NATIONAL PARKS *Magazine*

The spirit of interior Alaska:
Mount McKinley, in Mount McKinley National Park

October 1965

Wilderness in the Parks

An Editorial

THE SUPPLEMENTAL PROTECTION FOR wilderness in the great national parks and monuments contemplated by the Wilderness Act requires recommendations by the Secretary of the Interior to the President, and by the President to Congress, and thereafter, if so decided, the passage of a new Wilderness Bill.

The procedures required by the present Wilderness Act for these purposes call for hearings in the affected localities on the proposed recommendations of the Secretary of the Interior.

As one of the first steps in getting this machinery started, the Secretary has announced proposed changes in Federal regulations establishing the procedures to be followed in the hearings; these proposals are of interest in themselves and also as raising questions of considerable import about the entire planning process.

The proposed regulations say that the Secretary shall arrange for consideration of problems of mutual concern to other Federal agencies and to local, state, and regional governing bodies; but the regulations should be far more specific and comprehensive on this point.

No adequate consideration of such problems can be undertaken by the responsible agencies except against the background of a comprehensive regional plan of the kind this Association has proposed on several occasions. Pursuant to such plans the great primeval parks and monuments would be dedicated primarily, together with the wilderness areas of the national forests, to the preservation of wilderness. The more intensive kind of recreation facilities would be developed in the multiple-use areas of the national forests, the other public lands, and the private lands beyond the public holdings.

Yet we have no substantial indication at present that the Secretary of the Interior is thinking in these terms. There is nothing in the proposed regulations to suggest it. While the Director of the National Park Service has indicated publicly that he thinks well of the suggested approach, implementation cannot be achieved at the Service level; it involves the integration of programs in several agencies of the Interior and other departments as well. If the necessary broad consultation is contemplated, the regulations ought to be specific about it.

As noted, the Wilderness Act requires public hearings in the affected localities as to the "suitability or non-suitability" of roadless areas in the parks and monuments for preservation as wilderness under a subsequent bill.

On this score also the proposed regulations are quite inadequate, providing only for public notice, maps of the lands involved, a definition of boundaries, and a statement of proposed action.

If the people of the localities or of the nation are to have a chance to express themselves in such hearings effectively, they must be given the basic information required for intelligent decisions. At the very least, such information should include the master plans for the affected parks or monuments, with subordinate plans and budgets; plans for the classification of land, aside from the proposed Wilderness Act areas, into the classifications used by the Bureau of Outdoor Recreation; and the comparable planning materials for the affected national forests, public domain, Indian lands, Reclamation Bureau lands, and Soil Conservation Service Districts. The programs of the states and localities, under the Land and Water Conservation Fund Act, and otherwise, for the management of parks, forests, and recreation facilities, should also be made accessible; likewise all available information as to prospective private developments, recreational or commercial, whether aided by Federal grants and technical assistance or not; and likewise also, all related plans for the construction of roads or dams by the Bureau of Public Roads, the Bureau of Reclamation, the Army Engineers, the Tennessee Valley Authority, and state and local agencies.

Not only should these materials be made available at the time of the announcement of a public hearing, but by reason of their complexity they should be available long in advance; indeed, all this information (with the possible exception of plans for outright land acquisition) should be accessible at all times in the public agencies for public inspection and study; open government, open records, and open planning should be the watchwords.

Wilderness can be protected in the big parks and monuments if the effort is made within the perspective of the immense outdoor country which in most places surrounds these public holdings. Crowd recreation, in its various intensities, from large campgrounds to mass facilities at bathing beaches, should be located outside the areas of special natural beauty which the parks were primarily intended to protect. A different kind of recreation, turning around spaciousness, quietude, solitude, and the enjoyment of the pristine beauty of untouched nature should be forever accessible to every citizen of this nation; the greater portion of all the major national parks and monuments should be devoted to the protection of these opportunities for people, for it would be intolerable to have the big parks and monuments carved up into small wilderness areas and large facility areas as a consequence of procedures initiated under the Wilderness Act.

There is no contradiction between wilderness protection and mass recreation if the double objective is approached by competent and comprehensive regional planning. But such planning has never been attempted before, and if it is to succeed it must enlist the participation of concerned and capable people throughout the nation. The proposed regulations give no hint that such participation, based on full information, will be made possible.

New master plans are being prepared for the parks behind closed doors. We have commented in past issues on planning drafts for Yellowstone and Great Smoky Mountains parks, finding them unsatisfactory; finding, indeed, that they were not being prepared within the comprehensive perspective. Our criticisms have never been answered. The general public, including people with a special concern for conservation, have a right to an answer before the planning is all over. —*A.W.S.*

NATIONAL PARKS *Magazine*

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Front Cover Photograph by Charles J. Ott

The rugged, moody face of far-northern Alaska, our last true "wilderness State," is embodied in Mount McKinley National Park. Here the visitor can gaze with awe at shimmering glaciers among the highest peaks on the North American continent; hear the low howl of wolves at dusk; see the muscular outlines of caribou and moose against darkening hillsides; and perhaps glimpse the bulky form of a nearly-extinct grizzly bear as he lumbers through yellow-green forests. Since the first white man set foot on Mount McKinley in 1902, Americans and people of other nations have cherished this region as an irreplaceable wilderness domain.

The Association and the Magazine

The National Parks Association is a completely independent, private, non-profit, public-service organization, educational and scientific in character, with over 28,000 members throughout the United States and abroad. It was established in 1919 by Stephen T. Mather, the first Director of the National Park Service. It publishes the monthly *National Parks Magazine*, received by all members.

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

Dues are $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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Rampart Dam: White Elephant of the Yukon Flats

By Terry T. Brady

Photographs by the Author

MIST THAT HAD CLUNG TO THE surface of the shallow, thirty-acre muskeg lake since mid-evening began lifting and disappearing as the rising sun focused on the Yukon River Flats of northeastern Alaska. A young Indian boy, slightly built and lightly clad against the early spring chill, sat hunched wearily over a paddle and a .22 rifle in a short, canvas-covered canoe. An early-morning breeze moved his craft about the lake without a sound or ripple.

Suddenly his face brightened, and his dark eyes shone beneath a coal-black lock hanging over his forehead. He smiled, then pursed his lips, and by making quick sucking motions emitted a series of sharp squeaks that caught the attention of a small animal swimming near the shoreline of the lake.

The animal, a muskrat, turned. At first it hesitated. Then, attracted by the noise, the muskrat began swimming away from the sedge, spruce and willow-lined shore and came directly toward the canoe.

The boy slowly raised his rifle, peered over the open sights, and aimed at the tiny approaching head that was cutting a sharp wake in the nearly still water. Then he squeezed the trigger.

Several quick paddle strokes later he came alongside the dead muskrat. He reached into the cold, brown, peat-stained water, grabbed the animal, and deposited it with three others that were already in the canoe.

Later in the day he would return home to Fort Yukon, the largest village in the Yukon Flats, and proudly report the success of his hunting venture. With spring in the air and ice breakup completed for another year, the boy, like his ancestors for hundreds of years before, was capturing the elusive muskrat to add to the mink, marten, beaver, otter, lynx, wolverine and other furred animals taken during the long, snow-bound winter so that he and his family could survive.

The seasons in the Yukon Flats, which lies just west of the Canadian border, each bring certain activities to the nearly 2000 Athabascan Indians and handful of whites that inhabit the 11,000-square-mile region bordering the largest river in our largest State.

Summer is for fishing salmon by current-powered wheels and gill nets. Fall is for hunting moose, caribou, bear and waterfowl. Winter is the time to gather wood and trap furs. Spring is for dog-sled racing, just before ice breakup, and for muskrat hunting when the ice is out of the thousands of small lakes dotting the Flats.

The Yukon Flats is a region with unique American history. It has witnessed ancient Indians pitting primeval skill against the coldest climate in North America. It was a route for early day Hudson's Bay Co. fur traders, and missionaries and gold-seekers. It has reverberated with the whistle of wood-fired steamboats, and the whir of propellers on the aircraft of bush pilots.

It is a land of incredibly large waterfowl populations, and it now supports more than 5000 moose. Fur bearers, both small and large, compete for survival along its streambanks and lakeshores. Wolves still prowl the dense forests and open regions, and the wandering caribou still cross its vast expanse from ranges high in the hills bordering the Flats.

Yet despite its past—and valuable promise for the future—the vast Yukon Flats may be doomed to an early and ugly demise by drowning. The Flats lie upstream from Rampart Canyon, where some engineers and promoters want to construct what would be the biggest hydroelectric project in the Free World—Rampart Canyon dam. If completed, the Rampart Canyon dam, key structure in the project, would rise to a height of 530 feet and be 4,700 feet along its crest, blocking the Yukon's flow and backing water completely over the Flats. It would create a lake considerably larger than the State of New Jersey, more than ten thousand square miles in area, and holding some billion and a quarter acre-feet of water.

Though not the largest dam in the United States, Rampart's unique location would permit a generating capacity of about 5,000,000 kilowatts of power. This is two and a half times the present capacity of Grand Coulee dam in Washington State.

Impractical as the plan may sound, with such a large block of power so far removed from the nearest industrial center in the Pacific Northwest, and located in remote central Alaska (known more for its wilderness values than its manufacturing potential) the project is not without friends.

In 1963, a pro-Rampart dam promotion group was formed at a meeting in Mount McKinley National Park, itself world famous for its sub-arctic beauty, its lofty peaks, and varied wildlife. The group, Yukon Power for America Inc., was formed to push for early construction of the Rampart project. This group, mostly made up of real-estate people, attorneys and newspaper publishers, has already received local and state government financial assistance to perpetuate their dramatic advertising. They have even attempted to reach the school children of Alaska by selling junior memberships in YPA.

To offset this group, local sportsmen and conservation clubs have been refuting the claims of cheap power and many jobs promised by the promoters. Such groups as the Alaska Conservation Society and the Alaska Sportsmen's Council have been pointing out that the Rampart dam would be more destructive than creative, especially to the abundant—and in many cases rare—wildlife of the area, whose habitat would be inundated by the project. Such comments as "Who ever heard of a duck drowning?" have been answered by pointing out that the one and a half million ducks, geese and other migrating birds that leave the Flats for the nation's flyways each fall would have no place to nest. Their loss would more than offset the gains made in recent years by the government's massive wetlands program.

Off-the-cuff statements made by unofficial sources, such as YPA, to the effect that the Indians of the region would receive good jobs are refuted by the skilled nature of the construction and maintenance work which, without intensive schooling, the untrained Indians would not be qualified to handle. With the present "rush" timetable to get Rampart dam authorized in 1966, there is little chance that the Indians could be trained for anything but the most menial jobs. Highly-paid outsiders would be brought in to actually build the dam. The Indians would then find themselves in the same economic position as before, and perhaps considerably worse.

This aspect of the project, plus the loss of what the natives consider valuable traditional land, had given rise to a unique organization known as Gwitcha Gwitchin Ginkhye (The Yukon Flats

Sloping hillsides, lined in summer with spruce and willow, surround this portion of the proposed Rampart Canyon damsite. Structure is an Indian-built fishwheel, used to catch salmon.

The vast expanse of the Yukon Flats, which cover 11,000 square miles of the State of Alaska in the area just west of the Canadian border, would be drowned by over a billion acre-feet of water if the proposed Rampart dam is built. Its lakes are prime waterfowl nesting areas; destruction of the Flats would ruin irreplaceable human and wildlife habitat.

Cheerful and friendly, two young Athabascan Indians pose for the photographer at Bird Creek Village. Over 2000 Alaskans would lose their homes and livelihood by inundation of the Flats.

Churning the icy waters of the Porcupine River with their little craft, several Indians travel quietly along the Flats. The Porcupine is the largest of the Yukon's major tributaries.

A young bull moose celebrates the arrival of spring by feeding on tender willow sprouts. The Flats house one of America's largest assortments of wildlife, some of which is rare. Conservationists and the Interior Department's Fish and Wildlife Service have studied the area and state that the proposed Rampart dam would have a disastrous effect on both permanent and migratory populations.

People group) made up of both natives and whites. This organization not only opposes the dam but is also working toward more sensible economic development of the nine villages in the Flats and the surrounding region.

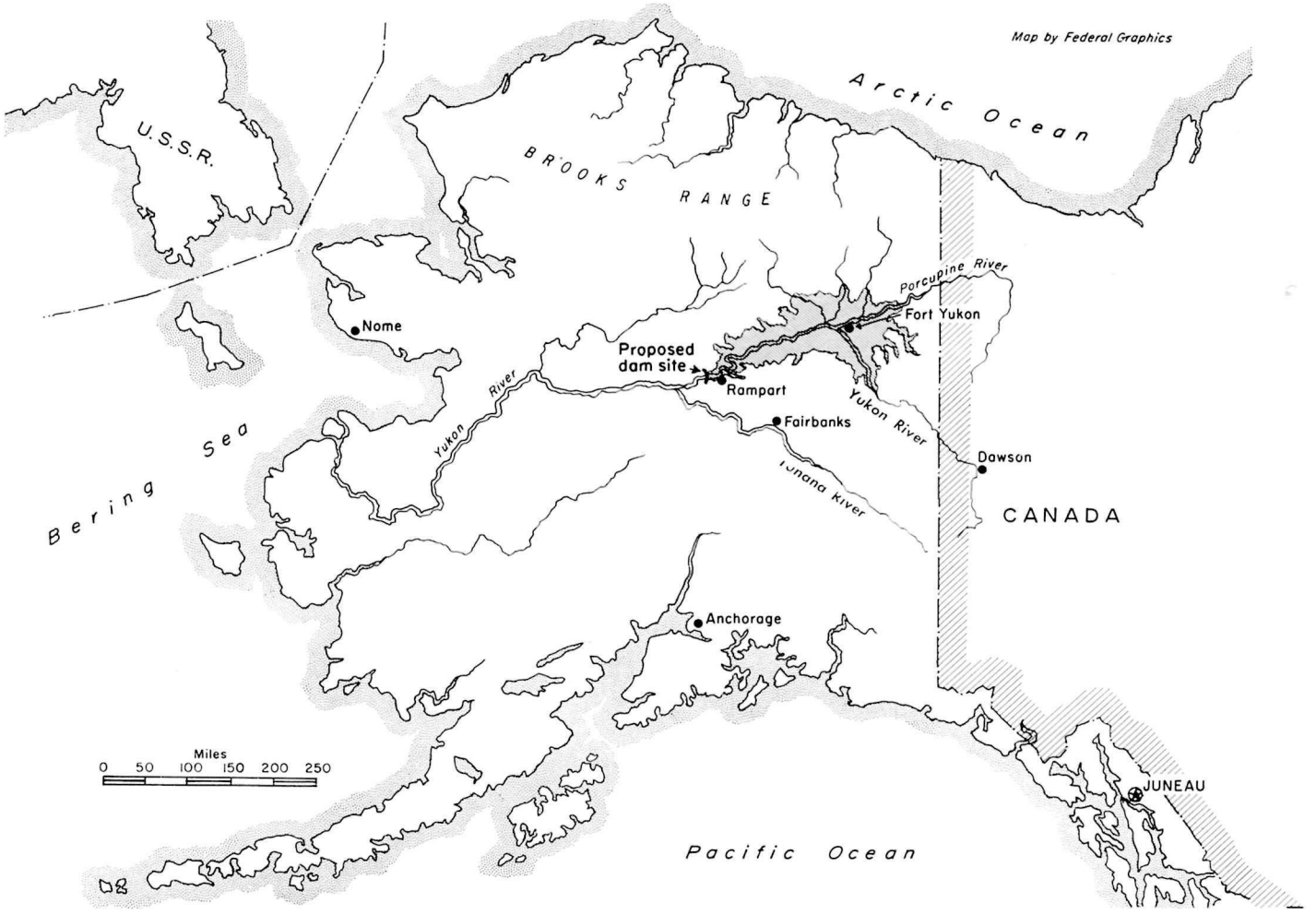
Like many other Alaskans, the people of this group feel that the greatest value of the Yukon Flats lies in recreation, timber, salmon, game, furs and undamaged space. They feel that, with a rapidly increasing population, our nation cannot afford to place such a large and potentially habitable region under water for a highly dubious net return.

Alaskans have not been alone in voicing disapproval of the Rampart proposal. Such nationally known magazines as *Field and Stream*, *The Atlantic Monthly*, and *Sports Illustrated* have attacked Rampart dam. *The New York Times* has seen fit on two occasions to ask deeply probing editorial questions concerning the merits of the project, and several public and private game management organizations have criticized it.

It seems to be surprising to the dam's proponents that most of Rampart's opponents are pointing out the obvious benefits of realistically-developed power sources in Alaska. It has been noted that projects of lesser magnitude, more within the needs of Alaska, are available at less cost and less destruction. These include alternate hydropower sites such as those on the Susitna River between Anchorage and Fairbanks; coal, natural gas, and atomic power. The Susitna River project has been approved by all interested Federal agencies, including the U.S. Fish and Wildlife Service. Not long ago the Service, in its official report on the proposed Rampart project, exclaimed that if built the dam would result in one of the worst wildlife disasters in United States history. Yet the alternative three-quarter million kilowatt project has somehow been sidetracked. Meanwhile, YPA and its cohorts continually bemoan the fact that Alaska is without enough electricity, and repeatedly state that "We must build Rampart now."

Presently, moose are plentiful in the great Yukon Flats. The ducks are continuing to breed, and Indian hunters are still going to the lakes for muskrat. Given the chance, normal wildlife and human activities will continue in this vast region, which has already contributed so much to Alaska, and is of such major importance to the well-being of the entire nation. ■

A glance at the scale of miles gives the enormity of the land area to be inundated by the Rampart dam reservoir, displacing both humans and wildlife.



A Tranquil Natural Treasure:

Corkscrew Swamp Sanctuary

By Samuel Rabinove

COMMERCIALIZATION OF UNIQUE scenic wilderness areas is not rare in this country; it has almost become one of the most depressing aspects of our booming industrial civilization. Perhaps that is part of the reason why it is so refreshing to visit Corkscrew Swamp Sanctuary in southwestern Florida. The Sanctuary is one of the few unspoiled landscapes still remaining in the United States where birds and animals may be seen at close range, living freely in their natural surroundings. Preserved and maintained by the National Audubon Society, the Sanctuary attracts quiet and alert individuals who appreciate and understand nature, particularly lovers of wildlife. Because it is a non-profit undertaking, Corkscrew Swamp has not been well-publicized. This may be a factor that discourages thrill-seeking crowds and makes it a sanctuary in the true sense of the word. The Sanctuary provides visitors with "nature for nature's sake."

Located at the northern edge of Big Cypress Swamp, the Sanctuary can be found about 120 miles northwest of Miami via the Tamiami Trail (U.S. 41). It consists of 6,080 acres of swamp, pineland, and wet prairie, harboring within its confines the largest remaining stand of virgin bald cypress in the country. These magnificent trees, many of them more than 600 years old, were saved from the logger's saw in 1954 by urgent appeals and efforts on the part of dedicated conservationists. Deciduous conifers, which lose their needle-like leaves in winter, are draped with velvet-like, green-gold Spanish moss. The cypresses have been preserved here in all of their natural beauty for the public to see and enjoy.

Except for the most hardy and intrepid adventurers, the overgrown semi-tropical jungle of Corkscrew Swamp was all but impenetrable until 1955. In that year a wooden boardwalk, built of cypress for convenience and durability, was constructed. It now runs discreetly through the heart of the forest for more than half a mile, and assists weary visitors with benches placed at strategic intervals. The boardwalk was built by local workmen, who at times had to labor in swamp water up to their necks. Several times the men were exposed to alligators and venomous water moccasins, but the animals were probably more curious than hostile toward the "invaders" of their swampland home. The boardwalk now makes the area easily accessible to all. Apart from this man-made innovation, the swamp is exactly the way it was generations ago when the only humans known to it were Seminole Indians. Nothing has been imported. Corkscrew needs no embellishment.

Like other large birds seen in the Swamp, the graceful spoonbill thrives in undisturbed habitat. Photograph by Allan D. Cruickshank, National Audubon Society.

In addition to the cypresses, this fragrant wild botanical garden contains a fantastic array of flowering plants. No less than eighteen different species of orchids have been recorded here. But perhaps the most impressive single view in the preserve is that of the Lettuce Lakes. Water lettuce has, in some areas, grown in such profusion that it literally blankets acres of pond with carpets of yellow-green plants; a memorable sight.

The wonder of Corkscrew Swamp, however, goes far beyond its flora. Not surprisingly, alligators—an endangered species of native American animal—abound, particularly in the Lettuce Lakes. Raccoons, bobcats, otters, lizards, turtles, and several species of snakes can also be frequently seen. Visitors on the boardwalk have no cause to be apprehensive, however, since none of these creatures are inclined to bother humans unless unduly provoked.

The Sanctuary is also an ornithologist's paradise. American egrets and

wood storks nest there by the thousands. Other large water birds which are easily spotted include blue herons, anhingas, bitterns and limpkins. All told, there are well over a hundred species of birds, large and small, whose presence has been noted in the Sanctuary either as permanent residents or as winter or summer visitors.

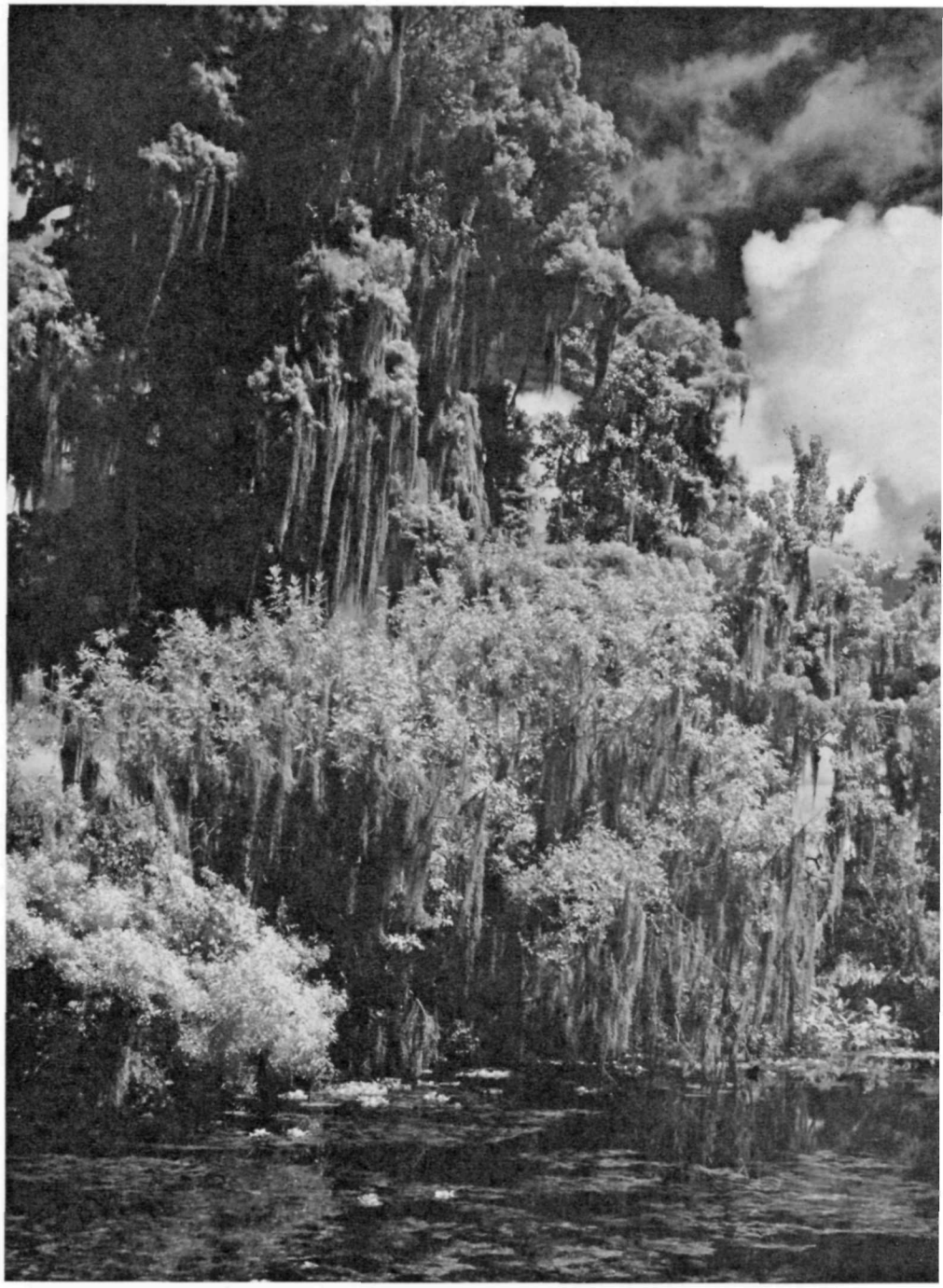
A booklet is supplied to each visitor for a "self-guided tour" of the Sanctuary. In conjunction with numbered markers along the boardwalk railings, fauna and flora of particular interest are described in the booklet in some detail. Personalized assistance is also available; since much of the wildlife blends with the scenery, the visitor usually needs the observant eye of a seasoned naturalist to help locate and identify swamp inhabitants. For example, what appeared to me to be just another knob on a cypress limb turned out to be a barred owl, as immobile as only a barred owl can be.

Friendly Help for Visitors

By anticipating visitor needs, the Audubon Society provides the services of experienced wardens—men who are practiced in perceiving the elusive animals or flowers in the swamp. These friendly gentlemen are also equipped with binoculars, which they are happy to make available to the visitor for sharper spotting. Of course, the wardens are repositories for all kinds of wildlife information; they are well qualified to enlighten the layman on even the most obscure questions, such as whether herons fly with necks folded and ibises with necks extended.

Corkscrew Swamp Sanctuary is open daily from 9 a.m. to 5 p.m. To help defray the costs of maintenance and operation, there is an admission charge of one dollar for each person above the age of twelve. There are no facilities for camping or for picnicking within the boundaries of the preserve, nor is there any restaurant or snack bar on the premises. This helps protect the land from development and possible ecological ruin. But visitors are not far from the conventional comforts of civilization; good food is available in the nearby town of Immokalee. There are many restaurants in town where charming hostesses—who are also good cooks—prepare a variety of local delicacies such as barbecued spare ribs and fried chicken, much of which is served family style. Hungry visitors will be delighted with the prices: some cafes offer all you can eat for about $1.50. When it is time to think about finding a place to stay overnight, there is a wide selection of accommodations in Fort Myers, which is twenty-five miles northwest of the Corkscrew Sanctuary.

Locating these facilities outside the swamp protects its wild inhabitants, and pleases the visitors as well. The philosophy of preservation exemplified by Corkscrew Swamp could serve as a model for many of the nation's precious wilderness areas. ■



Virgin cypress trees, many of which are over 600 years old, dip their green-gold garments of Spanish moss into the still waters of the Swamp. Photograph by the Florida State News Bureau.

Small Footsteps on the Trail

Text and photographs by James P. Jackson

THE BEST WAY TO BECOME ACquainted with a national park is to walk its trails. To me, the depth of acquaintance is directly proportional to the distance of travel from the paved roads of tourism.

With these convictions in mind, I looked forward to a summer with my family at Flathead Lake, Montana. The lake is only an hour's drive from Glacier National Park, and hiking friends urged us to try Glacier's trails, describing them as among the most scenic they had enjoyed anywhere. But how far can a family hike with two small boys—whose combined ages add only to ten?

Six-year-old Keith, and Glenn, not quite four, had been on short hikes such as the delightful Grand Teton walk from Jenny Lake to Hidden Falls. On that day Glenn finished as dead weight on my shoulders, sound asleep. We could not attempt an overnight backpack trip—even my wife Charlene had not tried that—and any journey on horseback was out of the question. But we did want our boys to share our experiences, knowing that any inconvenience for us would be more than repaid by the great adventure for them.

Then we heard of Granite Park Chalet. Our friends insisted we try the hike from Logan Pass to the Chalet. They explained it would be an easy seven-mile walk, mostly on a gentle downward grade. The overnight hostelry, though in roadless surroundings, would be comfortable and we could choose a different, shorter trail for the next day's return. Keith could surely hike that far, but what about Glenn? We decided to try it.

The First Steps

After becoming acquainted with the immediate area of Logan Pass, we chose late July for our Chalet trip, for then the subalpine trail would be in the full bloom of its brief summer. After leaving our car at the Pass, we started out with one large knapsack plus two small ones, which the boys could switch around with their mother. In the packs we had changes of clothing, rain gear, cameras and some all-important lunches.

On the day of our hike the early morning air was crystal blue but cold, and the sun was slow in making its appearance over Glacier's jutting peaks. At first Charlene and I had some doubts about the task ahead. First, there were bothersome adjustments with packs. Next, with some alarm, we saw a marker pointing 7.4 miles to the Chalet. The trail began amid an awesome jumble of shadowed rock, and each of us gripped a small boy tightly by the hand as we traversed the cliff. But a captivating visitor—an inquisitive hoary marmot—cheered us by darting over the abyss, bouncing along the trail and following us until we were beyond the cliff.

Farther on we crossed a talus slope, walking slowly in deference to small footsteps on the trail of jagged rocks. A group of hikers soon overtook us and we stopped to let them pass. Their ranger-naturalist leader graciously asked us to join them, but we politely declined and reminded ourselves that this was to be a family adventure.

Although our pace was slow, it did offer certain advantages. A number of fast hikers—who later passed by us—

seemed so intent on their footwork that we wondered if they really noticed the riot of subalpine wildflowers, took time to scan the jagged peaks, or listened for birds along the way. As the sun rose over the continental divide above us, sending long shafts of warmth down the slopes, we heard the sweet morning songs of white-crowned sparrows and the occasional piercing whistle of a marmot. We were happy to take our time on the trail.

Though our stops were numerous, they were all enjoyable. Charlene and I held out as long as possible on a promise of mid-morning candy bars for the boys. By the time we did stop, in a setting of spruces and beargrass—that marvelous lily so typical of Glacier Park—those earlier twinges of doubt were all gone. We no longer felt alien to the high mountains. It is a worthy human experience to visit unpolluted places; after the snack I showed Keith and Glenn how to dip a tin cup into snowmelt for a refreshing "wilderness" drink.

The Elfin Forest

When we resumed walking it was upward, into a patch of gnarled, dwarfed conifers ofter referred to as "the elfin forest." Here we were at 6500 feet elevation, close to timberline, yet feeling no shortage of breath. I recalled how in Rocky Mountain National Park, at nine degrees less latitude, an uphill walk through a similar elfin forest is an ordeal, for there it exists at the rarified atmosphere of more than 11,000 feet. Ecological comparisons are always interesting for those who will take notice; furthermore, the study of national parks is made easier by the many quality field guides available. One on wildflowers which we took along helped us to identify such beauties as mountain penstemon, white globeflower, several color varieties of Indian paintbrush, and many others.

Late in the morning Glenn began to tire, then to complain. I resisted as long as possible, then hoisted him on my shoulders. He was quite a burden

Fluffy white cones of beargrass bend forward to greet hikers on trails in Glacier National Park, adding to the scenery.

The rare bighorn sheep can be seen in the high meadows of Glacier Park during the summer. Some of the animals have become so tame that they will approach to within a few feet of hikers.

on top of a full pack, so two aching shoulders and one-quarter mile farther we stopped for lunch. Our location was high above Going-to-the-Sun Road's "Weeping Wall" though we could not see it. We had now walked about three miles.

As we sat by the trail to eat and rest, I studied a grassy slope just above us. Soon I spotted the small but perhaps most unusual of all subalpine wildflowers, the darkthroat shooting-star. Like a rose-purple meteorite, its dark stamens point downward only a few inches above the ground. How easy it is to bypass this celestial gem in the grass, especially among the peaks, rocks and snowfields! Yet even the smallest detail enriches one's enjoyment of the mountain world when the eye is close enough to perceive. Later a handsome golden-mantled ground squirrel began playing hide and seek with us, seeking our attention, then darting behind cover each time one of us tried to approach. We wondered if anyone else had been tempted to share lunch with this particular little beggar.

The sun—which earlier had persuaded us to peel off our sweatshirts—now began to dodge behind scudding clouds. Chill breezes whipped our faces. We conjured up a possible storm, and our moods became as changeable as the shadows darting across the mountains. We ate a little more quickly now, and moved on. We trudged over a saddleback behind massive "Haystack Butte" around which Going-to-the-Sun Road winds tortuously far below. Soon we began scanning the distance for Granite Park Chalet. We knew it is on a high ridge, and visible for long distances. But almost two hours elapsed between lunch and our first sight of the Chalet. The going became a bit rough due to slide areas, long patches of snow to cross, and—of course—the demands of small hikers who were beginning to tire. A mid-afternoon stop renewed us, however. First we noticed that the clouds were dispersing; then we spotted two bighorn sheep on the trail ahead.

Could I possibly sneak within camera range of them? Before I could try they came directly to us, curious and quite unafraid. Later we were told that some bighorns are fed during winter at Many Glacier Hotel; I assumed these two were from that group. Though I appreciated the chance to photograph them with ease, their very tameness took something away from our appreciation of them. If we were informed correctly, then why were these handsome beasts—so marvelously adapted to wilderness—given handouts in winter while summer tourists are told not to feed park bears?

When the Chalet finally became visible it did wonders for Glenn. As soon as he could see his destination—the place where he would "camp" for the night—his energy rebounded. He begged to walk ahead of me, alone. The trail was fairly level at that point so I let him go ahead and he fell flat on his face. Yet, the inevitable tears did not last long. Keith's challenging pace plus sight of the Chalet were enough to urge Glenn on. We dared not mention another stop, nor was it necessary. After 7.4 miles Keith still had a bouncy step and Glenn had negotiated all but that quarter-mile stint before lunch.

Granite Park Chalet is an imposing stone hostelry built in 1915 by the Great Northern Railroad, five years after Glacier Park was established. Scenery drops away from it in all directions except to the east, in the direction of high, rugged Swiftcurrent Pass. Everything to operate the Chalet must come over the Pass by packtrain, from Many Glacier Hotel. Needless to say, it is a costly operation whose burden

must be borne by the guests. Yet rates are not exorbitant and the experience was well worth the cost.

Granite Park Chalet and its counterpart, Sperry Chalet, are both operated by the same concessionaire and do not require reservations. This means the cooks do not know until the evening meal whether to serve for twenty overnight guests or the maximum of over forty. There is, therefore, no formal menu. Meals are family style and if one course is depleted, guests gladly accept another. Yet meals are generous, variety is ample, and appetites need no urging after trail hiking.

Our room at the Chalet commanded a view of distant peaks to the northwest. We prepared our young hikers for bed before dark—there is, of course, no electricity—then watched mule deer feeding just outside beneath a golden sunset. After dark, there was an assembly in the back of the Chalet to watch grizzly bears. Though we saw dark forms in the gloom, their specific identities had to be assumed, for no guests were curious enough to make a close inspection with a flashlight. It was amusing to note that next morning, three young fellows who camped under the stars behind the Chalet were surprised and disappointed to have missed the grizzlies.

After a hearty breakfast we purchased trail lunches for the day, checked out, and began our return. The trail we chose was fairly short and of rapid descent. We reached Going-to-the-Sun Road in the early afternoon, secured a ride back to Logan Pass and our car, and thus ended our family hiking adventure. Our boys still often talk about it with joy lighting their faces.

Before summer's end we considered a similar journey to Sperry Chalet. However we decided we must wait a few years, for Keith and Glenn are too small to negotiate its long, steep ascent either afoot or by horse. The pinnacle of hiking adventure for them will come when they are old enough to backpack a true wilderness trail.

To me, a high school teacher, it seems a pity that so many husky youths grow to learn no better adventuring than dashing around town in a "souped-up" auto. We hope to do better for our boys. Hiking is a form of adventuring which is in no way diluted by the artificial trappings of civilization; nor does it degrade the pristine, natural qualities of choice roadless areas. It does, however, permit better acquaintance with nature's world and closer ties within the family. ■

The author pauses along the trail to point out animals and plants to his young sons. A slow but steady pace, frequent stops, and spontaneous nature lessons made the hike an adventure for all. This photograph was taken by Charlene Jackson.

Shrimp Need Fresh Water, Too

By C. P. Idyll

TWO WINDS HAVE BEEN BLOWING steadily over the Everglades in recent times. In addition to the Southeast Trades, there has been a rising wind from arguments about the use of the diminishing water supply of the southern part of Florida.

Fresh water in the Everglades is in short supply for two reasons. In the first place, we are in the midst of a series of years of severe drought, with little rainfall. This is not the first time in the long history of the Everglades that droughts have occurred, of course, and the plants and animals of the area are able to survive moderately long natural dry periods. But on top of the natural drought we have added the crushing burden of artificial drought—drainage, and diversion by dams in an immense complex whose whole effect has been to reduce the amount of fresh water flowing from the Okeechobee area south across the Everglades. Water has been run to the Gulf and to the Atlantic to drain agricultural land. Water has been stored to supply agricultural land. Water has been dammed and bled off and shunted around to minimize the danger of flood damage. All of these are legitimate activities, but the many uses plus the diversion and waste through dumping of water have all combined to put it in short supply. So far, the chief loser has been the Everglades estuary, because it has been generally regarded as the least worthy of receiving its share of water.

Lately, however, the case for the estuary has been put forward at last, and this is why the second wind—the wind of controversy—has begun to blow over the Everglades.

A lot of this wind has been hot air. For example, frivolous questions have been asked as to whether we are really serious about demanding water in Everglades National Park "for the birds," when humans need it. And the voices in the wind become really sarcastic when questions are raised about the wisdom of spending precious water on alligators. The choice is offered as one between wildlife or humans—between esthetics or dollars.

This is a false choice. The alternatives offered are either dishonest or, if we take a more charitable point of view, arise from muddy and illogical thinking. Everglades National Park was not created and is not maintained only for birds and alligators, but for humans as well. The choice is not between the interests and well-being of alligators or people but between the continuation of something of great value to humans, or the destruction of this possession.

For the sake of argument, let us pretend this red-herring and spurious choice "between birds and people," or "between esthetics and dollars," is the real choice facing us. In that case, denying Everglades National Park the water required to keep it as it is now would be a disastrous financial blow to Florida and to the United States. It would be disastrous because it would seriously damage a multimillion-dollar shrimp industry.

Shrimp Industry Silent

This important fact has not been forcefully brought forward in the clamorous arguments of recent months. The shrimp industry has not made its voice heard. It has not demanded that its stake in the Everglades be considered when the distribution of water is being decided. It has not pointed out that it, too, produces wealth and jobs and food, and that its welfare and prosperity depend on getting water to its crop—the pink shrimp of the Everglades National Park and the Tortugas Bank.

Since the shrimp industry is not especially noted for sitting quietly when its interests are at stake, it may be that its silence in this case is failure to appreciate the situation. So let us summarize it by asking—and answering—three questions:

How much money and how much food is involved in the Tortugas shrimp fishery?

How are the shrimp caught in the Tortugas fishery related to those in Everglades Park?

Why would permanent shortages of fresh water in Everglades National Park have disastrous effects on the pink shrimp populations?

First, what is at stake in terms of dollars and food? Last year, in 1964, over 19 million pounds of shrimp were caught at Tortugas, putting $6 million in the pockets of fishermen. Since the fishery began in late 1949, less than 16 years ago, this fishery has produced well over a quarter of a billion pounds of food, worth $80 million to the fishermen. And the millions of dollars quoted only begin to represent the wealth produced by the Tortugas shrimp, because the catching is only the first of a long series of steps through which the shrimp pass from buyer to shipper to processor to broker to retailer to consumer, with the consumption of labor and materials increasing with each step, and with the value mounting each time. This is big business; it is also important business, since it produces food in a world where food is becoming more scarce. Perhaps of greatest significance for our present purpose is the fact that unless we are stupid, this food and this wealth can be ours not merely for 15 years but forever, with relatively little effort on our part. We do not have to plow the ground, or sow the seed, or fertilize the soil to grow the Tortugas shrimp; we need only to reap. But we do need to avoid fouling nature and changing the landscape and turning off nature's water taps so that we make it impossible for this wealth to be delivered to us.

The next question was, "What is the connection between the shrimp caught at Tortugas and those in the Everglades National Park?" The answer is that a great many of the shrimp caught at Tortugas come from the Everglades, and it may very well be that an overwhelming majority of them do. A

short summary of the life cycle of these shrimp would be helpful here. The shrimp caught by trawlers offshore are adults. Spawning occurs here, on the Tortugas grounds. The fertilized eggs are cast free in the water, hatching in about half a day to a tiny larva. In the space of about three weeks the shrimp pass through 11 larval stages, during which time millions of them have travelled from the Tortugas grounds to the mainland of Florida. They enter the brackish-water estuary through the Buttonwood Canal and the many streams which drain this area. For about half a year they live in the estuary, where large quantities of fresh water exclude marine enemies, and where warm temperatures and rich supplies of food favor their growth and survival. Then the migrating urge hits them, and in great numbers they reverse their route and head to sea once more, to spawn and to possibly be caught by the commercial fishery.

How is it that such a complicated life cycle has developed for this species, with two long migrations between oceanic spawning grounds and estuarine nursery grounds? It seems clear that this development occurred because there is survival advantage to the shrimp in having residence in the estuary for one phase of its life. Two important things are involved: protection from predators, and abundance of food.

An Important Food Item

In the period of the shrimp's life from postlarva to young adult it is one of the principal foods of a very long list of fishes and invertebrate animals. But for the shrimp the danger of being eaten seems to be very much less in the estuary than it is in the ocean. This is because the kinds of fishes most abundant in the estuary are those which, generally speaking, do not eat shrimp —fishes like anchovies, mullet, and young menhaden. Outside the estuary, on the other hand, the shrimp face fish like adult spotted sea-trout, red drum, snappers, grunts, groupers and a host of other predators. Inside the estuary small shrimp are eaten by the young of some of these predators, but even these enemies are largely left behind when there is sufficient fresh water to dilute the seawater by half or more.

As the salinity rises in the estuary following droughts or artificially-created fresh-water shortages the predator species move farther into the estuary, consuming shrimp in areas which formerly were refuges. Furthermore, such marine fishes as thread herring, anchovies and sardines have been regularly observed moving into the estuary as salinities rise. These are forage fishes for the predators, so that sea-trout, redfish and the other fishes that eat shrimp follow the forage fishes into the shrimp nursery ground. Our research on the ecology of the area and on the dynamics of the game-fish stock has shown these phenomena to be repeated many times.

Salinity and Life Expectancy

Presumably, if the shrimp can live in the low salinities of the estuary throughout their whole juvenile existence, they will have a better chance of survival and more of them will make their way back to the fishing grounds. Catches would then be improved. From our research on the migrating shrimp at Flamingo we have several times found large numbers of shrimp apparently being forced by unfavorable environmental conditions to leave the estuary when they are still unusually small. They would thus face predation from marine fishes earlier, at a more vulnerable size, and for a longer time. One of the most striking of such observations was made in the spring of 1964, when an unusually large number of shrimp poured out of Buttonwood Canal into Florida Bay. The average size of these shrimp was much smaller than the normal average of migrants. There is a strong possibility that they were driven from the estuary by shortages of fresh water, since the minimum salinity measure in the canal in 1964 was considerably higher than in 1963: 28 compared to 24 parts per thousand. This higher average salinity probably occurred inside the estuary as well. The pattern is apparently repeating itself this year, since salinities are still higher than last year, and the shrimp are once more leaving the estuary at a smaller than normal size.

It appears that the pink shrimp also gain greatly from living in the estuary by the abundance and kinds of food there. The bottom, with rich organic content, inhabited by abundant organisms; the proper temperatures; and the other complex combination of favorable conditions makes these areas highly productive. It has been estimated that some of the regions where fresh and salt water mix are often a thousand times as productive of life as either fresh water or sea water. All penaeid shrimps depend to a greater or lesser extent on the existence of fresh or brackish water areas for nursery grounds. The pink shrimp of the Tortugas is one of the species depending heavily on such areas, and nowhere is this shrimp abundant enough to support a commercial fishery where large estuarine areas are not present nearby to shelter the shrimp in their young stages. It may be that some Tortugas pinks spend their lives in the shallows of the Keys, without going into Everglades National Park; but if this is true it is apparently an exception to the rule. The likelihood is that the vast majority of the pink shrimp go to the park and into adjacent brackish water areas.

So we have already answered the third of the questions asked earlier: Why will permanent shortages of fresh water in Everglades National Park have disastrous effects on the pink shrimp populations?

It seems clear that you cannot have a large pink shrimp population—large enough to support a commercial fishery —without a brackish estuary. And it is obvious that the estuary requires large supplies of fresh water.

I do not believe any of us has the right to ignore the threat of destruction of a part of the country which is beautiful and unique, nor of a recreation area which should be passed along to our children; and this is one strong reason for insisting that the Everglades estuary be maintained intact. But if the argument is reduced to one of money, then we must still insist that the Everglades estuary not be destroyed. The fishing industry of Florida has much to lose if Everglades Park is destroyed, and so do all of us. I suggest that both park and industry be protected. ■

Dr. Idyll is chairman of the Division of Fishery Sciences at the Institute of Marine Science, University of Miami. His address to the Joint Convention of the Southeastern Fisheries Association and the Shrimp Association of the Americas in June, 1965, at Miami Beach appears here in article form.

Photograph by Dow Chemical Co.

The pert and colorful Kirtland's warbler, Dendroica kirtlandii, *was one of the species of birds first listed as "possibly in danger of extinction" in the Fish and Wildlife Service's news release on endangered species of native American animals. The bird nests only in Michigan's jack-pine country.*

Kirtland's Warbler: Feathers and Flame

By Verne Stricker

On May 13, 1857, the naturalist Jared Potter Kirtland went for a walk around his Cleveland, Ohio farm, and first recognized a new species of warbler. In the following years scientists and ornithologists became intensely interested in the half-ounce, lemon-breasted songster—probably because it was so elusive that patient observers waited for days to hear its low-pitched burst of song. Only a few were lucky enough to see it. Now known as Kirtland's warbler, the bird was first found to winter in the Bahamas in 1879; in 1903 two fishermen, one of whom was an experienced ornithologist, started a scientific chain reaction that led to the discovery of the warbler's nesting area in jack-pine country in Lower Michigan.

One director of the Michigan Audubon Society has estimated that the entire world's population of Kirtland's warblers, put together, would probably weigh less than thirty pounds. This little songbird, probably unknown to the bulk of scientists and ornithologists for fifty years after Dr. Kirtland found it, may be on its way to eventual extinction. Shortly after Dr. Kirtland heard the warbler, his friend Spencer F. Baird of the Smithsonian Institution visited Kirtland's farm and took a specimen of the bird home with him to Washington for study. A description of the species was published a year later, and it was found that ten years earlier, a specimen taken near the Bahama Islands was buried, unnoticed, in the specimen files of the museum. Before the turn of the century, scientists and laymen collected about 76 more specimens of the tiny bird, but even the most astute and experienced ornithologists could not find its nesting ground or discover its habitat in the United States. Some thought the warblers nested in Cuba; others claimed that they raised their broods in the Arctic wilds. Patterns of migration, if any, were a mystery. Finally, when the angler-ornithologist heard the bird singing in Michigan, earlier suspicions that warblers nested in Ohio or Michigan seemed to be confirmed. One of the birds was shot and taken to the University of Michigan, where then-Curator of Birds Norman A. Wood rushed into the Michigan woods, searching for other warblers. After eight days of searching by rowboat, horse and buggy, and on foot, Wood heard a warbler singing. Another week passed before Wood emerged into a large fire-swept tract of jack-pine and heard the warbler singing again. Down he went, on his hands and knees, trying to get a better look at the bird. As he looked carefully around, he came upon the prize for which he had been searching—a Kirtland's warbler nest, on the ground.

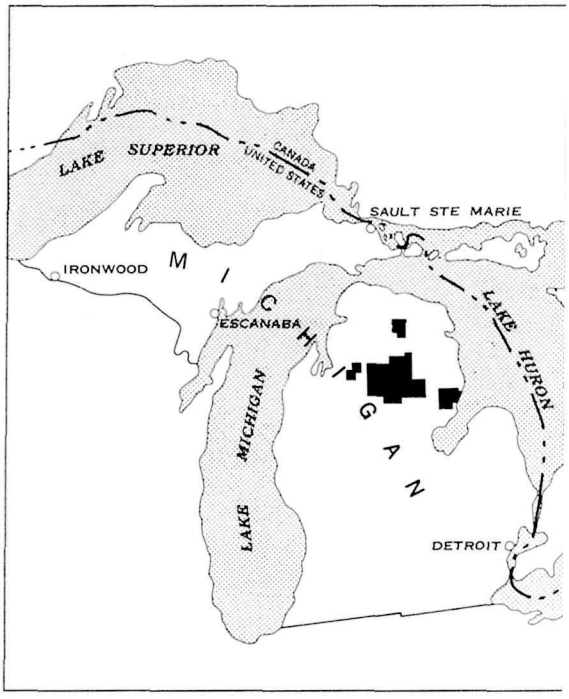
Detailed Studies Begin

After that it was not until the early 1930's that the late Dr. Joselyn Van Tyne, also Curator of Birds at the University of Michigan Museum, began a detailed study of the seemingly mysterious Kirtland's warbler and its habitat. He and his field companion, Harold Mayfield, author of *The Kirtland's Warbler* (1960), spent over twenty years learning all they could about the little bird with the blue-grey head, bright yellow breast, and boldly black-striped back. Concern for the species developed when censuses in 1951 and 1961 indicated a breeding population of less than 1,000 birds—one reason, possibly, why devoted watchers hardly ever saw the warbler.

These unique tail-waggers nest on the ground beneath stands of five- to fifteen-foot jack-pines. They prefer natural stands with openings, a condition which commonly occurs after forest fires. Intense heat is essential to open jack-pine cones and release seeds to produce young trees. But over the

The black areas show main warbler habitat. From "The Kirtland's Warbler," Cranbrook Institute of Science, 1960.

Map by the author



years, forest fire protection has become so efficient that the natural fires which once paved the way for creating ideal warbler habitat have been greatly reduced, and the birds are having difficulty finding nesting areas. As a result, warbler population is dipping dangerously low. In the middle 1950's it became evident that man would have to provide some sort of management to maintain sufficient forest areas in a condition suitable for warbler nesting. Otherwise the bird might become extinct.

The Michigan Department of Conservation began working with Audubon groups to set up management areas. The Department established the first three areas in 1957, totaling 7,680 acres of state forest land in Ogemaw, Crawford, and Oscoda Counties. At that time management efforts were directed mainly at planting jack and red pine in dense strips, with open grasslands between the strips.

Forest Service Steps In

In 1961, the Forest Service, under the United States Department of Agriculture, established a 4,010-acre section of the Huron National Forest as a Kirtland's Warbler Management Area to help insure the bird's survival. The Michigan Audubon Society, the Detroit Audubon Society, the Pontiac Audubon Club, and the Michigan Natural Areas Council were to cooperate in managing the area. This time, however, a new method would be used to create warbler habitat, as nature would have created it if man had not interfered. That method was fire.

Fire As a Friend

The decision to use prescribed burning as a management tool to create proper warbler nesting conditions was a departure from the usual Forest Service attitude toward fire in the northeastern part of Michigan's lower peninsula. Fire had always been suppressed immediately, particularly when it occurred in jack-pine. But now fire could be considered creative, not destructive. With the future of the Kirtland's warbler at stake, officials scheduled the first controlled burn for the spring of 1964.

The management area was divided into twelve units of 320 acres each. Plans call for regeneration of one unit every five years. The first unit had already been partially burned in 1946 and was still in satisfactory condition, so parts of two units—about 500 acres—were scheduled to undergo the treatment by fire first.

To prepare for the burn, all timber was cut on the chosen tract except fifteen to seventeen seed trees per acre. Cones on the seed trees would be opened by the heat of the fire and supply the seed for regeneration.

By the spring of 1964 cutting was completed, and "Operation Popcone" was ready to begin. Before starting a prescribed burn of this type, weather conditions have to be perfect: a southwest wind of less than six miles per hour; humidity near thirty percent; and at least five days since the last rain. The organization was set up. Then began the wait for proper weather conditions. All through March, April, and part of May, rain or high winds prevented ignition. Finally, on May 13, conditions were favorable and "Operation Popcone" began.

The fire was touched off at noon. Almost immediately gusts of wind blew the fire over the control line, and firefighting equipment was called into action. The fire was quickly brought under control and burning proceeded as planned. By six o'clock the entire 500 acres had been burned. Cones popped open immediately, and the seed scattered.

Many birds visited the area in the next few days to feast on the newly-released jack-pine seeds. By the end of summer, germination had taken place in spots wih sufficient moisture. A survey in September showed an average of 200 seedlings per acre—a satisfactory count for the first year following a burn. More seedlings are expected to appear in two or three years. Adequate stocking of the area is therefore probable, and it should be in suitable condition for the warblers in ten years.

Much of the scientific community has become interested in the fate of the Kirtland's warbler; many people have been involved in research and management efforts to help insure the survival of the species. During the summer of 1964, following studies initiated by the University of Michigan, Kirtland's warblers were banded and studied within an area which had burned in 1956. It was found that the warbler population was about the same as it was in 1961. However, the jack-pine trees are now growing too large for ideal warbler habitat; this warbler population will soon diminish.

Lack of suitable habitat is not the only danger facing the warbler. When they conducted their studies in the 1930's, Van Tyne and Mayfield discovered cowbird eggs in warbler nests, and concluded that the parasitic habits of the cowbird posed a serious threat to warblers. The cowbird displaces warbler eggs when laying its own—in the warbler nest. The hospitable warbler cannot adequately incubate its own eggs because of the larger size of the cowbird eggs; it cannot properly feed and brood its own young, and cater to the lusty appetite of a young cowbird as well. Cowbird control will eventually be necessary to protect the rare warblers; the Forest Service has already entered into a cooperative agreement with Central Michigan University to determine the need and proper method of cowbird control. In the summer of 1964, cowbirds were banded and their habits studied, and it is hoped that some method of control will be found to keep cowbird populations at acceptable levels.

Verne Stricker, outdoor writer who is very much interested in the fate of the Kirtland's warbler, is with the National Forest Service. He serves as Forest Wildlife Biologist for the Huron-Manistee National Forests, and is well acquainted with the management operations of the combined areas.

A Proposal to Honor Warblers

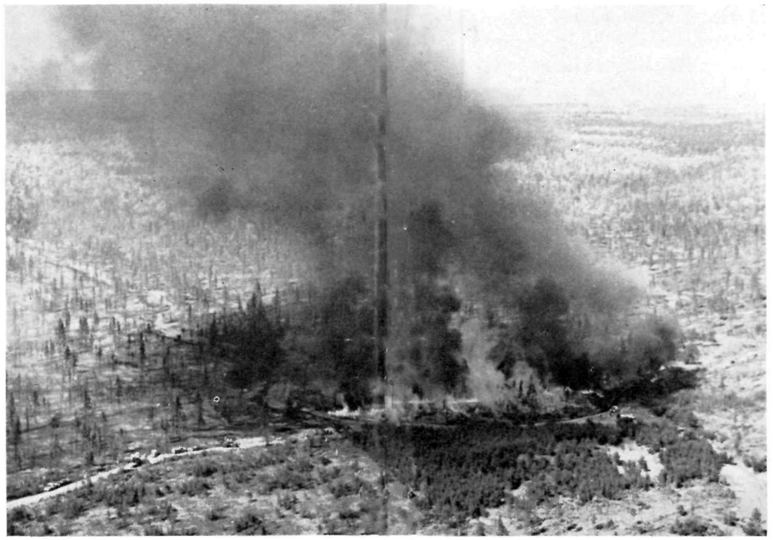
Kirtland's warblers have attracted so much scientific and layman interest that the Michigan Audubon Society has recommended adopting it as Michigan's State Bird. This proposal has been referred to a legislative committee and will probably receive further attention.

Protecting a rare species like the Kirtland's warbler is one way that the Forest Service—under its long-standing policy of managing national forests for recreational and wildlife values as well as for timber yield—contributes to conservation of our natural resources. In the management section of the Huron National Forest, emphasis will be given to the needs of the warbler. Timber values will also be realized; all twelve units in the area will be placed on a sixty-year rotation of logging, prescribed burning, regrowth, and relogging. In this way, warbler habitat will be available in the future and, hopefully, the little bird will always bring color and song to Michigan forests. ■

This sequence shows the area to be burned, the controlled burning itself, and a representative sample of the ideal nesting terrain hoped for in about a decade.

U. S. Forest Service Photograph

Photograph by Dow Chemical Co.



U. S. Forest Service Photograph

THE GREAT SLEEPER

TEXT AND PHOTOGRAPH BY STEPHEN F. ARNO

WOULD YOU LIKE TO SLEEP AN average of twenty hours a day? Before answering, you should consult an expert in the field: a marmot. This chunky, golden-mantled member of the woodchuck clan lives in high mountain meadows of the western United States. Marmots of all species are also called "whistlers," because when disturbed or excited they utter a loud, shrill vocal blast which can be heard for long distances.

At Glacier, Olympic, Rocky Mountain, Mount Rainier and other national parks, humans can visit marmot country to watch the whistler's amusing waddle, his playful skirmishes with kin, and receptiveness to human attention.

Watching him at work or play, you would never suspect he is animal king of the Rip Van Winkles. Marmots spend nearly 85 percent of their lives sleeping in underground burrows. They are the only mammals of moderate size that live in the high-country all year; in order to survive the cold season, they fatten themselves on lush meadow vegetation in summer, then lapse into hibernation—usually by October.

Hibernation is more to the marmot than just deep sleep. Scientists know that during this time marmot body metabolism slows to a fraction of its normal rate. The pulse drops from eighty to about five beats per minute, and the animal may breathe only once during that time. Body temperature slides from 97 to 37 degrees. Some naturalists think that hibernation may help marmots live longer than they could if they were active all year.

The winter "sleep" often ends in June, when heavy snows melt and new forage is exposed. But the whistler gets rest in summer, too. He dozes about ten hours each night, and takes a three or four hour siesta on hot afternoons to avoid baking in his thick fur coat. On stormy days in summer he may scarcely venture out at all.

Young marmots or "kittens" are born late in spring, usually in litters of two to five. They love to frolic on summer afternoons, but like their parents they seldom venture far from a burrow entrance. Marmots must be cautious, for they are choice morsels for coyotes, bears, foxes, and other predators. The kittens are especially vulnerable; an adult marmot often keeps an eye on youngsters when they are outside.

Despite a pudgy, good-natured appearance, marmots can tackle small but fierce predators like weasel and mink. At Yellowstone Park a whistler was observed driving a mink away from a captured ground squirrel, then calmly washing his furry face while the fatally-injured squirrel collapsed.

One naturalist watched and photographed a spectacular display of courage on the part of two marmots. Four hungry Cooper's hawks circled in the air above a pair of adult marmots, then dive-bombed them single file, knocking them to the ground. But the marmots stayed outside, making sure their kittens scampered to safety within a burrow. The hawks repeated the attack. When the hawks realized they could not carry off a full-grown marmot, the action ended.

Marmots generally colonize high-country meadows, using their numbers for protection. When danger approaches the first marmot to detect it whistles loudly. Immediately, other marmots stop all activity, and rush to the edge of a burrow. If the intruder is human, they often station themselves at their burrows, standing up on their hind legs, and whistling back and forth. The stranger can sometimes join the game if he musters the right note.

A visitor may approach within about fifty feet of an individual marmot before the animal scampers down his hole. However, the whistler is a curious creature. In a few minutes he will peek out the hole, then emerge for a better look as the human stands motionless or whistles. Patient photographers may get to within ten feet of the chunky rodents. Marmots pose nicely, but are always ready to dive to safety.

In winter, at Olympic National Park's Hurricane Ridge, nearly a dozen marmots hibernate in burrows directly beneath the center of popular ski slopes. They are probably unaware of the hundreds of humans swooshing gaily overhead, atop eight or ten feet of snow. In any case, the marmots have never complained. They are, no doubt, too busy sleeping. ■

A marmot waddles cautiously away from its burrow. Large marmot may weigh 20 pounds.

News and Commentary

Advisory Council Appointees

The Public Land Law Review Commission, which has been directed by its chairman Representative Wayne N. Aspinwall to study the law and determine how it is administered and interpreted, has announced final selection of its Advisory Council. The Council is composed of liaison officers from the departments of Interior, Agriculture, Defense, and other interested agencies. In addition, 25 non-Federal representatives with varied backgrounds have been selected as Council members; among them are C. R. Gutermuth, vice-president of the Wildlife Management Institute in Washington, D.C.; Michael F. Widman, Jr., director of Research and Marketing for the United Mine Workers; and Harold G. Wilm, Commissioner of Conservation for the State of New York, Albany. The Council will work with the Commission and its staff during the studies.

Local Group vs. Developers

If a group of northern Virginians have their way, progress toward the Presidential ideal of a model Potomac river basin will take on more meaning than just a clean-up of the river itself.

The group, now formally called the Citizen's Committee for Mason's Neck, was formed recently to meet and hopefully counteract the threat of overdevelopment in one of the largest unspoiled areas near Washington, D.C.—Mason's Neck. The area is a rectangular piece of densely-wooded land, jutting out into the Potomac a few miles south of Mount Vernon. A National Audubon Society representative sighted three bald eagle nests in the area, one of which contained two eggs early this spring. Naturalists feel that Mason's Neck could be an important breeding ground for a small population of bald eagles—our national symbol—which the U. S. Fish and Wildlife Service lists as a species in danger of extinction.

Strong local efforts to preserve the area have been under way for some time, spurred by Mrs. Maxine A. Rock, an Arlington, Virginia resident, and carried on at present by Mrs. Stephen Hartwell, now a vice-chairman of the Committee. Local residents wish to establish the area as a state or local sanctuary.

Saguaros and Coyotes

In the June, 1965 issue of *National Parks Magazine*, a detailed study of the nation's largest cactus—the giant saguaro—discussed the decline of this amazing desert plant, laying much of the blame on commercial cattle grazing in certain southwestern national monuments. The article also mentioned that rodents, which seek out the plants to drain their stored water supply, may be a major factor in what scientists fear could be the eventual extermination of this species of cactus.

The Park Service, deeply concerned over the fate of the saguaro, has studied the plant in parts of its Arizona range, and discovered that "rodents are the major enemy of young saguaros." In areas where predator control has materially reduced the number of coyotes, which feed upon rodents, the giant plants have steadily declined. At Organ Pipe Cactus National Monument, where all wildlife is protected and the population of predators is normal, saguaros are reproducing better than in non-protected areas. To reduce the thirsty masses of ground squirrels, wood rats, rabbits, and other saguaro-destroying rodents, the Park Service suggests an ecological study on possible reintroduction of the coyote in saguaro habitat.

Ending Oil Pollution

In summer, almost everyone loves the sea and the sand—but only if it is clean. In recent years, more and more sportsmen and vacationers have ambled down to their favorite beaches, only to find them coated with muck from tanker fleets which discharge oily wastes into the sea and allow it to float untreated to shore. Not only humans, but wildlife and marine life suffer as a result.

The oil pollution problem, which has now become worldwide, is voluntarily being attacked by one of the largest oil companies in the nation—the Socony Mobil Oil Company, Inc., of 150 East 42 Street, New York. It has adopted a cleansing technique "which sharply reduces the amount of oil discharged into the sea (and) has been in effect aboard hundreds of oil tankers around the world . . . the technique eliminates the need to discharge oily wastes overboard even where this is permitted under international agreements." The company estimates that 95 percent of the oil formerly discharged overboard during tank washings and other necessary operations is now retained; oil that does escape into the sea, says the company, is consumed by bacterial action before it reaches land.

Socony Mobil is to be commended on its voluntary act to help save sea resources, despite a rise in its operating costs.

A New Chalet For Glacier

A third high-mountain chalet is planned for the North Circle wilderness area of Glacier International Peace Park. The existing hostels, reached only by foot, are nestled in incomparable alpine settings, and provide comfortable, if rustic accommodations. The new chalet, Fifty Mountain, will present a view of fifty peaks; its nearest approach will be about eleven miles by trail. If more park development is essential—and we doubt it is—we applaud the Park Service for at least devoting some of it to hikers, not automobiles.

Book Reviews

PUBLIC RELATIONS IN NATURAL RESOURCES MANAGEMENT. By Douglas L. Gilbert. Burgess Publishing Company, 426 S. Sixth St., Minneapolis, Minn. 240 pages, illustrated. Price unlisted.

Dr. Gilbert, an associate professor of wildlife management at Colorado State University and a former public relations official of the Colorado Game, Fish, and Parks Department, speaks with authority on public relations and natural resources administration. The book, written in academic style, is directed mainly at administrators, field men, and other professionals, and contains a wealth of authoritative material on improving the public image of conservation agencies.

Dr. Gilbert's research reveals lack of attention—and money—devoted to sophisticated public relations; for the most part state agencies have relied on hit-or-miss methods of explaining their work to their many publics. The author points out, however, that pressures on our natural resources require administration which utilizes the most effective public relations possible. Because we will never again hear of "inexhaustible" resources, better public understanding of the management of our limited lands is essential.

Though Gilbert's illustrations of theories and techniques pertain almost entirely to state game management activities, there are important lessons here for the administrator on any level and in any type of conservation program.

Robert T. Page

TO SAVE THE SOIL. By Naomi Talley. Dial Press, 750 Third Ave., New York, N.Y. 91 pages, clothbound, $2.95.

Many conservationists suspect that children know more about some natural resources than adults, although it has been only during the past few years that formal conservation education programs were taught in school. Before this, when most children went to rural schools, they learned conservation by living close to the land. There were hard lessons to learn—first hand—of our wasteful treatment of natural resources, but now science is answering questions like "Why did our field turn to dust?" and "What made gullies rip up the barnyard after the storm?" Since soil conservation stands as one of our most outstanding achievements in natural resource preservation, it may well be one conservation subject about which schoolchildren know the most.

Mrs. Talley, a former country schoolteacher, wrote *To Save The Soil* for nine- to twelve-year-olds as a history and explanation of the work of the Soil Conservation Service. This short but enlightening book is worth both schoolchild and adult attention, and serves as a thoughtful introduction to the science of conservation.

Robert T. Page

DENEKI, AN ALASKAN MOOSE. By William D. Berry. Macmillan Company, 60 Fifth Ave., New York, N.Y. Clothbound, 50 pages. Price unlisted.

The wellspring of excitement which bubbles up when a child experiences direct contact with a wild animal is brought to the surface in this fine little book, written by a naturalist and artist-writer who lives just outside Mt. McKinley National Park. The story of Deneki, the baby moose, is told in sophisticated and readable prose, exposing the child gently, but truthfully, to the realities of a wild animal's life. The black and white and color sketches of Alaska's animals and plants double the excitement inherent in the book, and make it a valuable treasure for all nine- to twelve-year-old children.

THE CONSERVATION DOCKET

Two important conservation bills have recently become law: Senator Anderson's S. 21, to establish cabinet-level water resources planning and coordinate Federal and state water projects, is now the Water Resources Planning Act, Public Law 89-80. H.R. 903, adding 5620 acres of land to Kings Canyon National Park, California, was signed by the President on August 11.

H.R. 7984 has also been signed; it is known as the Housing and Urban Development Act of 1965, and will assist communities in planning for water use, open spaces, and urban beautification.

Presenting testimony before the Senate Subcommittee on Merchant Marine and Fisheries, Under-Secretary of the Interior John A. Carver, Jr. recommended early approval of S. 2217, to provide protection for endangered species of wildlife. There are 78 species of mammals, birds, reptiles and fish now in danger of extinction. Representative Rogers of Florida has introduced H.R. 10049 to end suffering of experimental animals and provide for an office of Laboratory Animal Welfare in the Department of Health, Education, and Welfare. The bill was referred to the House Committee on Interstate and Foreign Commerce.

A Senate-House conference committee has extended and expanded the saline water research and development program through fiscal year 1972. Such action may indicate early clearance of S. 24, the bill introduced to extend the program.

Representative Staggers has introduced H.R. 10330 to provide for establishment of a Spruce Knob-Seneca Rocks National Recreation Area in West Virginia. The bill was referred to the House Committee on Agriculture.

H.R. 10366, introduced by Representative Jennings, would establish a Mount Rogers National Recreation Area in Virginia's Jefferson National Forest. This bill was also referred to the House Committee on Agriculture.

Two bills concerned with air and water pollution have recently been introduced. Representative Ryan's H.R. 10244 would establish a Federal Water Commission to protect the nation's water resources. The bill is before the House Committee on Public Works. New York Representative Murphy has introduced H.R. 10235, amending the Clean Air Act to give the Secretary of the Interior power to set standards for control of air pollution caused by motor vehicles. The bill was referred to the Committee on Interstate and Foreign Commerce.

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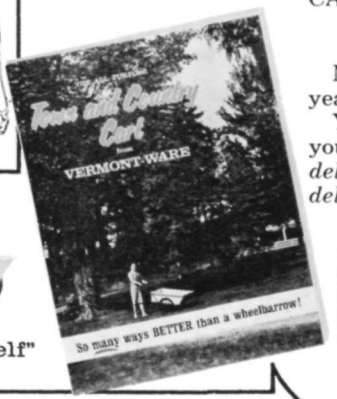

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Photograph by Charles J. Ott

Snowy white against a backdrop of green-grey hills, two Dall sheep—a handsome horned ewe and her curious lamb—survey the Alaska Range in the nation's last true wilderness state.

In April, 1964, the massive report of the Fish and Wildlife Service on the effects of the proposed Rampart Canyon dam was released. The Service documented its findings on what Rampart dam would do to Alaska's wildlife resources; the conclusion reached by the regional directors was this: "Nowhere in the history of water development in North America have the fish and wildlife losses anticipated to result from a single project been so overwhelming." Moose, bear, small fur-bearers, fish, many types of waterfowl and other animals—to say nothing of human occupants—would be flooded out.

In this issue, more facts about the project are explored for public information and discussion, for one of our prime functions is to alert the American people to governmental action bearing on important conservation issues. You can help your Association in this work by securing new members; raising your membership classification; or remembering the Association in your will. All gifts and bequests are deductible for Federal, gift, and estate tax purposes.

National Parks Association

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