NATIONAL PARKS *Magazine*

Isle Royale in Lake Superior:
in its wilderness is the measure of man

March 1969

FIFTIETH ANNIVERSARY NATIONAL PARKS ASSOCIATION

Opportunity Knocks but Once

GLOWING PROSPECTS FOR GREAT ACHIEVEMENT LIE OPEN TO the Nixon Administration in conservation and environmental protection. Many of the trails were blazed by the previous Administration and Congress, and need only to be travelled.

The first requirement is to retain competent officials in the resources management agencies. When General Dwight D. Eisenhower became President in 1953, he largely refrained, on the advice of conservationists, from replacing experienced administrators with deserving political appointees. There have been some disturbing indications that Interior Secretary Hickel may not be wholly committed to this exemplary policy. President Nixon might well jog the Secretary's elbow.

The Santa Barbara oil well disaster, of course, should give the Administration long pause. Secretary Hickel took office amidst connotations of petroleum. He also attached great importance to the continental shelf. Oil and shelf exploded together at Santa Barbara. True, this catastrophe had roots both past and present. The noted conservationist William Zimmerman warned against leases and drilling in that region a decade ago. The leases should never have been granted; permission should never have been given to the companies to drill, if at all, without casings. These leases should be cancelled permanently, and these and all other offshore fields should be placed in a military or civilian reserve as a hedge against future national emergencies. By firm action of some such kind at this juncture President Nixon can rise vastly superior not only to the hesitations of Secretary Hickel but also the mistakes of the previous Administration.

Alaska could also explode. One problem is whether the oil programs of the Government in Alaska will be administered mainly for the profit of the oil companies, or for the people of Alaska, including the Indians and Eskimos, and for the protection of wildlife, forests, and scenery, the environmental resources on which Alaska will ultimately be dependent. The President might undertake to prove the good faith of his Administration in conservation by withdrawing all the Alaska lands recommended by former Interior Secretary Udall; President Johnson approved some of those withdrawals, and President Nixon might well confirm them himself; President Johnson declined to make certain additional withdrawals proposed by Udall; President Nixon could establish his Administration on firm conservation ground by making the decisions President Johnson declined to make. The action should also cover the withdrawals proposed by Udall for the contiguous states, not merely Alaska.

The evil pollution of the life-environment which has been overwhelming the world has evoked outcries of anger from all corners of this country. The American people have made it clear that they do not intend to put up much longer with the present befoulment of water, land, air, quietude, and even outer space. An excellent structure of legislation for minimizing and eventually eliminating stream pollution, to take but one example, was established during the Kennedy and Johnson administrations and needs to be vigorously administered; good programs were started in other environmental fields. Secretary Hickel has not been convincing in his declarations thus far about pollution; certainly the President can strengthen the Secretary's determination; if not, perchance the people will.

But Agriculture Secretary Hardin and Transportation Secretary Volpe may also have some problems. There are those who think that the decision to open the Mineral King area in Sequoia National Forest in California for big ski-resort purposes was not motivated by considerations of good practices in national forest management, nor by sound wildlife, recreational, or scenic considerations. Mineral King should be a wildlife enjoyment and observation area in harmony with the present wildlife management uses, and compatibly with the career of the great Walt Disney, in whose name, unfortunately, the resort program was advanced. Because the access road must cross a corner of Sequoia National Park, Secretary Hickel can even yet reverse the approval; Secretary Volpe could stop the road; or perhaps even Commerce Secretary Stans, because his Department had a hand in the matter. But Secretary Hardin should take the responsibility, because the ski resort is a Forest Service project, originating with Agriculture.

Nor can Secretary Volpe escape some other hard choices. The trend of public opinion is running strongly against the wholesale condemnation of land and the destruction of countryside which have marked the superhighway program. The very least that is needed to protect people against the bulldozers is the public hearing procedure proposed by former Secretary Boyd. And, moreover, if open space is to be protected and restored for the people who live in our central cities, the construction of more and more freeways must be brought under control; this means public transportation, which is in the Department of Transportation.

Secretary Romney in Housing and Urban Development also has some opportunities, and we suspect he will rise to them. Conservation is not merely for suburbanites, nor for people with cars in good enough repair to cross the continent to the big parks. It is a question of getting open space and green space into the slums and ghettos, along with the better housing, better schools, and better jobs, which are imperatives for our society if millions of city people are to be rescued from degradation.

And while we are boxing the compass, Defense Secretary Laird might undertake to get the Army Engineers out of the dam building business and back into military service. It would be a good idea to do this while the Viet Nam war is still going on, so that the Engineers have some place to go. River Basin management is too important to be left to an agency with too many jobs and contracts at stake, and with no training in social objectives.

In our proximate sphere of national park preservation, we say that if the national park system is to be protected against the overwhelming onslaught of roads, facilities, and traffic, and preserved for people, regional plans must be drawn up for the dispersion of visitation through all the public lands, and clear out to the private lands which surround them. The responsibility for the establishment of such planning policies rests by statute and executive order with the President's Council on Recreation and Natural Beauty and the Bureau of Outdoor Recreation. The President might well give prompt but careful consideration to the selection of an able and experienced chairman of the President's Council. The Council should move with expedition to protect the park system and provide ample recreational space elsewhere by issuing an appropriate policy statement backed by a signed interagency agreement of the kind this Association has proposed.

Conservationists everywhere earnestly hope that President Nixon will recognize the great potentials for his Administration in conservation and environmental restoration and protection. Many strong and friendly hands will reach out to assist him if he does so. —*A. W. S.*

You Can Help the President!

President Nixon will need your support and encouragement in getting good conservation programs adopted and carried out. You are free to write to the President, The White House, Washington, D.C., about the conservation issues you consider most important. Please send us copies.

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Front cover photograph courtesy National Park Concessions, Inc.
W. Ray Scott

This month's front cover shows Duncan Bay and the waters of Lake Superior from the vantage point of Lookout Louise on one of the high ridges of Isle Royale, a few miles off the Keweenaw Peninsula of Upper Michigan. From the lookout the view spreads north and west across quiet harbors and small outlying islands to Canada in the far distance. Isle Royale National Park, whose more than half-million acres include the entire island and its surrounding waters, was formally brought into the national park system in 1940. In this issue one of our authors takes us through the past history and into the present importance of a national property which has been managed with more than ordinary concern for wilderness.

The Association and the Magazine

The National Parks Association is a completely independent, private, non-profit, public-service organization, educational and scientific in character, with over 39,000 members throughout the United States and abroad. It was established in 1919 by Stephen T. Mather, the first Director of the National Park Service. It publishes the monthly *National Parks Magazine*, received by all members.

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

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

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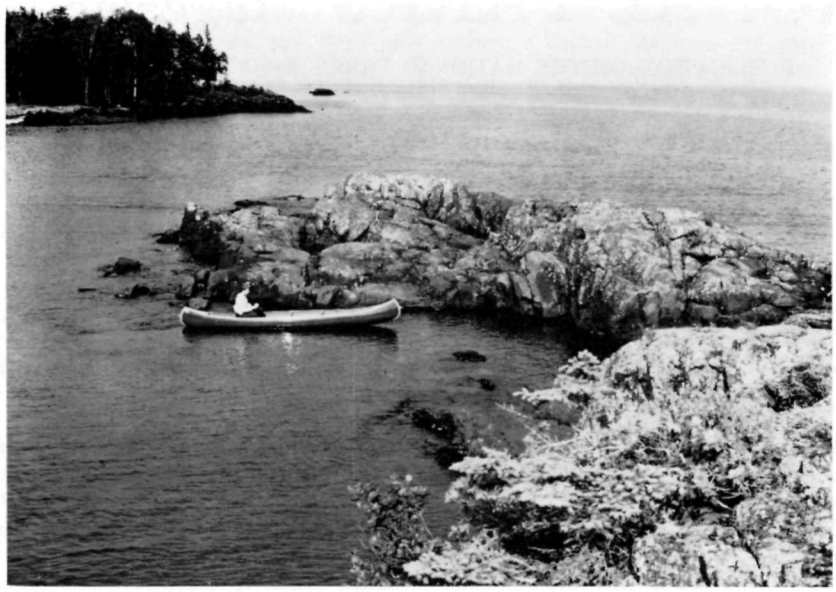


Photograph by the author

Much of the charm of Isle Royale National Park lies in its waterways—along sheltered shores and inland lakes and streams. Here a canoeist heads into a cove on Caribou Island. Not far distant the schooner "Algoma" sank in 1885 with loss of more than 40 lives, worst shipwreck in the island's history.

LAKE SUPERIOR'S ISLAND WILDERNESS

By Gilbert F. Stucker

THERE IS AN ISLAND ON LAKE SUPERIOR THAT WAS HELD in high esteem by the Ojibway Indians. It lay to the north and west, a strip of rugged woodland 45 miles long, near the far shore of their Big Sea Water, *Gitchee Gumee.* Few of them had ever seen it, for it did not figure in their everyday lives. Rather, it had to do with the spirit things —the mystic reality which underlay and gave form to their wilderness world. They knew it as Minong, "the high place." We know it as Isle Royale.

The very stones of the island bore the imprint of the Manitou in the mysterious substance called "caignetdaze," the Indians' word for copper. Unlike any material familiar to them, found nowhere but here and a few other localities on the lake, they prized it. They prized it not for weapons, tools or ornaments, but for the magical properties it seemingly possessed. They surrounded it with ritual, carried it in their medicine bags as the measure of their spirituality.

Word of this place reached the ears of French explorers as early as 1535, but many decades were to elapse before its actuality was established. Étienne Brulé may possibly have been its "discoverer," sighting it in 1618 during his search for the fabled Northwest Passage to the Orient. Pierre Boucher noted it in his *History of Canada* in 1664, and the Jesuit Allouez alluded to its mines in connection with his circumnavigation of Lake Superior.

The Ojibways viewed the growing interest in their island with apprehension. Desiring to protect it from encroachment, they sought to conceal it in a web of ambiguity and make-believe. Who knew what it was, or where? Some said that it was a myth; others, that it led a shadow existence, appearing as a vapor—now here, now there. Still others held that it was a floating mass, and that to set foot on it was to die. The truth would not be denied, however. By 1669, the tales notwithstanding, the

island was considered a proven geographic fact. In that year, in deference to Louis XIV, king of France, it was given the name of Isle Royale.

The change in name brought no change in character. True, beaver-hunters had begun to arrive, fishermen were claiming the rich bounty offshore, with some trying their luck at copper prospecting; but by and large, Minong remained the Indians' island and so continued for more than a century and a half as it passed from the control of the French to the British and then to the Americans.

Ironically, it was copper that brought the change—copper and geologist Douglass Houghton's 1841 report on the mineral resources of the Lake Superior region. The report set into motion "the first mining rush in the nation's history," and this, in turn, generated the political pressures that paved the way two years later for the treaty in which the Ojibways ceded the island, along with other lands, to the United States.

By that time an army of copper-hungry human moles was pouring into the North Country, most of them taking up claims on the Keweenaw Peninsula, but a few of the more venturesome crossing the 50-mile span of open lake to Isle Royale. The year 1847 saw them in full cry across the island, armed with picks, shovels and black powder, firing the forests to expose the outcrops, building shanty towns and wharves, blasting into the billion-year-old lava rock. The Federal government sent in survey parties to probe the geology and geography. Shafts were sunk by private companies. Some became working mines such as the Smithwick and the Siskiwit on Rock Harbor. Hopes began to mount. Who knew what the future held? Isle Royale might become another Cyprus, the Mediterranean island which had supplied the world of Greece and Rome with copper.

As if to lend substance to their hopes, ancient diggings were found on the north side of the island. Crude copper spearheads and knives, and piles of rounded hammerstones used in chipping chunks of the metal from the ore masses, revealed considerable antiquity, as did the charred logs, charcoal and ash which have been tested only recently for carbon-14. The pits, it has been determined, were not dug by the Ojibways, but by a prehistoric people nearly 4000 years ago.

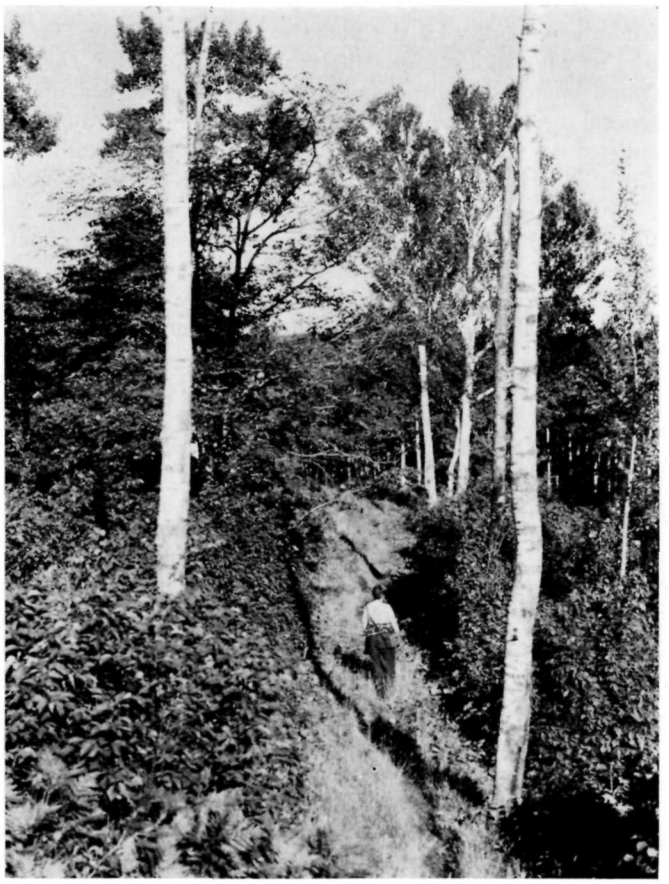
THE PITS SET THE NEWCOMERS DREAMING of a vast deposit beneath the surface. The deposit was reached, giving rise to the most famous of the island mines, the Minong. A settlement sprang up, tracks were laid for a horse-drawn ore-cart railway, a stamp mill and a blacksmith shop were erected. The Minong prospered. One of its "nuggets" weighed 6,000 pounds. Operated for about ten years, it produced just under 500,000 pounds of refined metal and, together with the even more productive mines on the Peninsula, helped make the Lake Superior region the country's leading copper source prior to the development of the veins in Montana. The Minong closed in the mid-1880's, bringing mining on Isle Royale to an end.

Today the mines lie empty, filling with the rubble of their own collapse. The structures that served them are in ruins. In time, no doubt, a few will be restored as public exhibitions. But it is hoped that some will be kept as they are, for a truth speaks in them as ruins which addresses itself to the human condition, pointing to man's impermanence in the face of the constant reality of nature.

Yet, not in the decaying timber or rusting trackway is the measure of man to be reckoned on Isle Royale, but in the green living wilderness—*in the fact of its preservation*. There where he has stayed his hand and left the land unmarked by his encroachment, the trees, the rocks, the clear, unpolluted lakes proclaim him. There where his presence casts no shadow, it is found in its most enduring form.

The first natural history survey of Isle Royale for the purpose of studying its wilderness ecology was made by naturalist Charles C. Adams in 1905. Following a reconnaissance the previous year, he and his party of eight spent a summer on the island. Packs on their backs, with the aid of only a few trails, they slogged through tamarack swamps where white bog orchids and creeping snowberry grew, trudged stony beaches amid clouds of blue *Phycoides* butterflies, tracked lynx along the ridges, saw bald eagles. In the top of the spruce they found a kinglet's nest, constructed of moss and lined with rabbit fur. They noted the preference of various birds for certain habitats, recorded

Photograph by the author



No "drive-in" wilderness, Isle Royale, like Katmai and Glacier Bay in Alaska, is roadless. Approximately 120 miles of foot trails beckon the hiker through meadow, bog, forest, and along high ridges.

Photograph by Alma H. Stucker

Heedless of inquisitive cameras one of the island's 600 moose enjoys a late afternoon snack dredged from the bottom of a beaver pond. Moose, and the wolves that keep them in check, are important factors in the island's ecology.

the occurrence of mammals, fish, insects and the rest of the animal kingdom and related them to their environmental niches.

Others followed Adams—scientists like Adolph Murie who came to study the moose; Walter Koelz, Carl Hubbs, and Karl Lagler, the fish; William Cooper, the vegetational succession; Clair Brown, the ferns and flowering plants, and, most recently, L. David Mech, whose interest centered on the wolf-moose ecology.

Unlike the exploiters of earlier days, these men came not to lay claim to the wilderness but to let it claim them. They came seeing the rocks not as source beds of copper or the trees as board feet of lumber. Did not the purposes of existence reside in each bird, leaf and blade of grass as surely as it did in themselves? They were naturalists; it was for them to know and understand these things as they were—unbent to the usages of mankind—and to seek through them some part of the answer to the nature of existence.

So, too, it was with Albert Stoll. He was not a scientist. He was a newspaper man with an abounding love of the natural. He had grown to know Isle Royale well, not so much in an intellectual sense, perhaps, but for the miracle it was, an affirmation of the creative forces that had brought it into being. For him, "knowing" the wilderness was fundamentally to be aware of its mystery, and, in this, he saw the island as the Ojibways had, as a place apart, reserved for the matters of the human spirit.

Except for his efforts it is doubtful if an Isle Royale wilderness worthy of the name would exist today; for it was he who, in 1921, as conservation editor of the *Detroit News*, launched the movement to have it preserved under federal agency. Through almost 20 years he and those he enlisted to the cause fought for this objective until, on April 3, 1940, it was duly established as a national park.

This 210-square-mile park claimed my wife and me in the summer of 1967. Accessible only by plane or boat, fewer than 11,000 people visit it in a season; hence, no crowds. There are no roads, travel being by water or afoot. For those who prefer, well-appointed accommodations are available at both ends of the island—at Rock Harbor Lodge and at Windigo Inn where, unhappily for others who prefer solitude, outboard motorboats are also available. Lesser accommodations can be had along the trails in the all-too-numerous lean-to shelters. There are 88 of them. Where they are, the wilderness is not. With our canoe, the *Neechimus*, ten days' rations, and enough duffle, it seemed, to carry us through the winter, we pitched our two-man tent in a rock clearing overlooking some small offshore islands and went exploring.

The islands flank the southeast coast, shielding it from the open lake. Our first day found us paddling among them, sniftering into the coves, skirting the wild outer shores. We examined a bog on Raspberry Island, lunched in waist-high daisies and purple fireweed on Star Island, visited park headquarters on Mott Island. Then we headed for the twin Caribou islands, momentarily swinging out into open water. There we picked up an escort of scream-

ing gulls, a foretaste of the attention we were to receive from representatives of Isle Royale's more than 200 bird species. While the gulls performed overhead, sandpipers skimmed the waves in front of us, peeping incessantly.

The birds on the inner shore showed less concern, except for some young mergansers swimming purposefully about with their mother. As we neared they dove out of sight, to reappear some distance away. When we followed the anxious parent circled her brood, gathering them in, and then—in a pandemonium of splashing feet and frantic wing-beats—they took off. The loons, too, gave us a wide berth. By contrast, the cedar waxwings appeared hardly to notice us, so intent were they on snatching insects out of the air. The occasional lone kingfishers were equally preoccupied, looking for their prey in the aqueous green depths.

ABOVE THE TREELINE NOW, in the distance, the abandoned Rock Harbor lighthouse showed. We slid past Cemetery Island with its century-old graves, rounded a blustery cape, and struck vigorously across the white-tipped water of the Middle Islands Passage. Keeping low we quartered into the wind, taking the waves on our bow. Too much city living told on our muscles, and before we landed at Pete Edison's place near the foot of the light, broken blisters had wet the palms of our hands.

Fishing is good in these waters, Pete will tell you. Since 1916, he has been hauling in lake trout and whitefish, steelheads, perch, walleyed pike. Sometimes a sea lamprey comes up in the nets—that destructive parasite which has taken such heavy toll of the native forms in late years, but which has been brought under control finally through the use of a chemical "lampricide" injected into its spawning beds. Inshore, lake chub plus the freshwater cod known as "ling" abound, and northern pike lies in wait beneath the pond scum.

Pond scum is an inert-looking mass, yet it teems with life. It is composed of primitive algae, representative of the first plants which shared with bacteria the role of earth's pioneers. Algae were the initiators of a process on which all life, as we know it, has come to depend—"the most important chemical process in the world," wherein the green coloring matter of plants, chlorophyll, converts sunlight into energy. Known as photosynthesis, it possesses the power to transform inorganic constituents in air and water into living tissue.

These floating masses, therefore, afford a natural starting-point for a consideration of the island's ecology. At the water's edge where they grow, the bare rock slants upward into a riot of color-mottlings of yellow, green, orange and white which marks the lichen level of existence. *Grimmia* mosses add their rich brown-green to cracks and crevices. Pools, occupying the rock cavities, stir at our approach: tiny fish and tadpoles dart for cover; water striders jerk across the surface; a diving beetle may be seen, or a spotted newt.

The colors soften as one reaches the zone of flowers—bluebells and cinquefoil, yarrow, goldenrod. Thick mats of reindeer lichen, growing with bearberry and creeping juniper, indicate the deepening soil. We push past flowering ninebark through an alder thicket. Lichens appear overhead in the form of "beard moss" draping the tree limbs. We are in the forest.

The trees of Isle Royale are not an ostentatious lot. There are no monarchs or patricians among them, and few survive to become patriarchs. Nor is individuality their forte. Rather do they seem constrained to their collective forest habit, standing together in a common struggle against the niggardly soil, harsh climate and the depredations of fire, man and beast.

There are 21 species, each expressive of some aspect of the landscape. Balsam fir is the most abundant, followed by paper birch and white spruce. They are the invariable corollaries of the high ridges, and the slopes which they share with aspen, yellow birch and remnant white pine. Jack pines favor the rocky hillsides closer to shore, while black spruce, cedar, alder, and the few tamaracks which have escaped the defoliating activities of the larch sawfly occupy the low places.

Nearly 120 miles of foot trails lace these woodlands, leading in from the coast to join the trunk segment stretching 40 miles along the crest of the Greenstone Ridge, spine of the island. As the visitor travels them, his realization of the wilderness grows.

At first he sees with "city" eyes, crudely and in part, perceiving only the shapes of things—single phenomena. But with observation his senses sharpen. He begins to see behind the facade of appearances, to sense relationships and flow of natural forces drawing the various, seemingly disparate, forms together into an organized, functioning whole.

My wife and I might have felt more a part of that whole were it not for the "chickarees" (red squirrels) who voiced their sharp disapproval whenever we ventured into their

In the solitude of a jack-pine clearing one can enjoy the experience of wilderness camping. Unlike parks with high visitation, Isle Royale is not troubled with crowds. Geographically isolated, it has fewer than 11,000 visitors a season.

Photograph by the author

coniferous haunts. Not so the Canada jays; they welcomed us and shared everything, including our lunches. We missed, however, the friendly scamper of those other habitués of the forest, the chipmunks; and the thimbleberries, ripe and untouched, reminded us of the absence of bears. Both of these creatures, although found a few miles away on the adjacent Ontario shore, have never been recorded here—unlike the caribou, deer, lynx, coyote, marten and Norway rat which were formerly present and have disappeared. The rats, proverbial stowaways, arrived by "jumping ship" in 1915 when a grain carrier hove-to off Rock Harbor light, but the Isle Royale winter proved too much for them and they did not survive. We were happy they did not.

A rodent group that we were happy *did* survive was the beavers. Once populous, they had been decimated here as elsewhere by fur-company trappers, and it was not until the 1920's that they managed a comeback. They are much in evidence now, especially in one marshy area along the Mt. Franklin trail where their runways show heavy traffic in aspen and birch cuttings dragged from high ground to their impoundments.

Hoping to catch a glimpse of them we seated ourselves at the edge of one of their ponds and waited. High above the treetops a broadwinged hawk sailed in widening circles, whistling. A raven called, and moments later two of them flew past, alighting nearby to ogle us. From behind some sedges a bittern rose and hastened away.

It was then that we caught sight of it on the opposite bank—a movement in the brush, not a beaver, but a moose —a large cow moose shuffling down to the pond. Seeing us she paused, then waded into the water and, submerging her head, commenced feeding on the pondweeds that grew at the bottom. We watched transfixed, but with sufficient presence of mind to unlimber our cameras and put them to use. For what seemed at least a minute at a time she kept her head under, withdrawing it at intervals to eye us as she chewed, pondweeds dangling from the corners of her mouth.

Moose made their appearance on Isle Royale about 1905, coincident with the mass dislocations in the faunal complex of the Lake Superior region occasioned by the inroads of civilization, particularly logging operations. Concurrently, as the wilderness edge retreated northward into Canada, there was a gradual withdrawal of the resident woodland caribou from the island. The moose, moving in, occupied the vacated niche and within 10 years comprised a herd of 200 animals. Largely unhampered by the only

Built more than a century ago during the copper-mining era, Rock Harbor lighthouse monitored ore boats through the treacherous Middle Islands Passage at Isle Royale. Abandoned for many years, it is being considered as a possible visitor center.

Photograph by the author

sizable predators then present, the lynx and coyote, their numbers continued to mount, boosted by a steady influx from the expanding population pool on the northern mainland.

ADOLPH MURIE, who visited the island in 1929 and 1930, noted signs of approaching disaster. The moose were overwhelming their food supply. Pondweed, *Potamogeton*, could no longer be found in many of the lakes and ponds and, except for a few scattered plants, the pondlilies were gone. The smaller broadleaf trees looked as if struck by blight. Ground hemlock had all but disappeared. Bush honeysuckle was ravaged. Balsam fir, the important winter food, sustained damage that would take years to heal. Saplings were stripped, taller trees denuded as high as the animals could reach.

The tragic consequences came in the early 1930's when the moose census rose to between 1,000 and 3,000, a figure far in excess of the carrying capacity of the land. Browse exhausted, mass starvation set in. By 1936 the death toll had cut the herd down to 400-500 animals. In the same year an extensive fire burned over a quarter of the island, clearing the way for new growth. The vegetation began to restore itself. As the plant base improved, the moose population again increased, reaching another high of 800 in 1948, only to be followed by another dieoff.

Once more the cycle was set to repeat itself. But this time the "inevitable" disaster did not occur. It was headed off by timber wolves. They came howling across the ice out of Canada in the late 40's, singly and in pairs, eventually to create the present Isle Royale pack—the only viable wolf society in the conterminous United States.

There are some two dozen of them on the island today. We saw none during our stay, but heard them once. Out of the predawn darkness their voices came as we lay in our sleeping bags, calling to something old and deep in our blood which recognizes in wilderness its true home; seeming to assure us that we were a part of them and the starry night that held their cries . . . a part of the moose they trailed, and the trees and dark hills. . . .

For 20 years the wolves have monitored the moose, holding their numbers down to the 600 commensurate with the environmental limits, keeping the herd vigorous through culling of the weak, unfit and old. Through them a state of "dynamic equilibrium" has been achieved in which plants and animals have been brought into harmony.

How long this harmony will continue depends, again, chiefly on what happens at the vegetation level, the base of the food chain. Browse is most abundant in the earlier stages of the forest cycle when sunlight conditions are optimum, before a heavy leaf canopy develops. As the forest matures sun-loving birch and aspen give way to shade-loving climax types such as fir and spruce. Browse diminishes. Soon the firs, being more shade-tolerant than spruce, become dominant, as they have on Isle Royale. At present they furnish an ample food base for the moose; but in time the older trees will grow out of reach and the younger succumb to the feeding pressures. The moose will then face another serious die-off unless something is done to regenerate the forest cycle and revive the conditions which favor the growth of new browse.

Photograph by the author

Ghostly Indian-pipe leads a secluded life in the moist, dark pockets of the forest.

In the wilderness of pre-settlement America, before men took to superimposing their own rules and regulations on the natural laws of the forest, wildfire took care of these matters. Lightning struck. A dead snag flared. Flames spread . . .

Too many of us have come to think of such fires solely in terms of their destructiveness. They *are* destructive. They are dangerous. But, they are also beneficial. They clear out the underbrush and litter which make for major fire hazards when left to accumulate. They expose the bare mineral soil necessary for the proper seeding of many tree types, including sequoia and Douglas fir. The vast lodgepole stands of the west were fostered by fires, as were the eastern pitch pines and the longleaf pines of the south which require periodic burnings to cleanse them of blight.

Time was when even the officially appointed custodians of our forests considered these natural fires as totally evil and sought their complete suppression. But as understanding came, thinking was reoriented. Federal and state agencies now study how to regulate, rather than eliminate, fire's function. For several years the U.S. Forest Service has experimented with its use as a management tool, conducting controlled burning in prescribed areas. More recently the National Park Service has carried on similar programs in its Sequoia and Everglades parks.

Perhaps, at last, we are coming to realize the place of fire in our wildland ecologies, as the catalyst which triggers the forces of renewal. As it brings to an end that which has matured and fulfilled itself in the climax woodland, it becomes a gateway through which the life of the forest passes to a new beginning.

This is nature's way, the way of the wilderness. Operating in a milieu of constant change, it forwards itself by means of repeated renewals, fresh surges in the continuum of creation. It is man's way, too; after the holocaust and charred remains, the stir of virgin life; at the end of our realizations, fresh hope and the promise of what is yet to be. This is why men go to the wilderness. This is why wilderness must always be there to go to. This is the reason for Isle Royale. ■

GOLDEN-CHEEKED WARBLER: THREATENED BIRD OF THE CEDAR BRAKES

By Warren M. Pulich

A singing golden-cheeked warbler and its mate are depicted above on a juniper branch. The watercolor is by Anne Pulich, wife of the author.

In the heart of Texas breeds one of America's most striking songbirds, the rare and beautiful golden-cheeked warbler. With feathers of white and jet-black contrasting with the golden-yellow of its cheeks (the female is expectably less colorful), this little-known member of the wood-warbler Parulidae family, *Dendroica chrysoparia*, each spring graces wooded areas on the central-Texas Edwards Plateau and somewhat northward. It breeds nowhere else.

Drastic human impacts on the face of Texas are shaping the fate of this appealing bird. By the processes of evolution the warbler has found its way into a unique ecological niche in the virgin cedar brakes, or thickets, in rougher places of the central-Texas countryside. Golden-cheeked warblers are found only in climax cedar, or more correctly, juniper.

Stands of Ashe juniper, *Juniperus ashei*, known locally as Mexican, mountain or blueberry cedar and comprising much of the vegetation of the cedar brakes, are indispensable to the species' nest-building. Although sometimes the female builds in other trees, all the nests are found to contain long strips of mature Ashe juniper bark. Neither young Ashe juniper nor any of the other three juniper species found in the warbler's nesting range offers acceptable nest material. Nor is suitable habitat provided by second-growth stands or grassland invaded by juniper as a result of overgrazing.

The warbler inhabits the cedar brakes from early March to mid-July, and leaves for its winter home in Central America as soon as nesting is finished. It migrates overland along the mountains of the Sierra Madre Oriental of Mexico to the pine and oak-covered mountains of central-eastern Guatemala, Honduras and Nicaragua. Because of its highly specialized requirements, the total population of the species is probably only 15,000 to 17,000. As avian species go, this is a mere handful.

Two decades ago Texas was estimated to have nearly 19 million acres of cedar. Since then a vast brush-clearing program, instituted to improve pasturage, and the spread of urbanization appear to have reduced this acreage by at least half. Much of the remaining cedar consists of second-

The author (left) and a fellow ornithologist stand beside a juniper tree in Texas' Meridian State Park, where golden-cheeked warblers can be found during the breeding season.

Photograph by Gale Monson

growth and species other than *J. ashei*, so that only a fraction of the remaining cedar brakes are actually hospitable to golden-cheeked warblers. Many counties now have no more than a thousand acres of virgin juniper. Thus it is not surprising that the known warbler nesting range has shrunk from 40 counties to fewer than 30. The habitat is indeed quite limited and scattered.

The cedar clearing is being vigorously promoted by government subsidy through the U.S. Department of Agriculture's Agricultural Stabilization and Conservation Service. To be sure, in the official specifications written by ASCS, the Soil Conservation Service and Texas A. & M. University, clearing is not recommended on shallow soil, escarpments and other marginal land—that is, likely golden-cheeked warbler domain. The department also maintains that as a matter of policy subsidies are paid only for reclaiming former grassland encroached upon by brush, not for range expansion into virgin cedar areas. And the Soil Conservation Service says it has recently begun working with individual ranchers to encourage protection of known warbler habitat. But department officials admit that not all clearing goes by the rules, nor can the government control what is done by private landowners on their own. Thus, land-clearing operations continue the bleak denuding of many areas still having virgin cedar stands.

In its list of *Rare and Endangered Fish and Wildlife of the United States*, the Fish and Wildlife Service currently classifies the golden-cheeked warbler as rare. But if the present appalling rate of destruction of its habitat continues unchecked, the species will inevitably join the officially endangered whooping crane and Attwater's prairie chicken (and the ivory-billed woodpecker, if any survive), now making their last stand in Texas on the borderline of extinction.

What are the chances of saving enough essential juniper habitat to forestall a sad fate for this beleaguered songbird?

Obviously there are remedial measures that could be undertaken. One is the application of appropriate restraints and conservation criteria to the government promotion of brush-clearing. Another is suitable education of landowners. A third is the specific protection of as much strategic habitat as possible through public ownership, or possibly through an equivalent such as conservation easements. Active consultation on the subject between the Agriculture Department and the Department of the Interior in Washington, and between Washington and Austin, would be a valuable beginning.

At the moment, however, the signs are far from encouraging, and they are epitomized by a controversial proposal now on the verge of decision involving a Texas state park and a tiny ranch-country town, Meridian, some 70 miles southwest of Forth Worth and Dallas and 50 miles northwest of Waco.

MERIDIAN HAS A POPULATION of about 900. Some of its citizens want to build a golf course, and their choice of site—obviously for economy reasons—is Meridian State Park, about three miles from town. The park's modest 463 acres, which include a 73-acre man-made lake and other recreational facilities, happen also to embrace woodland which is prime golden-cheeked warbler habitat. Little of the park's virgin cedar, exemplifying a picturesque countryside of the past, has been disturbed; whereas many once similar nearby hillsides have been denuded.

In July, 1967, an association formed for the purpose applied to the Farmers Home Administration, which finances recreation enterprises sponsored by rural community groups, for a $70,000 low-interest loan for developing the proposed golf course. On the strength of the application, the association then won approval by the Texas Parks and Wildlife Commission of a long-term lease of 75 to 90 acres of the park.

Curiously enough, the commission acted without advance public notice, and without even putting the matter on its agenda. Since then the project has been protested by many Texas conservationists. Nevertheless, last October a 60-year, 79-acre lease agreement was signed providing for a nine-hole golf course and nominally designating the local association as a "concessioner."

More than a year ago the chief of the Fish and Wildlife Service's Office of Endangered Species, Harry A. Goodwin, wrote to the Farmers Home Administration expressing concern about any destruction of the park's warbler habitat.

The Goodwin letter proposed that the administration ask for a planning report setting forth the project's potential impact on the park's plants and wildlife and designating alternative golf course sites both in and outside the park.

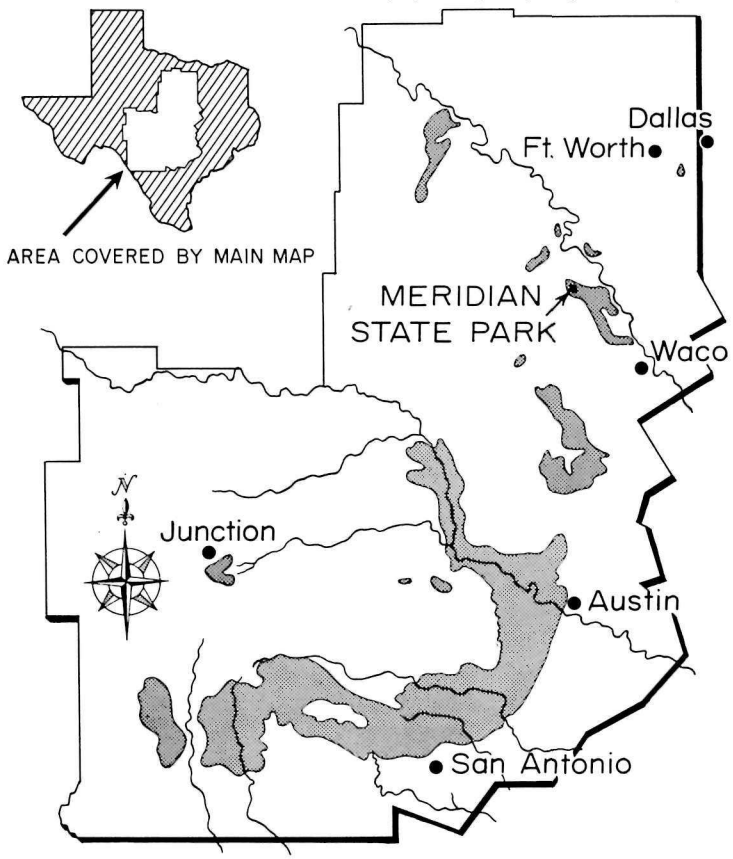
The administration never replied. The warbler problem, its officials say, is being left to Texas. As this was written, however, the administration had not finally acted on the application, and since the federal loan is one of the presumptions written into the lease agreement, the park is still intact.

Less than a two-hour drive from Fort Worth, Dallas and Waco, Meridian State Park is one of the few places where bird enthusiasts can seek out the golden-cheeked warbler without trespassing on private land or undergoing considerable hardship from difficult terrain. To glimpse the warbler, bird observers have journeyed to the park from far beyond Texas, and the numbers visiting the park for this purpose are bound to grow. This resource must surely be counted as more significant than Texas park officials have yet acknowledged.

As for the golf course, the thin, erosion-prone limestone soil of the cedar brakes hardly makes an ideal site; abundant private land is readily available outside the park; and it would be interesting to know how many golfers there really are in Meridian and in surrounding Bosque County, whose 1,003 square miles boast barely 11,000 human inhabitants. One more golf course in the vastness of Texas would seem a poor exchange for a small but strategic outpost of one of our most interesting songbirds.

The known breeding range of the golden-cheeked warbler is shown below. The species is found in mature juniper stands scattered within the shaded areas.

Map by author, modified by Federal Graphics



Mr. Pulich, an assistant professor of biology at the University of Dallas, has made an intensive study of the golden-cheeked warbler, on which he is a leading authority.

Since preservation of valuable natural areas, with their distinctive plant and animal communities, is a major aim of a recently launched 10-year Texas park expansion program, it is difficult to understand the Parks and Wildlife Commission's apparent inclination to disregard the unusual values being threatened at Meridian State Park. The park's natural qualities have been sufficiently recognized to make interpretive nature trails one of its principal features, recently described and pictured by *Texas Parks and Wildlife*, the departmental magazine, as the model for similar nature trails to be developed in other state parks.

More than half of the nearly 150,000 acres of new park land projected for acquisition is for scenic parks which, as Texas parks are classified, are devoted primarily to preservation. Meridian, one of the oldest state parks, happens nominally to be a "recreational park." It would be intelligent to have it redesignated to fit its present character. But the name should not matter when the parks department itself acknowledges the increasingly important status of nature appreciation as recreation. In its article on Meridian Park's nature trails, *Texas Parks and Wildlife* said the department plans to continue expanding and refining its park interpretive programs "in order to provide a well-rounded outdoor recreational experience for park visitors." Where this opportunity already offers, as at Meridian, it surely is worth perpetuating.

IN ADVANCING ITS EXPANSION PLAN the parks department declared persuasively that Texas' present park system—a mere 60,000 acres—cannot accommodate growing population and recreation demand for much longer without obliteration of the parks' natural character, and thus their whole reason for being. Texas citizens apparently preferred the alternative for they approved the $75 million plan including a $5,750,000 bond issue financed by a park entrance fee.

Having committed a program designed in considerable part to save the natural values of existing parks, by providing more parks for the Texas public, is the parks commission playing fair when it agrees to partial destruction of the woodland of Meridian State Park by a private group interested in developing a convenient local golf course to serve a small rural community? One opinion was offered in a December, 1967, editorial in the Houston Post. It declared that: "The Texas Parks and Wildlife Commission agreement to lease a big chunk of the Meridian State Park for a golf course is an incredible breach of public trust."

Citizens beyond Texas are contributing to Texas parks through the federal government's Land and Water Conservation Fund. They also share an interest in the fate of Texas wildlife, and a stake in the Texas ventures of the Farmers Home Administration. One can hope that this wider interest also will count in the future of Meridian State Park and of its rare and handsome warblers. ■

GIFT AT HALEAKALA

A CHALLENGE BY LAURANCE S. ROCKEFELLER TO THE Nature Conservancy, made some months ago, has resulted in a highly scenic and scientifically valuable addition to Haleakala National Park, 26,000-acre preserve which blankets the crater and part of the slopes of the great Haleakala Volcano on Hawaii's Island of Maui. The challenge: if the Conservancy would raise the money for acquisition of most of the Kipahulu Valley on Haleakala's southeast flank, Mr. Rockefeller would donate lands owned by him along the valley shores which would include the spectacular Seven Sacred Pools, pictured in part below, the whole to be presented in due course to the National Park Service and the American people for addition to Haleakala Park.

The Conservancy was able to raise the required money, and Mr. Rockefeller made good on his challenge. In early January the then Secretary of the Interior, Stewart Udall, accepted donation of more than 4,300 acres for eventual addition to the park.

The Kipahulu Valley, especially in its upper reaches, is not only a largely untouched wilderness but is notable as a haven for endemic species. Many of our readers know that only fragments of original Hawaiian flora and fauna are found in the Islands today; for the most part, plants and animals now seen represent a vast agglomeration of exotics that have reached the archipelago with visitors and settlers from all over the world.

In the fall of 1967 The Nature Conservancy sponsored a scientific expedition into the Valley to investigate and report on the ecological community found there. The expedition found that only some 10 percent of the Valley's higher plants were exotics as compared, for example, with the "remarkable" 50 percent found in some exotic-sheltered kipukas (isolated botanical and zoological islands) of the Hawaii Volcanoes Park, considered remarkable examples of non-contamination.

Among other points of interest to conservationists developed by the expedition was the rediscovery of the Maui nukupuu, a bird thought extinct for some 70 years prior to the investigation. ■

The beautiful Seven Sacred Pools area in the foreground and portions of the verdant Kipahulu Valley, fingering into the higher elevations of the great Haleakala volcanic crater on the Island of Maui, have been added to Haleakala National Park through the generosity and efforts of Laurance S. Rockefeller and The Nature Conservancy.

Photograph courtesy National Park Service

MARKED FOR GREATNESS

BY ELIZABETH BERNARD SANDLIN

THERE ARE SOME WOMEN WHO ARE MARKED FOR GREATness; whose deeds defy description; whose actions cannot be surpassed for ingenuity and inspiration. In my top-ten list I would include Madame Curie, of course, and Florence Nightingale and the wife of the man who invented Scotch tape. But for absolute genius, I'd have to place first the National Park Service wife I once heard about whose husband was transferred from Glacier Park to Yosemite Park in April and didn't write anyone that they had moved until after Labor Day. As a seasonal park wife (they're different from permanent park wives) I salute that woman! I sing her praises. With cunning and foresight such as this, who says American womanhood is degenerating?

Company is the bane of the park wife's existence. Company ranks as the Number One topic of conversation in the park. Who has company now, who got through having company, who's going to have company, and how many people who slept on any given night. In any crowd of park employees, tales of company rank ahead of the story about the new fiberglass restrooms ordered for a widely reported float-trip party or before the story about when they made "Spencer's Mountain" and Gary Jackson, the single seasonal ranger from Tuscaloosa, dated the starlet.

All those kinds of stories are all right. We tell and re-tell the latest episodes about tourists feeding the grizzlies in Yellowstone and about the time somebody slipped into the Jenny Lake boat dock and caught all the pet trout. But for hard-hitting, solid conversational material there is nothing to compare with company.

The Company Described

Comes the day of the first robin in New Jersey or Illinois or North Dakota, and every national park wife knows with certainty that Aunt Josie and Uncle Ted and Cousin Sue and her husband and three kids and Bob's old college roommate from Portland are right now consulting maps and counting mileage. "We'll just run by the Grand Canyon and stay with Sarah and her husband," she can hear them saying. "Whatshisname. That man she married. He works in the park there, you know."

And she's right. On a fine blue day next July, who comes driving up to her doorstep but Aunt Mary's stepson, Harry, and his wife and their two kids and their neighbors to whom they're not speaking any more because they've spent five days already with them. And who's expected to welcome and feed and sleep and do the sightseeing bit with this gay little group? The park wife, of course. She may barely remember Cousin Harry as an obnoxious little redhead back in Dayton in 1946, and she met his wife once at a family reunion with 38 other relatives. But she's expected to come through. Kids, fighting neighbors, and all.

Company—for both the permanent and the seasonal wives—falls clearly into two categories: those you invited and those you didn't. Those you invited are fine. They're your parents and your in-laws and your sister and her husband and your best friends from back home. These are one category.

The uninvited are not so clearly defined. In fact, they defy cataloging. They have only one thing in common. Not one of them actually came to see you. They came to see the park. You just happened to be there.

Now, that's all well and good in some instances. Like the ones who drop by for a cup of coffee or a beer and an hour's visit in your front yard. These are not only tolerated, they're actually welcomed. It's great to see them. You're flattered they've taken the trouble to inquire about you at the gate and to follow the complicated directions to your place of abode. You catch up on the news from home and get out the park maps and tell them where to fish and where to camp and ask if they want to use the bathroom (if you happen to have one—everyone doesn't) and then send them on their merry way.

Then there are others. They drive in at six o'clock at night. They don't have cabin reservations. They don't like to camp. They haven't eaten. They think they'll just drive on to Yellowstone in a little while and get a place up there.

It falls your place to break the news to them that: there are no housing facilities available this time of the night in Grand Teton; there are no housing facilities available this time of the night in Yellowstone; and they have undoubtedly passed up their last opportunity 14 miles back in Jackson.

For some unfathomable reason, the implications of this information seldom penetrate. The most sensible people back home—the kind who call the hotel dining room three days in advance to take the boss out to dinner, and who wouldn't dream of not buying groceries by the week or not carefully noting each engagement on the calendar—this is the type that invariably comes completely unglued on vacation.

"Oh, we're just taking it easy," they murmur, leaning back in your lawn chair and sipping their drinks. "We don't like schedules when we're on vacation. We just take our chances where they fall." You know exactly where their chances are going to fall. They're going to fall right on your studio couch and your top bunk—if you have a studio couch and top bunk. If you don't convince these people right now and get them out of here in two minutes, you know that these same cool, relaxed nomads are going to show up at your front door at 11 o'clock tonight, hungry and frantic for a place to lay their heads.

Company is one point on which permanent and seasonal wives have a mutual understanding. Permanent wives are those whose husbands work year 'round for the Park Service. They are "permanent personnel." They live here in

the cold, snowbound months when it takes a snowplow just to get you down to the post office, and where the only signs of life are moose grazing in your front yard and the elk who meander by on their way to the refuge. Permanent wives have a tendency to look upon seasonal wives much as we do tourists—nice, necessary, but novices. But on the subject of company, they rally around us. Kindred souls with a common problem, we're like the Colonel's lady and Rosie O'Grady—sisters under the skin. The main difference is that they have big houses.

"At least you have a place to sleep them," we tell the permanent wife who has been regaling us with the trials of the night before—seven unexpected guests at four o'clock in the afternoon. "That's just the trouble. I *do* have a place to sleep them," she wails. "If I were like you, with a trailer, I could say, "Sorry kids. The motel's full."

Have you ever tried to say, "Sorry, kids" when it's ten o'clock at night and 34 degrees and the nearest motel vacancy is in Rock Springs, Wyoming, 180 miles over the mountains?

You sleep them in tents in the back yard, erected with flashlights and profanity. You sleep them in the back of your station wagon. You sleep them at your neighbors' in *their* back yard tent or *their* station wagon. You never, ever offer them your bed; this is listed among the cardinal sins of the Park Service. The word is Silence. United we stand; divided we sleep in the back of the station wagon all summer.

The Cardinal Points

Someone should write a book on Etiquette For Visiting Friends in the National Parks. I'll be glad to add my store of knowledge, and I do so here.

Rule One: Don't be offended when you receive advance instructions.

Realize before you come that you are not visiting a family under their ordinary living conditions. So I write a list for our friends. I don't want to discourage them, but I do want to be realistic.

"Bring four blankets each," I write, "And mosquito spray and good, thick walking boots, and car coats for everyone. And would you mind stopping in Denver or Laramie and picking up the following groceries . . ."

Rule Two: Bring your own luxuries.

If you can't possibly survive four days without your manicure scissors or your bottle of olives or your cleansing cream or your Scotch, bring it with you. Don't expect your seasonal park friends to have it. Seasonal park people live basically in 150 square feet, about the size of your living room. In this voluminous space they're going to put you, your kids, part of your luggage, and probably the contents of the back seat of your car. The rest of the space is taken up with them, their kids, and their necessities—books, baking soda, toilet paper, and the electric portable mixer.

Rule Three: If you don't like to eat outdoors don't say so.

In most seasonal park family homes, there is scarcely eating room for the family alone. Very few quarters have ample space for serving company. If you and open campfires and roasted marshmallows and mosquitos and damp, chilly nights are especially incompatible, I have only one word of advice to you: keep your mouth closed.

Rule Four: If you must visit curio shops, do it on your own time.

If your seasonal park friends see one more miniature totem pole or Smokey the Bear or imported Irish linen towel or outdoor toilet doorknocker, they're liable to go crazy.

Rule Five: If you hate to hike, refuse to.

Don't wait until you're five miles up to Solitude with the nearest conveyance back in the Jenny Lake parking lot, a half a day's journey away, to start complaining.

Rule Six: Come prepared to be enthusiastic over peanut butter sandwiches and rainbow trout.

That's what you're going to eat. You might as well enjoy them.

Rule Seven: Tell your hosts when you arrive when you're planning to leave.

This may look like a gay, carefree existence to you, but to your park friends it's often a life of turmoil. What you may not know about your friends is that brother-in-law and sister are due to arrive on the 12th, and the Harpers said they'd come by for overnight on the 14th. Tuesday night the Jackson library is open, so that is also grocery-buying and clothes-washing night. Thursday and Friday are your husband's days off. Sunday morning is church at the chapel. The calendar begins to look like the one back home. This is something park visitors don't understand—but they can try.

Rule Eight: Leave one day before you said you would.

This is the bonus you give your hosts. Your bread and butter gift. Goodbye! We sure wish you'd stay another day! Sorry you missed hiking to Ampitheater. We'll do it next year. We just loved it all! Goodbye now!! Goodbye!

QUIET MEDITATION

Within the forest primeval
The past and present
Meet and blend;
Yet neither trees nor man
Can know or tell
Where yesterday died
And tomorrow began.

Sandra L. Keith

THE PROPOSED GULF ISLAND

By M. James Stevens

Included in the seashore would be the beautiful 1300-acre Naval Live Oaks Reservation at Pensacola.

WITH THE ADVENT OF MOSQUITO CONTROL AND AIR CONditioning, people and industry have finally reached the American coastline of the Gulf of Mexico in full force. Fulfillment of the dreams of the early explorers of the American Southeast—like Spain's DeSoto and France's de Bienville—now seems at hand.

When de Bienville, younger brother of French leader Pierre LeMoyne d'Iberville, arrived at the western tip of the island now called Santa Rosa in 1699, he found that the Spanish had already established a post at Pensacola. Moving westward in search of a site from which they could locate the mouth of the Mississippi River, the French passed a series of small barrier islands, nine to twelve miles off the shore of modern Mississippi, and left names for them—Petit Bois (little woods), Horn, Ship and Cat.

In view of Ship Island's deep natural harbor for anchorage and its plentiful fresh water, a base was chosen at its western end for a warehouse to supply the expedition's 200 colonists and soldiers. After locating the mouth of the mighty Mississippi and familiarizing themselves with possible sites for a river-controlling city-fort—later called New Orleans—Biloxi on Mississippi's mainland was settled by the party, and later Dauphin Island and the site for the future city of Mobile to the east, to keep the Spaniards at a proper distance.

City locations on the rivers prospered, but in the following 270 years little human use was found for the offshore islands. Neither agriculture, forestry, cattle-raising or fishing was ever found profitable on them. Beaten and occasionally flooded by Gulf hurricanes, the low-lying dunes comprising the "islands" were left to the lesser animals of the Gulf Coast.

Today the Fish and Wildlife Service's Gulf Island National Wildlife Refuge encompasses two-thirds of Horn Island and more than half of Petit Bois, as winter havens for migratory waterfowl and nesting places for shorebirds and other feathered species. The undisturbed island shorelines are vital also for many kinds of salt-water fishes that feed and spawn in their waters, and they also afford miles of sandy beaches in which some of the Gulf's dimishing population of sea turtles may lay their eggs.

Wildlife conservation compatible with seasonal human recreational use was conceived in a measure introduced into the recently ended 90th Congress; a Gulf Islands National Seashore, consisting of Cat, Ship, Horn and Petit Bois Islands in Mississippi and Santa Rosa Island in Florida, exclusive of the Fort Walton and Pensacola beaches. The plan would protect and make available for public use and enjoyment the five barrier islands as well as such historically significant features as the Naval Live

NATIONAL SEASHORE

Photographs by M. Woodbridge Williams courtesy National Park Service

Oaks Reservation, Fort San Carlos de Barrancas and Fort Redoubt at the Pensacola Naval Air Station and Fort Massachusetts on Ship Island.

Santa Rosa Island is a little more than 25 miles long and a half-mile wide, stretching from Fort Walton at its eastern end—where a bridge connects it with the mainland —to Fort Pickens on the extreme western or Pensacola Bay end, where another bridge crosses the bay to the mainland at Pensacola Beach. A road runs the entire length of Santa Rosa Island.

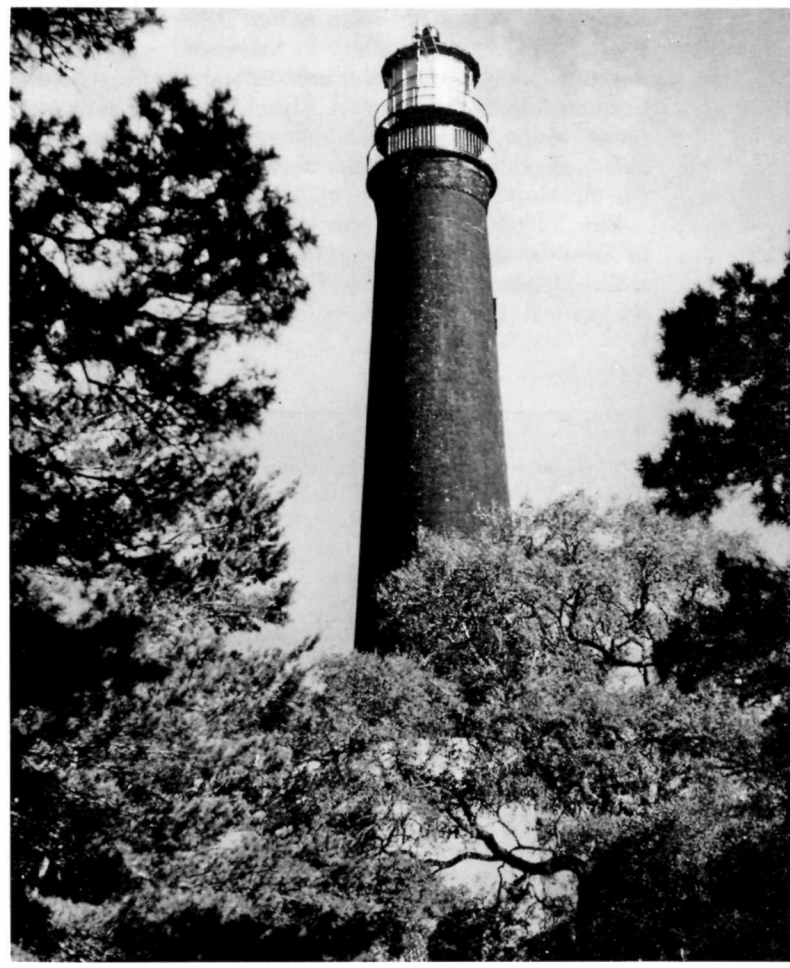
Santa Rosa Sound, between the north side of the island and the mainland, will offer visitors good quiet-water fishing, and picnicking with swimming. This would be true along the Gulf of Mexico side, also, although the water on the beach would be rougher. Camping and boat-docking facilities are contemplated, and the region is wealthy in opportunities for human and natural history interpretation.

Although the units of the seashore in Florida waters would be accessible by auto, the National Park Service plans boat tours for placing the visitor in the perspective of the many warring sailors and soldiers who fought to control this strategic military region. History enthusiasts could thus trace Spanish and British activities, the Indian conflicts, the events of the Civil War, and fort construction over the past several centuries.

IN THE WESTERN or Mississippi area the visitor would have to leave his car and take a boat to reach the several offshore islands. Most westerly of the Mississippi islands of the proposed seashore and nearest to the city of New Orleans is Cat Island, only seven miles south of Gulfport. About three miles of the eastern side of the island fronts the Gulf of Mexico, where important Ship Island-Cat Island Pass leads from the Gulf as the natural deep-water channel into the Mississippi sound. Cat is the most westerly of this group of barrier islands and has an elevation of three to four feet above sea level, with considerable trees and undergrowth. The balance of its approximately 18 miles of shoreline is in shallow water, ideal for quiet fishing and attractive to geese and waterfowl.

Leaving the sophisticated pleasures of "America's Riviera," as the Mississippi Gulf Coast is sometimes called, to visit the primitive offshore islands is like stepping back into another century. Horn and Petit Bois Islands have no inhabitants, and have had none for many years. Five hurricanes so far during the twentieth century have swept across the one-half to three-quarter-mile width of these and Ship Island, cutting down the dunes, filling ponds or lagoons and creating new ones, and leaving their marks on the pines that have managed to survive fire and sandblasting. (A

Horn Island, in the Mississippi portion of the proposed seashore, offers habitat for the osprey, above. Below, a view of the Pensacola Lighthouse at the Pensacola Naval Air station, slated for inclusion in the seashore.



The dunes and sea oats of Florida's Santa Rosa Island . . .

. . . are quite rapidly giving way to development like that above on the same island.

1906 storm blew away the lighthouse at the east end of Horn Island, along with the keeper and his entire family.)

For many, the primitive wilderness of these islands would be a welcome relief and change from the gasoline-smogged highways of the mainland shores. Sand and water, waving grass, calling birds, pounding surf Gulfside, wind rustling the thin pines and low shrubs in the vales—all could be part of sunlit day or moonlit night of quiet, pleasing natural sounds. On these islands birdwatchers might find such shore birds as the American oystercatcher, snowy plover, Wilson's plover, sanderling, killdeer, and willet. Among the tern family are black skimmers and the Forster, least, Caspian, black, royal, and sandwich terns. In addition to these are the laughing gulls that prey on tern eggs. Other gulls seen during the winter include Bonaparte's herring and the ring-billed.

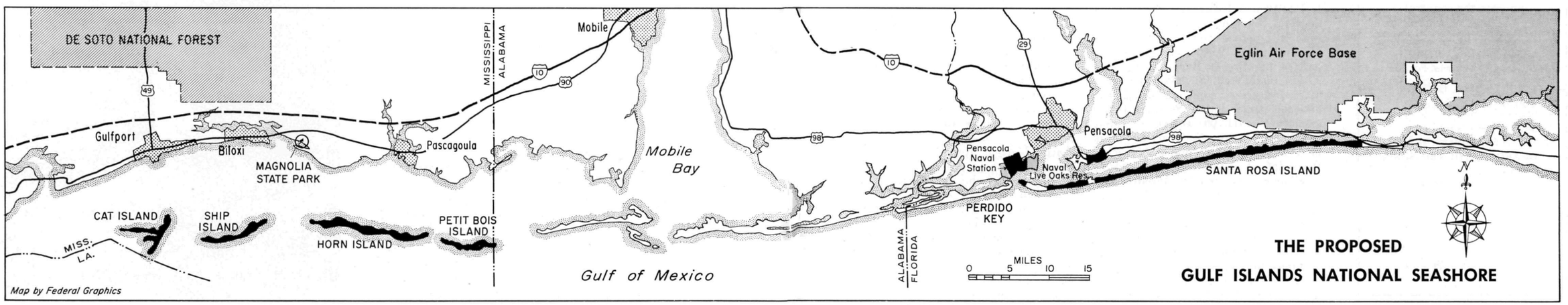
Blue and snow geese, plus many species of ducks, may be seen in season. Among the "puddle ducks" are the mallard, pintail, American widgeon, blue-winged teal, green-winged teal, black, shoveler and gadwall. Diving ducks include the redhead, lesser scaup, canvasback, goldeneye and bufflehead. Common and snowy egrets—and the scarce reddish egret—are to be found, as well as the ducklike mergansers. Among the herons are green, little blue, Louisiana, yellow-crowned night and black crowned. The osprey, or "sea eagle," and the frigate bird, or "man-o-war," may be photographed occasionally.

CHARTER BOATS leave from all harbors along the coast adjacent to the islands. At present, private boats from fourteen feet in length go out to the islands, with the smaller boats running up on the fine, sandy inshore beaches. Larger boats anchor offshore or keep moving. One of the primary considerations in a Gulf Islands Seashore would be modest facilities for boat enthusiasts who wish to safely visit or stay overnight on the islands. Because of the sudden Gulf storms and the shallowness of Mississippi Sound, protected berths would be mandatory for maximum safety. Great opportunities for picnicking, camping, swimming, fishing, birdwatching, photography, sun-bathing, or the easy task of just loafing abound on these quiet barrier islands. A few simple facilities for basic needs would make a day or an overnight camping trip truly "re-creational" for all, especially perhaps the visitor with a small budget.

Strict protection for loggerhead and green sea turtles, which lay their eggs on these western islands, and for the occasional alligators of the island marshes and lagoons would be mandatory. Protection must also be afforded for the esthetically pleasing and ecologically important plant called the sea oat; for removal of this species of grass actually caused the destruction of the isle of Caprice, between Ship and Horn Islands, by wind and wave action in the 1930's.

The western islands are of importance in American history. On Ship Island colonization was started by the French in 1699. England used the island, together with neighboring Cat Island, in the winter of 1814-15, as a base for its attack on New Orleans. Confederate and Union forces fought for possession of Fort Massachusetts on Ship Island, which commanded the important Ship Island Pass. Admiral Farragut used the same island when he attacked and captured New Orleans. This interesting brick fort is in a remarkably good state of preservation today and would be administered as an historic site within the national seashore, along with Fort San Carlos, Fort Barrancas, and Fort Redoubt in the eastern or Florida section.

More than 33 million Americans live within 250 miles of this possible Gulf Islands National Seashore, which has been endorsed not only by the Advisory Board on National Parks, but also by the other concerned government agencies —the Park Service, Fish and Wildlife Service, and Bureau of Outdoor Recreation. Petit Bois Island is seven miles long; Horn 13 miles; Ship eight miles; Cat about five miles, counting its longest finger; and Santa Rosa over 25 miles long. This adds up to more than 50 miles of offshore beach and dune which, properly managed and minimally developed, would have tremendous re-creational potential for millions of Americans while still serving as haven for many native plants and animals. ■



News and Commentary

Four Additions to the National Park System

A new Marble Canyon National Monument was created and three national monuments were enlarged by proclamations signed by President Lyndon B. Johnson just before he left office. Marble Canyon, on the Colorado River north of Grand Canyon National Park, once was proposed as the site of a dam project which the National Parks Association and other conservation organizations successfully opposed. The 26,000-acre national monument, in Arizona, forms a 50-mile link between the park, Grand Canyon National Monument and Lake Mead National Recreation Area stretching southward and Glen Canyon National Recreation Area and Canyonlands National Park to the north. It also adds to the national park system a spectacular gorge 3,000 feet high with superb white-water rapids.

Two of the enlarged national monuments are just to the north in Utah. Capitol Reef, formerly 39,172 acres, has been expanded by 215,000 more to include the entire Waterpocket Fold, a striking example of ancient earth-building and continuing erosion. Arches has been enlarged from 34,000 to 83,000 acres to embrace the full geologic setting of a notable concentration of natural arches, windows, spires and pinnacles. The other addition is 94,500 acres at 2,697,590-acre Katmai National Monument in Alaska, including the remainder of the lands surrounding Naknek Lake, cut in two by the former boundary.

Three much vaster areas were recommended as new national monuments by outgoing Secretary of the Interior Stewart L. Udall but failed to win Mr. Johnson's approval. Totalling 7,232,700 acres, these were a proposed Gates of the Arctic Monument (4,119,000 acres) spanning part of the Brooks Range in northern Alaska; a Mount McKinley Monument (2,202,000 acres) adjoining the Alaskan national park; and a Sonoran Desert monument (911,700 acres) adjoining Organ Pipe Cactus National Monument in Arizona. The three proposals reached the point of news releases issued by Udall aides but were then cancelled when Mr. Johnson declined to sign the proclamations.

In a statement the retiring President said he had been informed that setting aside of the three areas without an opportunity for Congressional study would be opposed by leading Congress members having authority in the field, would strain the Antiquities Act of 1906 proposed as authority for the action, and would be poor public policy. Mr. Johnson directed Mr. Udall to submit to Congress proposals for making the three areas national parks instead.

Government Broadens Road Hearing Rules

Last December we reported on proposed regulations of the Federal Highway Administration providing for increased public participation, and for giving greater weight to environmental and other non-engineering values in the planning of federally aided highways. In January the administration announced the adoption of such requirements.

Until now the opportunity of a single public hearing, all too often held after the basic decisions have been made, has been offered on highway projects for which the federal government helps pay the bill. Henceforth on major projects citizens will be guaranteed the opportunity of two hearings—the first prior to a decision on general location, the second prior to fixing of the detailed route and design. State highway departments henceforth will also be required to notify interested resource, recreation, planning and other agencies, local government officials and civic groups of contemplated projects, and in the case of government agencies to solicit their views.

With respect to conservation, the new rules include some improvements over the original proposal. A list of subjects to be given mandatory consideration by highway planners now includes recreation and parks, conservation "(including erosion, sedimentation, wildlife and general ecology of the area)," natural and historic landmarks, noise and air and water pollution. The administration deleted a provision exempting projects in areas outside communities of 5,000 or more from the two-hearing requirement, an exemption that could have had adverse implications for rural landscapes.

The government dropped two proposed innovations that drew especially sharp objection from highway departments. One was a provision for appeals to the federal highway administrator from field decisions. The second was inclusion in the hearing subject-matter of the question of whether alternative methods of transportation would serve the public interest better than a new highway. However, on the first score the administration said in a preamble to the new rules published in the *Federal Reg-*

ister that an appeal provision will be given more consideration and, pending further action, the present practice of entertaining informal appeals will continue. On the second question, it was stated that other procedural requirements are being revised to give citizens the right to express their views on transport alternatives during the comprehensive transportation planning process already required by law in urban areas.

The National Parks Association, with other national conservation organizations, indorsed the two-hearing and consultation proposals during a week of hearings in December. The Association proposed setting up an independent appeal board at the secretarial level in the Department of Transportation.

A key question is whether the new Secretary of Transportation, former Gov. John A. Volpe of Massachusetts, will sustain the new requirements, which he opposed as governor. One encouraging factor is that Senator John Sherman Cooper of Kentucky, ranking Republican on the Senate Committee on Public Works which last year indorsed the two-hearing idea, recently told the Senate he considered the changes a hopeful advance and hoped they would be maintained.

Another set of highway-planning regulations affecting conservation interests has yet to make its appearance. These rules will implement a statutory prohibition against the use of significant publicly owned park, recreation and refuge lands, and significant historic sites, for highway construction unless there is no feasible and prudent alternative and all possible measures are taken to minimize damage. The law's effectiveness would obviously be enhanced by promulgation of appropriate administrative guidelines.

Antioch Outdoor Conference

Antioch College has scheduled its 21st annual Outdoor Education Conference for April 25-27 at the Antioch Education Center, Glen Helen, Yellow Springs, Ohio. The 1969 theme is "Environmental Awareness."

Conservation Personals

• Harold J. Coolidge, president of the International Union for the Conservation of Nature and a trustee of the National Parks Association, recently was honored with two awards. One, the gold medal of the New York Zoological Society, was for his work in behalf of the world's wildlife and nature conservation. The other, the Horace Marden Albright Medal of the American Scenic and His-

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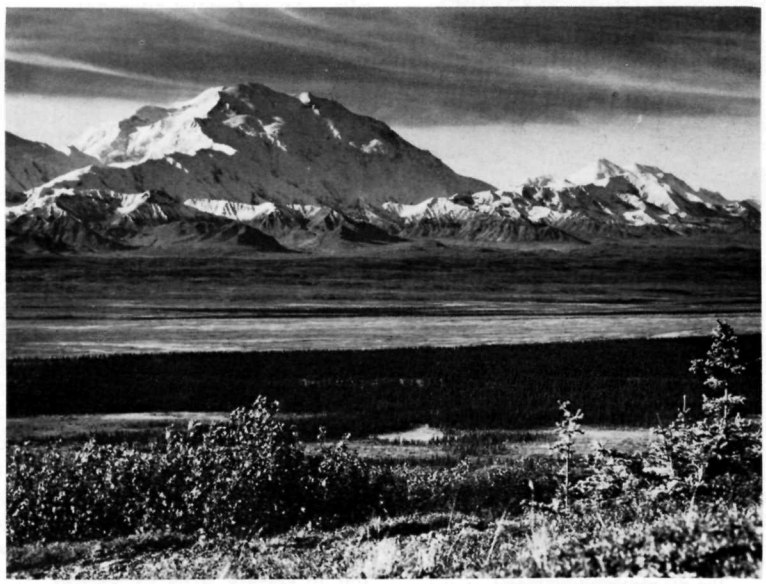

Photograph by Charles J. Ott

On a clear day Alaska's Mt. McKinley in Mt. McKinley National Park offers one of the nation's great scenic views.

toric Preservation Society, was particularly for his activities concerning national parks.

• Sydney Howe has been appointed acting director of The Conservation Foundation pending selection of a successor to Russell E. Train, now Under Secretary of the Interior, as foundation president. Mr. Howe, who has been the foundation's director of conservation services, also is a director of the National Audubon Society.

• John W. Bright has become chief of the National Park Service's division of park planning. With the Service since 1958, Mr. Bright recently has been coordinator of its new area studies.

• Joseph J. Shomon, director of the Nature Center Planning Division of the National Audubon Society, recently received a citation from the Forest Service for his part in a survey of the Massanutten Mountain area of George Washington National Forest and development of an outdoor education and nature center plan for the area.

• Rep. John D. Dingell of Michigan has succeeded former Rep. Frank M. Karsten of Missouri as a member of the Migratory Bird Conservation Commission, which decides on purchases of migratory bird refuge areas by the Department of the Interior.

World Travel Program

The Association's World Travel Program gets under way in July with an Alaskan trip, and continues with tours of Africa and around-the-world in connection with the 10th General Assembly of the IUCN in New Delhi, India. If you missed the ad on the preceding page, by all means turn back to it and see which tour fits best with your future travel plans.

Education and Environment

A veteran educator and resource specialist, Dr. Samuel T. Dana, has offered some stimulating suggestions concerning America's needs in environmental education. In a report prepared for the Bureau of Outdoor Recreation, Dr. Dana asserts that schools and colleges should systematically be guiding their students (including adults) toward fuller appreciation and understanding of the environment. Even grade school teachers should be seeking to develop appreciation of natural beauty, comprehension of resource problems and a motivation to help formulate the right public and private decisions, he declares.

As one step toward better curriculums Dr. Dana proposes that Congress create an environmental education review commission to study the relationship of edu-

cation and the wise use of the natural environment. Out of this, he suggests, might come a national environmental education center or bureau that could focus increased federal leadership in the field.

Dr. Dana is dean emeritus of the School of Natural Resources of the University of Michigan. Copies of the 47-page report, *Education and Outdoor Recreation* are available at 75 cents from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Review

AUDUBON ILLUSTRATED HANDBOOK OF AMERICAN BIRDS. By Edgar M. Reilly, Jr. McGraw-Hill Book Company. 330 W. 42nd Street, New York, N.Y. 10036. 1968. xviii + 524 pages: 388 photographs, 35 in color; 100 black and white drawings. $25.

Considering the numbers active in birding (this volume quotes a Bureau of Outdoor Recreation guess of 8,196,000 in this country), a compact, up-to-date reference work giving the essential species facts is overdue. This book, written by the curator of zoology at the New York State Museum, edited by Olin Sewall Pettingill, Jr., director of Cornell University's Laboratory of Ornithology, and sponsored by the National Audubon Society, is intended to fill this need.

For the almost 875 species recorded north of Mexico or in Hawaii Dr. Reilly provides succinct summaries of the salient available data on appearance, voice, range and status, habitat, seasonal movements, nesting and food. In most cases there are also one or more suggestions for further reading. Family summaries put the North American species in global perspective.

One of Dr. Reilly's most valuable services is his generous attention to calls, on which predecessor compendiums and even the standard field guides have been weak. Calls are given for 32 of the 46 wood warblers, for example, when in the National Geographic Society's handsome recent songbird volume there are descriptions of only four and in the latest North America field guide, three. (Bent cites calls for three of the 14 species on which Dr. Reilly is silent; but are some simply missing from the literature? Perhaps there is a scientific opportunity here for birders.)

Bird voices, of course, are notoriously difficult to describe, and as Dr. Reilly himself points out no one person has heard them all. Thus his summaries are not infallible. He has the eastern screech owl sounding forth in a sing-song, the western in almost a monotone, for instance; yet unless an owl family in one Washington, D.C., park is an unlikely crossbreed, eastern screech owls are quite capable of both, and of a wide-ranging repertoire of yelps and whistles besides. And it would surely be helpful, rather than hurtful, to add the familiar transliteration "drink your tea" to a description as overly scholarly as that given for the familiar rufous-sided towhee ("1-2 fairly loud notes followed by trills or a series of swift-cadenced fluttering notes"). The descriptions tend to be on the dry side.

Of rather more serious concern is the handling of illustration. The distance from 488 pictures to 875 species is a long one, especially when the value of a number of the photographic plates is compromised by making the subjects larger than life. Accepting their inherent limitation, the black and white photographs are generally excellent. The drawings, by Albert Earl Gilbert, also are attractive. It should have been easy enough, however, to encompass three or four times as many species on 31 8½x11 color pages; and of course the more color pages the better. Perhaps someday we shall be given a comparable volume making complete capital of both the ornithologist's science and the photographer's art.

In the jacket blurb, incidentally, the pictures are miscounted. It is necessary, too, to mention that the text is not entirely successful in its attempt to relate species sizes through the agency of the words small, medium, large and their variants. The explanation of this and other minor flaws, no doubt, is that the subject-matter is so lavishly diverse. The effort to contain it within two covers has nonetheless made a welcome and worthy addition to the literature of serious bird-watching. —*J. G. Deane*

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Photograph by Charles V. Janda

La Perouse glacier, in Alaska's Glacier Bay National Monument, terminates on the open coast of the Gulf of Alaska, where it is held in check by pounding of the surf.

Like Isle Royale National Park in Upper Michigan, a portion of which is shown on the front cover of this issue, Glacier Bay National Monument in Alaska is one of the great, truly wilderness units of the national park system, spreading over more than two million acres of seacoast and glacier-striped peaks of the southeast coast of the state. Historically there has been prospecting in the monument; but the Interior Secretary's Advisory Board on National Parks, Historic Sites, Buildings and Monuments has suggested that with prospecting and mining closed out of the monument it might well be considered for redesignation as a national park.

As the nation's leading private conservation organization concerned primarily with the welfare of the national park system this Association follows and carefully examines suggestions of this kind. You can assist the Association in this work in any of a number of ways, as: by contributing to its general funds over and above regular dues; by helping secure new Association members; or by remembering the Association in your will. All dues over and above basic annual dues, and all contributions, are deductible for federal income taxation; gifts and bequests are deductible for federal gift and estate tax purposes.

National Parks Association

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