertising along interstate and defense highways; further, there will be conditions to be met under which signs may be erected beyond that set-back. Secretary Udall has already indicated that no sign permits will be issued for displays that would mar scenic or historic values on the public lands.

### *Historic Sites in Canada*

In late September a group of conservationists gathered at the National Geographic Society auditorium in Washington on the invitation of the Canadian Embassy's First Secretary for Cultural Affairs, Mr. George A. Cowley, for an interesting and instructive talk by Mr. Peter Bennett on the work of the Canadian Parks Service's Historic Sites Branch. Mr. Bennett, the Service's Director of Historic Sites, accompanied his talk with a series of color slides showing sites already under protection and restoration work currently under way in various parts of Canada; particularly the great restoration project at Louisbourg, Nova Scotia, where the Historic Sites branch is undertaking a reconstruction of the old French fortress and town on a scale reminding one of the work done in the United States at Williamsburg, Virginia. In attendance for the National Parks Association were Paul Tilden, editor of the Magazine, and Miss Dixie Scott, assistant editor.

### *The Redwood Park*

On the back cover of the October Magazine we noticed the establishment of the Redwood National Park in the coast redwoods of northern California. Because of space limitations it is not possible to present both Cascades and Redwood park maps in this issue, and a Redwood map will appear in our December number. In the meantime, however, Secretary of the Interior Stewart L. Udall has appointed Nelson Murdock, for the past two years assistant director of the Park Service's Midwest Regional Office, superintendent of Redwood. Mr. Murdock has had a long career with the Park Service, having started in 1939 as a ranger at Sequoia-Kings Canyon and, with service at several other monuments and parks, finally joined NPS headquarters staff as Chief of Visitor Protection, which post he held with distinction until 1966.

### *SST & Random Thoughts*

In regard to the projected SST (supersonic transport) on which we have printed from time to time, there appears to be some interest in Washington in a federal fund that would require airlines operating such planes to contribute to a fund for personal injury or property damage caused by sonic booms. The sugges-

tion fascinates us. We might, for example, also promulgate a levy on grapes to pay for damage done by wine drinkers. And again, there could be a surcharge on first-class mail to mend the tattered pants of the mailman—a dog-bite fund. These are only two of the possibilities; doubtless the reader will think of others.

### *Concerning the Re-use of Natural Resources*

A system of regional "transfer stations" to which household garbage and refuse would be carted for salvage and reuse was proposed at the recent 23rd annual meeting of the Soil Conservation Society of America at Athens, Georgia.

John H. Abrahams, Jr., manager of environmental pollution control programs for the Glass Container Manufacturers Institute, said the refuse initially would be transported in ordinary garbage trucks to the transfer stations. Such highly automated transfer or distribution stations would be equipped to separate the material into its various salvageable components. Wood products, such as old furniture and logs, would be converted into charcoal. Metals would be salvaged for reuse as scrap. Paper, rags and similar material would be baled and shipped back to paper mills for reprocessing. Glass would eventually be returned to glass manufacturers for reuse in the production of new glass, or would be shipped to other industries—many of them perhaps new—for conversion into useful products. Garbage and other vegetable matter would be converted into compost, mixed with sludge and agricultural wastes and distributed to enrich farm and garden lands. The small amount of refuse that would be left over after the separation and salvage process would be incinerated and buried in land fills.

"Such a disposal system could be activated in the near future," Mr. Abrahams said. "The greatest barrier, it seems, will be the development of profitable markets for the salvaged materials. The system will develop as such markets grow.

### *Charles Glover Award*

Championship of parks and scenic beauty of the nation's capital has brought recognition to Maj. Gen. U. S. Grant 3rd and Elizabeth Rowe, former chairmen of Washington's planning commission. In October each received (Gen. Grant posthumously) the annual Charles Carroll Glover Award, named for a civic leader who was a prime mover in creation of the Washington park system. Secretary of the Interior Udall made the presentations in proclaiming Rock Creek Park Day, observed yearly to commemorate Congress' establishment of the park in 1890, first Federally purchased natural reserve.

# Reviews

*on the state of the Golden State and on some Muir miscellany, by Darwin Lambert*

SOUTH OF YOSEMITE. Selected Writings of John Muir. Edited by Frederic R. Gunsky. Black-and-white photographs by Philip Hyde and a few sketches by Muir. Natural History Press, Garden City, N.Y. 1968. 269 pages. $7.50

This collection of journal entries, letters, and articles published in transient media nearly a century ago vividly evokes the sights, sounds, feelings and meanings experienced by the eager and deep-comprehending naturalist-preservationist in those portions of the Sierra Nevada now constituting Kings Canyon and Sequoia national parks. It is useful in re-experiencing Muir's adventures as well as in broadly guiding and enriching present-day adventures in much of the region traversed by the John Muir Trail.

Maps tracing Muir's routes more exactly would have been a bonus for many readers, but Hyde's photographs splendidly reflect the still-wild scenery, and Muir's words re-create wonder as singingly today as they ever did:

"It is not easy to account for the colossal size of the sequoias. The largest are about three hundred feet high, and thirty feet in diameter. Who of all the dwellers of the plains and prairies and fertile home forests of roundheaded oak and maple, hickory and elm, ever dreamed that earth could bear such growths?—trees that the familiar pines and firs seem to know nothing about, lonely, silent, serene, with a physiognomy almost godlike, and so old, thousands of them still living had already counted their years by tens of centuries when Columbus set sail from Spain, and were in the vigor of youth or middle age when the star led the Chaldean sages to the infant Savior's cradle? As far as man is concerned, they are the same yesterday, today, and forever, emblems of permanence . . ."

Or, "Long, blue, spiky-edged shadows crept out across the snowfields, while a rosy glow, at first scarce discernible, gradually deepened and suffused every mountaintop, flushing the glaciers and the harsh crags above them . . . At the touch of this divine light, the mountains seemed to kindle to a rapt, religious consciousness, and stood hushed like devout worshipers waiting to be blessed . . ."

HOW TO KILL A GOLDEN STATE. By William Bronson. Doubleday and Co., Garden City, New York. 1968. 224 pages

with 300 black-and-white photographs. $6.95.

California, our most populous State, is probably the hottest spot in the world war of conservation versus destructive exploitation, and Bronson's book will make it hotter. While granting that much of his native state remains beautiful (as of now), he demonstrates in angry text as well as in picture after picture worth a thousand words each that "the California where most of us work, sleep, travel, play, breathe and dream" is "a hell of a mess and getting worse."

The titles and subtitles alone can bring the strong smell to your nostrils: POLLUTION, Soot and Corruption, Hard Sell in the Sky (outdoor advertising), Common Trash, Mare's Nest (wires and poles), Ticky-Tacky (shoddy buildings), and DESTRUCTION, Big Boondoggle (freeways), Landwrecking, Dying Farmland (urban takeover of fertile soil), A Port Beyond All Praise (San Francisco Bay being filled), Tahoe Tomorrow, The Giant (redwood) Killers. The stench of a standard-of-living gone berserk and rapidly destroying itself, along with the human dignity and happiness it was meant to serve, rises from riffling of the pages. When a legislator is seen inspecting a part of his district, you don't have to read anything to know why he's wearing a gas mask.

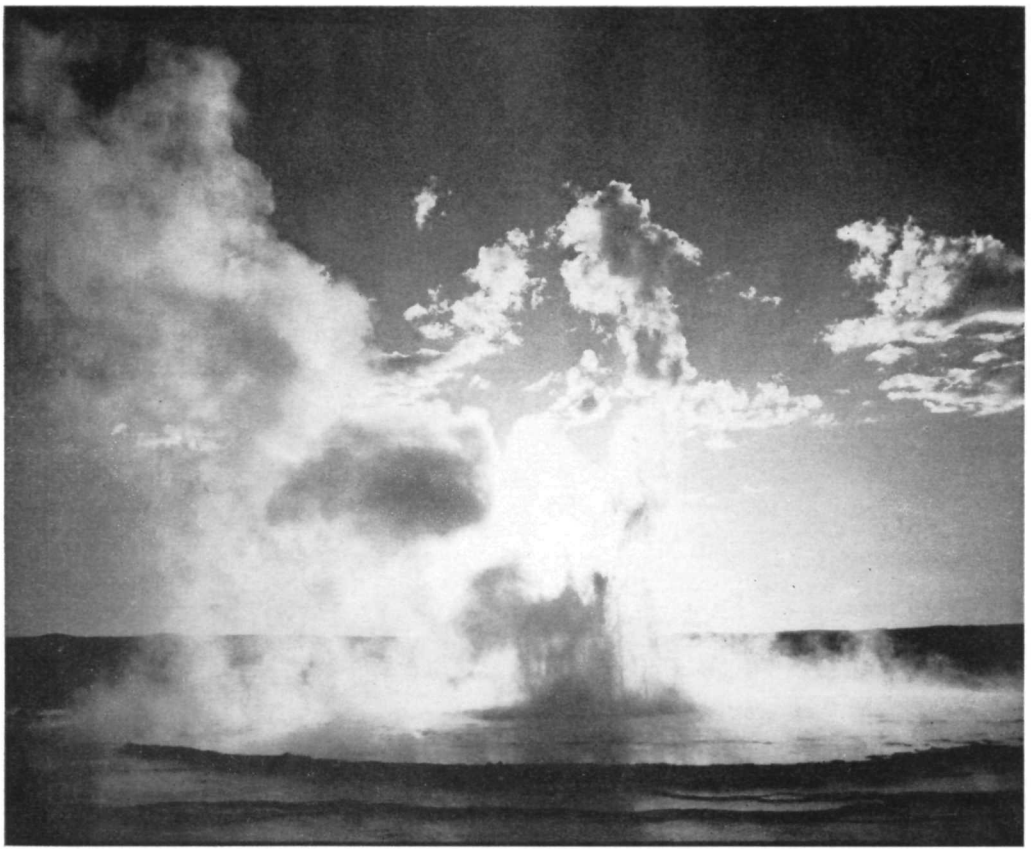
*Somehow Bronson clings to hope and* insists "we have it within our power to halt the spread of blight and to return this bright land to the splendor it once was." He analyzes causes and points toward remedies. In regard to air pollution: "We will simply have to give up much of the open burning of petroleum products, and this means finding a replacement for the internal combustion engine as motive power for ground transportation." But oil and auto firms effectively resist, so "it would appear incumbent upon state and federal governments to develop programs in which both Detroit and the petroleum industries could participate." But solutions won't come easily: "I have come to believe that it will take a massive human kill directly attributable to air pollution before we embark, for the sake of our children if not ourselves, on the heroic program necessary to restore the air to the healthful, comfortable levels that we once enjoyed."

Some readers will complain of the indictment being so much stronger than the pointers toward solutions. But isn't an incontrovertible indictment a key necessary in generating counter-force sufficient to turn such a massive tide of destruction?





## CLASSIFIED ADVERTISING



*Photograph courtesy of Franz Lipp*

*In Yellowstone, some phenomena were "both wonderful and loathsome" at the same time.*

NEARLY A CENTURY AGO TRUMAN C. EVERTS, straying member of an early expedition into Yellowstone country, observed that ". . . the time is not far distant when the wonders of the Yellowstone will be made accessible to all lovers of sublimity, grandeur and novelty in natural scenery . . .". Yellowstone became a national park, and as the West became more populous the park was made "accessible"—so much so, in fact, that today, with myriad visitors and their automobiles, the park is afflicted with various administrative headaches: bear-jams, traffic jams, and sundry people-jams. Everts, of course, had no reason to wonder about the course to be taken when too many lovers of sublimity gather in the same place at the same time; but over the past several years the National Parks Association has invested much time and money in formulating regional plans designed to lift some of the people-load from the parks to help protect that "grandeur and novelty in natural scenery" which recommended them for preservation. You can help in the planning work in any of several ways: by raising your membership dues, by contribution to the general funds of the Association over and above basic annual dues, or perhaps by remembering the Association in your will. All dues over and above basic annual dues, and all gifts and bequests, are deductible for Federal income, gift and estate tax purposes.

**National Parks Association**

**1701 Eighteenth Street, N.W.** **Washington, D.C. 20009**