

NATIONAL PARKS *Magazine*



The Everglades of Florida:
Water Is the Key to Its Future

February 1964

The Editorial Page

The Everglades Must Not Vanish

SOME SIXTEEN YEARS AGO, CONGRESS, acting in behalf of the American people as a whole, established Everglades National Park at the southern and southwestern extremity of the State of Florida.

The central-southern portion of the peninsula, back through long ages of geological time, had been a great marsh and a slowly-flowing river carrying the abundant fresh waters of subtropical rains southward and westward to the Gulf of Mexico.

Within the vast expanse of sawgrass through which these waters flowed, and the hammocks and hills of relatively dry and forested ground which rose above them, there had thrived from immemorial beginnings a strange and fantastically beautiful plant, bird, reptile and mammal life which is now rapidly vanishing before the inroads of agriculture and urbanization.

It was to protect these waters, this land, these plants and animals, and to preserve this aboriginal subtropical scene for the esthetic, scientific, cultural, and pleasurable uses of the American people that this nation, acting by majority decision through its elected Congressional representatives, established the Everglades National Park.

When Americans have had a chance to express themselves freely and effectively on whether the national parks should be protected, they have invariably spoken in behalf of protection with a strong, clear voice. We have no doubt whatsoever that a national referendum on the question of protecting Everglades Park against destruction by deprivation of water would find a heavily preponderant majority on the side of protection; the nation would insist that whatever the other water needs of southern Florida may be, methods must be found for their satisfaction which will not ruin the humanly invaluable treasures in the park.

Nonetheless, conflicting activities of private interests, the State Government, and the Federal Government, and the drift of unplanned and unregulated events, are moving rapidly toward the desiccation of the park and the frustration of our national purpose in the preservation of this remaining portion of the Everglades.

Elsewhere in this issue we present a preliminary study of this situation, and we have plans for further and more detailed analyses and publication of the re-

sults, so that everyone may be fully informed.

The present protection and permanent security of the park are responsibilities which the conservation movement of America must not and can not evade or neglect.

The movement will prove itself to be a powerful force in American public affairs if it meets these responsibilities; a negligible one if it fails to do so.

An even more basic issue is also involved: the question whether a democratic society can plan effectively for the rational management of its natural resources, including its environmental resources, or whether its constructive long-range decisions must always be overwhelmed by short-run pressures.

THE MORTAL MENACE WHICH NOW hangs over Everglades results in significant measure from the public investment decisions and policies of the Federal Government. The drainage from Lake Okeechobee and the devotion of large quantities of water to agricultural expansion south of the lake have been aided by the Government. Urban expansion in the Miami metropolitan area, like residential, industrial, and highway expansion everywhere, has been aided, without adequate planning controls, by the Federal Government. Large industrial installations like a huge proposed refinery, and tributary canals, south of Miami, are normally related to Federal defense-connected expenditures.

These activities tie back to Federal public investment and to the Budget Bureau; hence, in considerable measure they are Presidential responsibilities. Southern Florida presents a picture of complete chaos in Federal public investment: fresh water being drained out to sea by canal when it should be stored for manifold uses; water applied to agricultural expansion while the nation seeks to reduce farm production; national financing and mortgage guarantees being used to stimulate urbanization where it is already excessive; and space and defense contracts enticing industrial construction where it is out of place; all the resulting water uses moving inevitably toward the ruination of the life-environment for people in Florida and the incalculably valuable resources of a great national park.

Space here prevents our examining at the moment the many measures which can and should be taken to protect the park, including a reversal of most of the public investment policies being fol-

lowed; and including conscientious consideration of additional remedies, perhaps like those suggested in the study which accompanied the Robbins Report on research in the national parks, pumping from underground supplies, and the possible utilization of effluents from metropolitan treatment plants.

Needed at this time and promptly, is the assumption of Presidential responsibility for the resolution of this destructive chaos. The Budget Bureau, the Council of Economic Advisers, and the Secretary of the Interior in his capacity as consultant to the President on resources matters, together with top-level advisers from outside Government, should be called together by the President and charged with the responsibility for hammering out a solution.

The over-all water management program for central and southern Florida which has been designed by the Corps of Engineers and will under present arrangements be entrusted to the Florida Flood Control District for operation, has still to be completed; about two-thirds of the total investment, mainly north-west of Lake Okeechobee in the Kissimmee River region, has yet to be made; the Federal budget for the next decade with respect to public investment in southern Florida should be designed in such fashion that the Kissimmee River operations shall proceed, if at all, only in step with sound plans for the permanent protection of Everglades National Park through any emergencies whatsoever which can presently be anticipated.

Incidentally, the fact that the Corps of Engineers has been allocated \$75,000 to make a study of the water problems of the Everglades does not satisfy the equation. The Corps of Engineers is not equipped in terms of professional competence to perform the over-all regional planning function which is called for here. The Engineers are a construction agency, no more; what is needed in this case, as in most others, is the kind of program which can only be developed by technicians with a broad general point of view, capable of evaluating competing long-range social objectives.

An integrated public investment program for southern Florida (as for other comparable regions in America) must displace the presently customary practice of piecemeal hit-and-miss budget-raiding expenditures which waste public funds and destroy natural resources.

As social scientists, we consider these observations to be so elementary as to be trite; but we propose to repeat them and continue to examine their implications until they get some attention in private and public circles. —A.W.S.



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Front Cover Photograph Courtesy Florida State News Bureau

Between Lake Okeechobee, in south-central Florida, and the southern tip of the Florida Peninsula lies the Everglades, a vast green basin of shallow water, sawgrass and palm-decked hammocks, teeming with semi-tropical animal life. From the lower portion of the Everglades a great national park was carved in 1947 to preserve the life and character of the 'glades for all time. But the drainage of wetlands and the ever-increasing human population of south Florida have conspired, over the years, to rob the Everglades of its necessary water; with diminished water, there has been a change in the area's ecology; and the future of the nation's third largest park is now in jeopardy.

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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.

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Between Lake Okeechobee in south-central Florida and the southern tip of the Florida Peninsula is the vast expanse of the Everglades, a marshy river which occupies most of the width of southern Florida, and the waters of which have over the ages moved slowly southward to Florida Bay and the Gulf of Mexico. From this great "river of grass" was carved Everglades National Park to preserve a representative sample of America's only extensive sub-tropical wilderness and its grand array of plant and animal life. Fresh water in proper season is the life of the Everglades and the park; but the diversion of fresh water from its natural course through southern Florida has placed this preservation, the property of all Americans, under serious threat of desiccation.

*Photograph by courtesy National Park Service,
Department of the Interior: Arthur F. Faucett*

The Water Problem in Everglades National Park

By Paul M. Tilden

Part I

IN DECEMBER OF 1947, A NEW NATIONAL park was dedicated in the State of Florida—the Everglades National Park, third largest preservation in the nation so classified and a new link in the chain of superb scenic and scientific reserves which are the property of all Americans.

It was not a park which had been easily won—not carved, as had been some of the earlier great parks, from a public domain largely unsettled and in some cases little known. Rather it was the handiwork of some nineteen years of ceaseless effort and selfless generosity on the part of many persons and organizations. It was to be the showpiece of America's only extensive semi-tropical wilderness and a sanctuary for the unusual and colorful plant and animal life of that wilderness.

It is pointless indeed to call any of our great national parks "unique"; each has been set aside to paint its own picture and to preserve its own particular flora and fauna. But at least Everglades National Park is unique in this respect: its character and its very existence depend on a special kind of mineral, which is water—fresh water.

When President Harry S. Truman spoke at the dedication of the newly-established Everglades Park at the little town of Everglades, he recognized the special nature of the preservation when he said:

"Here are no lofty peaks seeking the sky, no mighty glaciers or rushing streams, wearing away the uplifted land. Here is land, tranquil in its quiet beauty, serving not as the source of

water, but as the last receiver of it. To its natural abundance we owe the spectacular plant and animal life which distinguishes this place from all others in our country."

"*Serving not as the source of water but as the last receiver of it.*" These were key words, for today Americans are in danger of losing their third largest national park without a single change in its land or water boundaries. They are in danger of losing it because it is not receiving its vital natural supply of fresh water which, during a year of average rainfall, has been estimated at an optimum volume of more than two million acre-feet—a foot of water standing over a flat surface of two million acres. The park truly has become "the last receiver" of water, but not in the sense intended by Mr. Truman.

The Drought Begins

For even as the President spoke, machinery for the potential desiccation of the park was being considered in Washington, and was shortly to be put into motion. To find out what this machinery was, and to what end it was designed to operate, we must understand something of the nature of the Everglades—indeed, of the entire southern half of the State of Florida—and must go back a bit into the earlier human history of the State.

Physically, central and southern Florida is, in the words of two marine biologists of the University of Miami, "somewhat like a giant platter filled with water." The southern end of the platter is open, and the whole land mass

is tilted ever so slightly to the south. Over much of the area changes in elevation are measured in inches, rather than feet; the larger part of the dry land from the middle of Florida south lies in two narrow belts along the east and west coasts.

In central and southern Florida there are essentially but two seasons; the rainy and dry seasons. The period from May through October roughly defines the first, and the balance of the year the second. It is during the rainy season that about seventy percent of total precipitation falls. An average yearly rainfall in the central part of the State—say in the vicinity of Kissimmee—would be about fifty-one inches while, in Miami farther south, it is a few inches more. Extremely wet years in south Florida have seen yearly rainfall totals in excess of a hundred inches.

Because of the nature of the land this vast volume of water would, barring man's interference, move slowly southward from the interior—from the great Kissimmee River catch-basin of some 4400 square miles, with its innumerable lakes, sloughs and marshes, down the Kissimmee to the nearly half-million acres of Lake Okeechobee. Overflowing Okeechobee, the runoff water would spill southward into the Everglades, westward into the Caloosahatchee River drainage and the Gulf of Mexico, and eastward into a number of sloughs, or ill-defined, watery dead-ends. That which spilled southward from the lake would join the waters of the Everglades proper, the vast 4000-square-mile grassy marsh between



Central and Southern Florida Flood Control District

In the photograph above, dredges are seen enlarging and straightening the Kissimmee River north of Lake Okeechobee in one of the operations of the Central and Southern Florida Flood Control Project. Prior to the initiation of drainage works in central and southern Florida, rainy-season waters of the 4400-square-mile Kissimmee Basin moved slowly southward to Lake Okeechobee and thence into the Everglades on their way to Florida Bay and the Gulf of Mexico. This water is no longer available to Everglades National Park. Below, a pumping station on the Miami Canal, capable of handling nearly two million gallons of water a minute, drains off water from the agricultural lands south of Lake Okeechobee—water which formerly would have flowed south into and through Everglades Park.

Central and Southern Florida Flood Control District



Okeechobee and the southern end of the Florida Peninsula, and with the latter move southward and westward in a vast, thin sheet to Florida Bay and the Gulf of Mexico.

Over the course of geologic time the decay of grasses and other plant life had flooded much of this great natural reservoir—especially its more southerly portion—with a thick layer of rich, peaty muck. As early as 1847 the watery terrain of central and southern Florida was being viewed as potential agricultural land, and plans were being laid for drainage systems and other “improvements.” The national “Swamp Lands Act” of 1850 conveyed to the State all of the interior wetlands (and some dry lands as well) and little time was lost in offering them to the public for possible drainage. Work to this end got under way on a large scale during the 1880’s in the Kissimmee and Okeechobee areas, to constitute the first substantial tampering with the water regime of the southern peninsula. This work consisted of an interconnecting system of canals in the Kissimmee Lake region, and channelization of the Caloosahatchee River from Lake Okeechobee to the Gulf of Mexico. The water level of Okeechobee was lowered several feet by this latter operation.

Legislation Creates Canals

In 1907 the Florida Legislature created the “Everglades Drainage District,” purpose of which, as stated by the legislature, was “to establish a system of canals, levees, drains, dikes, and reservoirs . . . to drain and reclaim the swamp and overflowed lands within the State of Florida.” By 1927 six major drainage canals and many minor canals, miles of levees, and numerous locks and dams had been constructed; the partial drainage of rainy-season waters into the Atlantic and the Gulf had by now enticed many farmers into the former wetlands, especially in the area directly south and southeast of Lake Okeechobee. The two important canals in this phase of Florida’s reclamation scheme were the Caloosahatchee and the St. Lucie (see map, page 9), accomplished with private funds.

The Federal Government was brought into the Florida land reclamation picture on a large scale by two hurri-

canes—the first in 1926, the second in 1928—where in each instance high winds drove the shallow waters of Lake Okeechobee over its banks and into adjacent farmlands and villages; the hurricane of 1928 claimed many human lives by drowning to the south and southwest of the lake. Prior to that time the interest of the United States Government in the drainage scheme had been a relatively minor one, connected with navigable waters in the Lake Okeechobee area. A year after the second hurricane the Florida legislature created the Okeechobee Flood Control District, and authorized it to cooperate with the U. S. Army Corps of Engineers in constructing a network of channels, control gates and levees along the shores of Okeechobee. This opened the Federal floodgates, so to speak, and in 1930 the Engineers recommended to Congress a program for navigation and flood control which was incorporated into the Rivers and Harbors Act for that year.

This, in turn, led up to the Corps' *Comprehensive Report on Central and Southern Florida for Flood Control and Other Purposes*, approved by Congress in the spring of 1948, a grand two-hundred-million-dollar-plus plan for a vast system of canals and levees to divert to an even greater extent the natural southward flow of water, irrigate more farmlands in central and southeastern Florida, and supply water to the mushrooming cities and towns of Florida's southeast coastline. The *Comprehensive Report* was the foundation for the Central and Southern Florida Flood Control Project, approved by Congress as part of the Flood Control Act of 1948; shortly afterwards, State drainage activities for the central and southern part of Florida were consolidated under an agency titled The Central and Southern

Florida Flood Control District. As it has worked out—and the vast water control project is as yet no more than a third completed—the Federal government puts up some eighty percent of total costs, the State of Florida the balance. Also, local interest in the purposes of the *Comprehensive Report* seems of late years to have turned more in the direction of “other purposes” and away from flood control.¹ Since the inception of the Project, a number of other programs have been added to it, so that its total initial cost is now placed at nearly \$382 millions; Federal appropriations of more than \$96 millions have been made for the

¹“It is tremendously gratifying to see the results of the Flood Control District works already built, such as improved pasture for dairy and beef cattle production, vastly increased sugar cane production, new citrus groves, new industries, expanding defense and space installations, and burgeoning cities with subdivisions sprouting on lands that once were flooded periodically.” R. S. Miles, *Annual Report of the Central and Southern Florida Flood Control District*, 1963.

Project up to and including fiscal year 1962-1963.

Over the years, the diversion and dumping of the natural flow of rainy-season water in central and southern Florida and the subsequent lowering of the Everglades water table has wrought changes in the sub-tropical life community of the park. Some of these have been subtle, others more readily apparent. One of the less perceptible changes has been the invasion of the endless stands of sawgrass and other native aquatic plants, which perhaps best typify the park botanically, by exotics like willow, holly, wax myrtle and bay. A sharp-eyed visitor would not be likely to notice the slow changes in park flora on the basis of two or three years of consecutive visits; but to the methodical naturalist, and the keen eye of the aerial camera in comparison photographs over a span of years, the change has been readily apparent.

A further menace to the character of the park and its plants and animals, aggravated by the lowered water-table and especially severe during years in

Photograph courtesy National Park Service



Disruption of the natural drainage pattern of central and southern Florida by a vast pattern of flood control and land reclamation works, in conjunction with periods of natural drought, leaves scenes like that at the right in Everglades National Park. Normally this ditch would contain sufficient fresh water even during the dry season to support myriad forms of aquatic life, the first link in the biological chain which culminates in the larger animals of the park.

which the summer season drops less than its normal water, is fire. It has been mentioned already that the Everglades, including much of Everglades National Park, is floored with peat and muck of high organic content. Everglades fires consume a topsoil which has been building over countless centuries, and which is vital to a stable natural economy; further, it forms a relatively impervious layer over the porous limerock which lies directly beneath, reducing the loss of Everglades water by underground percolation. The peat and muck, no longer protected by its sheet of water, also undergoes shrinkage as well as attack by bacteria; where topsoil measured some fourteen feet thick in places back in 1900, those same places now show a thickness of only six or seven feet.

But the stoppage of the flow of rainy-season water from the north because of the central and southern Florida flood control program—which some conservationists now have trouble in distinguishing from a land reclamation program—has threatened to counterdict one of the prime purposes for which the park was established.

This was the preservation of a vast assemblage of animals and plants—a strange intermingling of the life of the continental United States with that of the tropics which constitutes one of the biological wonderlands of the world; a “showplace of natural history,” in the words of one biologist. Here the visitor finds such mammals as the white-tailed deer, black bear, opossum, raccoon, otter—rarely even the mountain lion, though in a country without mountains; and many other more or less familiar species. In addition, he will find strangers like the huge manatee, or sea-cow, once nearly

extinct but now with protection a viable species; the rare mangrove fox-squirrel; the round-tailed muskrat, resembling for all the world an oversized meadow mouse; and the ever-present marsh rabbit.

He will find an assortment of reptilian life which includes the alligator, crocodile, some twenty-three species of snakes, turtles in abundance, and various lizards. Among the latter of these animals is the tiny, dragon-like anole, or Florida chameleon, males of which possess bright red throat-fans, or movable flaps of skin that can be elevated as warnings to other males, overambitious during courtship season.

The fresh, brackish, and salt waters of the park teem with many kinds of fishes: minnows, garfish (staple food of the alligator), bass, sunfish, bowfin and many of those species commonly known as “sport fishes”; while the coastal bays of the park constitute a vital nursery area for the economically-important shrimp.

Plants of the Park

As for the plant life of the park, it has been well said that the visitor or professional botanist who enjoys seeing new and unusual plants will find that he can spend weeks, or even months, in the Everglades without exhausting the floral diversity of its hammocks, pinelands, and prairies. Especially conspicuous to Northern visitors are the park's many airplants and orchids.

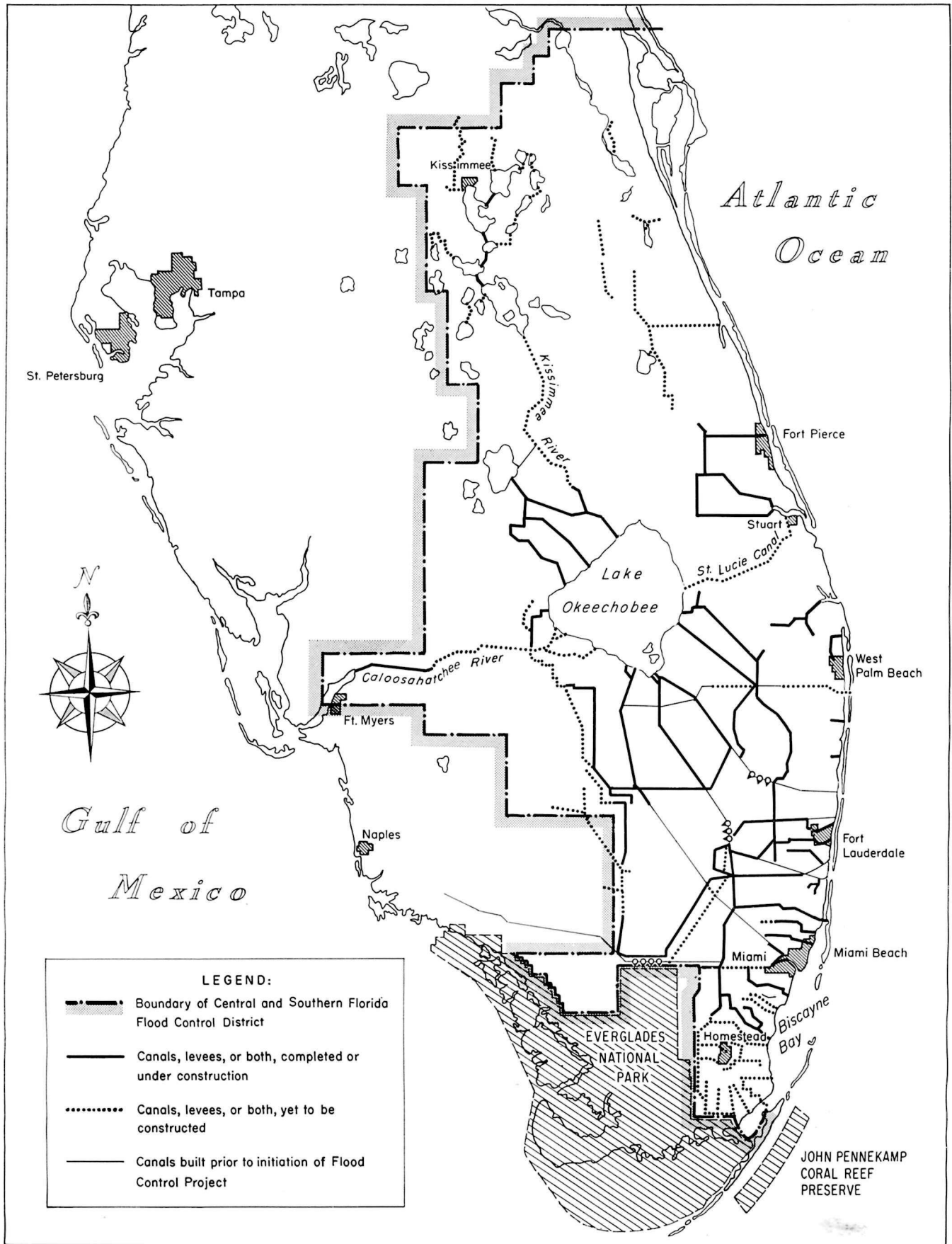
It is true that the bird life of the Everglades is present today only in a small fraction of its original glorious abundance; the feather and plume hunters of past years have seen to that. But even the abundance of today far exceeds that of all but a few American

bird localities. Many of this Magazine's readers are personally familiar with that amazing congregation of land birds, shore birds, wading birds, waterfowl and migrants of many species from many parts of the nation.

Today, barring a solution of the park's water problem, the people of America are in danger of losing some of these remaining birds, especially certain of the water birds and waders. These latter species come into the park during the winter and early spring to feed on the myriad fishes, and crustaceans of the sloughs and pools, where aquatic organisms are concentrated by the receding waters of the dry season. These pools are vital links in the chain of life for many of the park's showiest and rarest birds, for in this food-rich locale they will also nest and rear their young. Here, too, is where the vast network of canals and levees to the north of the park has wrought drastic changes. In years of subnormal summer rainfall, the sloughs and pools are drying up. Competition for food becomes keener, and bird numbers are diminishing. Fresh-water feeders are now seen along the salt- and brackish-water areas of the coastal mangrove swamps; during some years certain species of birds have not appeared at all. The environment of the park is changing—not only for the bird life but for the many other animals for which the Everglades and the park are noteworthy.

What is being done, and what can be done, to alter the course of events in Everglades National Park and to assure it a normal supply of fresh water? The second part of this article, to appear in the Magazine for March, will discuss these questions.

The map on the opposite page will serve to acquaint the reader of the article above with the vast scope of the eighteen-county Central and Southern Florida Flood Control Project. Construction of this network of canals and levees has been underway for some fourteen years, and the project is as yet only about one-third completed. The St. Lucie and Caloosahatchee canals have been in existence for many years, but are shown as incomplete on the map since further work on them is contemplated under the Project. It has been necessary to simplify the canal and levee system in the map; many of the indicated canals are flanked by a levee on one or both sides, and there are numerous large pumping stations in the system which are not indicated. At the points where canals discharge into salt water they are provided with so-called “tidal traps” which prevent seawater intrusion at high tide. »



RAMBLING THROUGH THE "NEVER SUMMERS"

By Richard Fleck

THE RAIN WAS ALREADY PATTERNING gently on the rocky trail as I lifted my pack into the truck and began the trip to the Never Summers Range. It was late August, but there were patches of icy snow crusted over each gulch and mountain recess in the western boundary of Rocky Mountain National Park in Colorado.

After a gloomy ride across the windswept Trail Ridge Road, I emerged into the thick Engelmann spruce forests which mark the beginning of the jagged, ice-spotted Never Summers. The rain grew colder. A menacing wind whistled softly around my head as I put on my pack and started up the trail.

Far up, east of the Lead Mountain slope, I saw the gulch where I was to make camp that night. It was in a superb glacial cirque, or ice-carved

valley-head. As I strained up the winding trail through spruce and occasional lodgepole pine stands where fire had destroyed the original forest, I heard the chirping of blackpatched mountain chickadees and the lonely cackle of a grey Canada jay. I climbed through tangled willow stands where the brilliant green moss hungrily caught each faint ray of sun. I pushed through deep purple monkshood flowers as they swayed freely on their tall, green stalks. And I was constantly aware of the cold, swelling wind.

The Arapaho name for these harsh mountains is *Ni-Chebe-Chii*, or Never-No-Summer. The brutal wind is master here, and the animal and plant inhabitants of Never Summers Ridge live out their lives under its constant, icy rule.

Finally I reached the forest's edge and a huge pike of talus a hundred

feet high. This is not timberline, but the base of the great Hitchens Ditch, a monumental engineering project done at the turn of the century. Thousands of Chinese coolies dug an irrigation ditch skirting the side of the twelve-thousand-foot Never Summers to supply the dry eastern slope of Poudre Valley with much-needed water. As I ascended the talus I noticed a pile of torn spruce cones at the base of a tall tree. The chickaree, or pine squirrel, makes his living by rooting out the nuts in the cones and leaving this tell-tale mess behind.

Soon I was at the top of the rockpile, looking across the dirt road into Hitchens Ditch. The water was shallow and swift, racing along at a slight downhill angle toward Poudre Valley, where Fort Collins is located. At that moment a dark brown dusky grouse

and her three chicks strutted, pigeon-like, across the maintenance road. Cautiously they slipped into the forest to feast on juicy, purple grouse-berries.

The wind was howling angrily now at my intrusion, and I pushed on along the ditch toward Hitchens Gulch, and camp. All along the artificial stream I could look up into the vast, red-grey Never Summers summits looming some two thousand feet above me. Patches of icy, late August snow were everywhere. There was a continual flickering of white-lined tail feathers as the grey-headed junco flew overhead. Now and then a yellow Audubon's warbler would shoot by, battling the wind.

A black and white sign saying "Lake of the Clouds 1.4 miles" marked the spot where I left the ditch and moved higher up into the dense, almost primeval spruce-fir forest. The

red, scaly bark of the tall Engelmann spruce signaled a welcome outpost of virgin forest. The thick stands of bracken fern, and the marshy fields of rosy paintbrush and white pearly everlasting reminded me of the moist, boreal forests of Quebec and Newfoundland. There were deer and elk tracks on the black, needle-covered earth. As I rounded a corner of the rock-studded trail, a squeaking grey and white mouse scurried across a boulder.

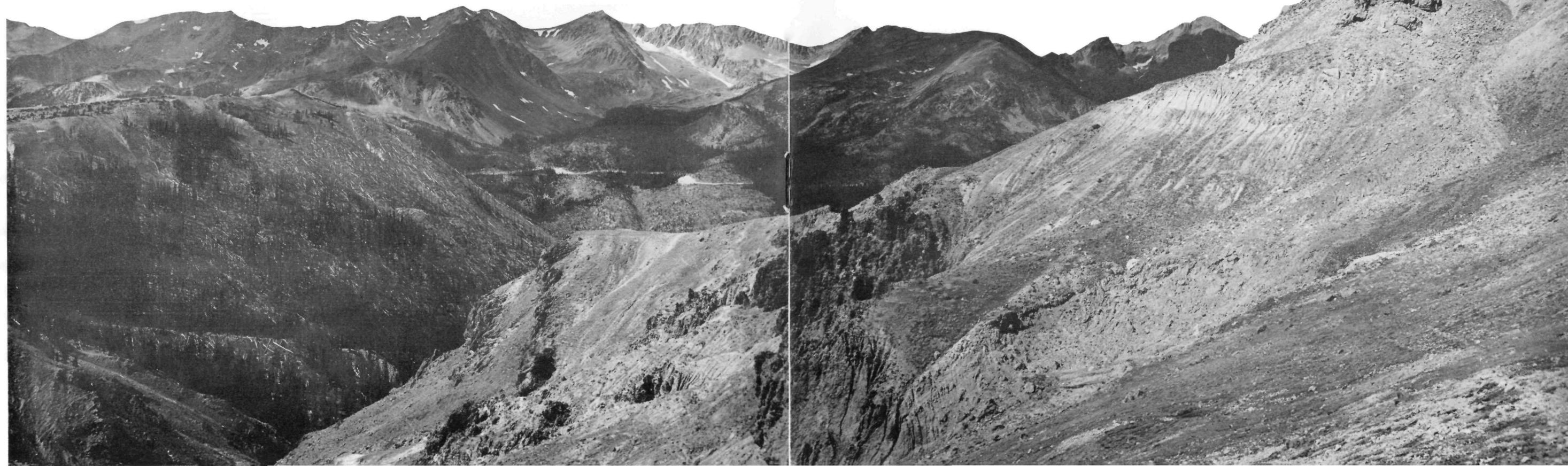
Thunder suddenly boomed, to echo from rocky ridge to tundra slope. Sheets of sleet and rain flanked the jagged peaks and bore down on me in full fury. The temperature suddenly dropped some fifteen degrees, and I felt the bitter cold bite through my sweater. The icy rain and the rocky ground forced me to make camp some

400 feet below Lake of the Clouds. This is the only lake of any size on the eastern side of Never Summers. There was an old miner's cabin at the base of rugged Lead Mountain. I spread my poncho in its shelter and cooked supper. The strong scent of damp conifers and mossy ground was with me as I went to sleep.

The cawing of a raven woke me at sunrise, to the spectacular beauty of Never Summers' golden peaks and

Photograph courtesy Denver Tourist Bureau

From the great volcanic crater of Specimen Mountain—part of which is visible in the foreground below—in Rocky Mountain National Park, the Never Summer Range, northwestern boundary of the park, looms high along the horizon to the west.



glistening snow. After flapjacks and cocoa, I ascended the tundra-clad spur jutting out from Lead Mountain in search of the king of the alpine country, the bighorn sheep.

After emerging from the prostrate, twisted trees of timberline, I was startled by a deep, cracking sound. It was the wind again, rustling in the dead, bleached branches of phantom-like trees. Excitedly I scanned the tundra, and saw in the distance what looked like a group of Shetland ponies. I edged closer. It was a band of sixteen bighorn sheep—sixteen dark brown bodies and creamy white rumps. I came closer and closer, crawling along a horizontal sheep trail across the extremely steep slope. The flock's bedding-down spots were noticeable by the hoof-scrapes and dung. I passed through the spots, distracted a little by the beautiful views overlooking the windy gulches and valleys below. Finally I got within a hundred yards of the flock. There were thirteen ewes and three lambs. There were no thick, spiral-horned rams with them. The ewes were all about three feet tall, and sported slightly curved horns. As they zig-zagged over the rocks I marvelled at their grace, so difficult an achievement for humans in this thin-aired, thin-soiled environment.

The short-haired bighorn sheep (*Ovis canadensis*) is not to be confused with the shaggy, white, mountain goat (*Oreamnos americanus*) which has black, slightly-curved horns. Perhaps the high-altitude bighorn is the best equipped creature in its environ-

ment. Its hoofs are cushioned, and capable of clinging to rock like the best Swiss-made boot. It weighs from 125 to 275 pounds, but has no trouble carrying its bulk among the precipitous rocks. Only forty years ago careless hunting and trophy-seeking almost wiped out the bighorn, but now more sensible wildlife conservation practices have insured an upswing in its population. However, instead of inhabiting the mountains from the foothills to the high peaks, as it once did, the bighorn now lives most of its fifteen years in remote, inaccessible places. On the side of Lead Mountain, high above heat, insects, and predators, the bighorn reigns in majestic aloofness.

Ewe Guards Youngsters

As I watched the flock advance along the flower-covered slope, grazing on elk-sedge, I noticed its cautious rest procedure. The lambs would all rest together, with an ewe to keep them company. At different rest stops, a different ewe would do the honors.

Suddenly a buck mule deer, with its pronged rack, bounced out in front of me. He startled us both, and frightened the flock of bighorns. When the deer raced away, the bighorns galloped down the rocky slope, as unconcerned as children rolling down a grassy hill. I was alone again, with nothing to keep me company save for the squeaking, tiny, tailless, rabbit-like cony.

I walked up the rippling tundra slope through delicate, white-flowered candy-tuft to the saddle of Lead Mountain, some 12,000 feet in the sky. As I

looked back I saw the emerald-like Lake of the Clouds, lined with shrubby spruce trees beneath the cliff of Mount Cirrus. The wind cracked against the ridges like a man beating a rug. As I went higher the wind grew more ferocious. Finally I peered over the ridge to see magnificent 12,953-foot Mount Richthofen, the highest of the Never Summers. It loomed up on the other side of a deep valley pocket, which generated Himalayan-like winds. The vast, thirty-mile stretch of the North Park of Colorado spread out before me, along with the many jagged peaks of the *Ni-Chebe-Chii*.

Suddenly there was a movement on the rocky soil of the saddle below me. I looked closer. It was the well-camouflaged sharp-tailed ptarmigan, trying to slither away from the strange human invader. I noticed that his underside was just starting to show evidence of white winter plumage. As I stared at him, the bird fluttered out into the windy valley, and melted against the blue horizon.

The afternoon sun drilled heavily into my back as I descended to the camp. Later, after a meal of fried mountain rainbow trout, I hiked back to Hitchens Ditch. As I struggled through the fungus-clustered forest, I was aware of the low moaning of the wind, subdued now by the closeness of civilization. I looked back once more at the high summits to the west, where the bighorn reigns above the valleys. Then I passed out of Never Summers, and left its swirling, angry wilderness behind. ■

FEBRUARY RIVER

*The river now becomes a silver room.
Shocked into silence, frosted and iced
By the cruel stranger, winter, she
Hides her bosom in a new glass house.*

*Now is the time the fish must be her
friends.*

*Now all the skates of children are bird
Songs to her but wait until the
butter*

Of the sun dips into her with spring—

*Suddenly the cork will pop and she
who was*

*A February river will bubble with
champagne!*

—Marion Schoeberlein

Vandalism in Yellowstone Park

By Robert W. Witzke

EVER SINCE THE ESTABLISHMENT of Yellowstone National Park in 1872 its thermal features—especially those of the Upper Geyser Basin—have been plagued by vandalism. The chipping of geyser and hot spring formations for souvenirs, the throwing of logs and rocks into thermal features, the carving of names and initials in the formations, and the “soaping” of geysers were the more common kinds of vandalism perpetrated during the early years of the park. Although severely curbed by park personnel now-

adays, the problem of vandalism continues.

The first soaping of a Yellowstone thermal feature is said to have occurred when a Chinese laundryman decided to use a very hot spring as a clothes-boiler. A tent was pitched over the spring and clothes were suspended in the hot water by a wicker basket. One day, it is said, a bar of soap was dropped in the basket with the clothes and for the first time in the history of the spring a column of water shot up from it to a height of

twenty feet, wrecking the tent and discouraging further commercial efforts. Since that time the spring has been known as “The Chinaman.”

This kind of interference with the park’s natural phenomena was practiced on the great Beehive Geyser oftener than on any of the other geysers, primarily because of its apparent high degree of response to soap. The practice of soaping geysers seems to have been much more prevalent during the early history of the park than in recent years. Commenting on the prac-

At the close of the summer period of heavy visitor use, National Park Service employees in Yellowstone Park “go fishing”; not for fish, but for the assorted trash which some visitors feel obliged to shower into the park’s thermal features. Below, two park employees use a scoop-like device to clean out beautiful Morning Glory Pool in the Upper Geyser Basin.

Department of the Interior: Yellowstone National Park photograph



tice, Arnold Hague of the United States Geological Survey stated in 1889 that: "The constant boiling and bubbling of the water, the irregularity of its action, and the convenient location of the geyser within an easy walk from the hotel, make attempts to accelerate the eruptions of the Beehive most attractive to tourists. Success so frequently rewards the astonished traveler that, unless the geyser were carefully watched by the authorities, attempts [to soap] would be made daily throughout the season." Many of the other geysers were also soaped during the early years, and it is possible that this may account for their dormancy or great irregularity today.

Giantess Geyser, one of the major geysers of the park, has in the past been subjected to much vandalism. The distinguished students Dana and Grinnell, after witnessing an eruption, wrote of the Giantess that: "After we had become accustomed to the noise of the eruption and the awe inspired by the vast outburst had subsided, we experimented upon the

violence with which the vapor was ejected by throwing into the crater trunks of trees and logs, and other objects which could be found near at hand." Herman Haupt wrote in 1883, in his Yellowstone guidebook, that: "—when stones or other objects are thrown into it, it boils furiously, foaming up and sometimes running over the edge."

Collectors and Chiselers

Geologist George D. Marler, in his monograph on the Grand Geyser, stated also that the crater of the Turban Geyser, on its east and north sides, had been subject to a vast amount of vandalism, particularly during the first few decades following its discovery. The greyish, massive variety of common opal known as geyserite which formed the sides of beautifully ornamented collecting basins around the Turban—as seen in early photographs—has all been hacked away by specimen collectors and souvenir hunters. On the sides indicated, no present evidence of these former basins now

remains. Chiseled names and dates¹ can be seen in the geyser bowl. Many of the rocks that have been wantonly thrown into the crater are now sealed within a geyserite matrix—and many new rocks are added each season.

The giant cone of Castle Geyser also received its share of despoliation. In 1883 Dr. Herman Haupt wrote in his previously mentioned book that: "The cone [of Castle] has been much mutilated by the vandals that have from time to time visited the Park." Even the cone of Old Faithful was not spared from the visitor's axe and hammer in those early days.

During the early 1900's a campground was established near Cyclops Spring and two adjacent springs in

¹The defacement of places and objects of natural beauty by names, initials, etc., must have commenced early in America. In the first part of the nineteenth century Dr. Charles H. Jackson, State Geologist of New Hampshire, noted tartly that the barren rock summit of Mt. Kearsarge, high monadnock in the central part of the State, had been disfigured by the carved initials of "the most unimportant persons."—*Editor.*

Shown below is the off-season "catch" of rubbish from Brilliant Pool, in Yellowstone Park's Black Sand Basin.

Department of the Interior: Yellowstone National Park photograph



the Upper Geyser Basin. These three springs were used as depositories for much of the refuse of the camp. One large spring became completely filled with tin cans, bottles and related articles from the camp mess. Another spring was used for many years by concessioners as a source of hot water. Following three separate eruptions of this spring after the Yellowstone earthquake of 1959, geologist George Marler observed strewn about the crater bricks, bottles, cans, staves, lead pipes and other objects that had been ejected during the eruptions.

In his annual report for 1886, Yellowstone's superintendent, Captain Moses Harris, commented: "It may be said without exaggeration that not one of the notable geyser formations in the Park has escaped mutilation or defacement in some form. Those that have been most fortunate are covered with lead-pencil inscriptions recording the names of those shallow-minded visitors to whom such a distinction is a pleasure. Not content with defacement of the formations, efforts are constantly being made to destroy the geysers themselves by throwing into them sticks, logs of wood, and all sorts of obstructions. The eruptive force of several of the geysers has been totally destroyed by vandalism of this character."

Vandalism of thermal features has not as yet been completely eliminated in Yellowstone Park. The soaping of geysers continues to a certain extent, names are still scratched in the formations, and rocks thrown into the hot springs.

Handkerchief Pool was at one time a very interesting feature of the park. Visitors would drop their handkerchiefs into the pool; the handkerchiefs were then drawn into the tube by the downward movement of the water around the periphery of the funnel and brought up again by the rising current of heated water in the center. A thoughtless person ruined this pool by jamming a log into it.

Interfering with Nature

Emerald Pool, near Handkerchief Pool, was once considered the most beautiful green pool in Yellowstone. Its temperature was about 157 degrees F., and conducive to a growth of yellow algae in its bowl. This yellow algae,



Department of the Interior: Yellowstone National Park photograph

The above unnamed hot-water pool in Yellowstone Park has received its share of logs and other debris, thoughtlessly or willfully tossed in by unappreciative visitors.

showing through the blue water, produced its extraordinary greenish coloration. During the past few years, because of cumulative vandalism, the temperature has dropped about five degrees. Lowering of temperature by a few degrees has resulted in a change of color in the algae lining the bowl; it has turned from yellow to an orange color. The change in hue has profoundly affected the general color of the pool, and today it is no longer a beautiful emerald green but a dull brownish-green.

The hot springs on Geyser Hill receive an alarming amount of vandalism in spite of numerous signs warning visitors to stay on the boardwalks. One pool has been appropriately named Rock Pool. This pool, during the past twenty-five years, has been completely filled with rocks three times. Many other thermal features of Geyser Hill still receive numerous rocks and much other tourist-introduced rubble.

During the decade of 1930 it was common practice for people to walk all over the cone of Old Faithful Geyser. The result was a mound which appeared bare and worn, since such human erosion broke down the gey-

ser's tiny silicious terraces. Today people are kept off and the geyser's cone has again built up its magnificent terraces.

Every year Morning Glory Pool receives a deluge of coins and other material. Superstitious folks continue to toss "good luck" coins into this pool until its beautiful color is lost to the countless copper pennies lying in its bowl. Every fall attempts are made to clean these coins from the bowl, and those which can be retrieved are returned to the United States Treasury.

In the Lower Geyser Basin the shallow crater of Bead Geyser had been filled over the years with a great quantity of marble-like geyserite beads—a circumstance responsible for its name. In recent years park visitors have practically denuded the crater of all its beads.

The malicious practice of soaping thermal features still continues on a limited scale. George D. Marler, in his 1951 geyser report, wrote: "Attempts were made to soap most of the major geysers. In connection with the soaping of the Daisy Geyser, rocks used to support the shoulder of the

(continued on page 17)

News Briefs from the Conservation World

Some Further Changes in Park Service Personnel

In a continuation of the top-level reorganization which has been taking place in the National Park Service during the past several months, the following new Washington headquarters appointments have been made by former Associate Director (and now Director) George B. Hartzog, Jr., and approved by Secretary of the Interior Stewart L. Udall:

Ben H. Thompson, former assistant director in charge of resource planning, as assistant director for resource studies. Before becoming an assistant director, Mr. Thompson had served ten years as chief of the division of recreation resource planning. He is a long-time career man, having entered the Park Service in 1929.

Jackson E. Price, as assistant director for specialized services. Prior to the new appointment, Mr. Price had been assistant director for conservation, interpretation and use. He commenced work with the Interior Department in 1934 as an assistant solicitor, and joined the Park Service in 1944 as chief counsel.

Howard W. Baker, as assistant director for operations. Mr. Baker had been director of the Service's Omaha Regional Office since 1950, and had first joined the Park Service in 1930 as an architect.

Johannes E. N. Jensen, former chief of the NPS construction division, as assistant director for design and construction. Mr. Jensen, an engineer by profession, had formerly been associated with the Michigan State Highway Department and private Michigan and Connecticut firms, and had joined the Service during the spring of 1963.

Theodor R. Swem, as assistant director for cooperative activities, formerly of

the Colorado State Game and Fish Department and the Bureau of Reclamation. Mr. Swem joined the Park Service in 1957, and was most recently chief of the division of national park and recreation area planning.

Clarence P. Montgomery, as deputy assistant director for administration, formerly finance officer for the National Park Service.

The position of assistant director for cooperative activities, to which Mr. Swem has been appointed, is a new one; the other assignments involve changes in jobs and position titles.

Wild Rivers Study Team Makes Twelve Selections

A joint Department of the Interior-Department of Agriculture study team has recently selected sections of twelve rivers with outstanding recreation potentials for a detailed study which could lead to designation of a nationwide system of free-flowing rivers. Such a system would protect and maintain certain streams with high outdoor recreation value in their free state, and it is possible that other streams may be studied later.

Selected by the Wild Rivers Study Team of the two Departments were: the three forks of the Flathead River in Montana; the Skagit and its Sauk and Suiattle tributaries in Washington; the Rogue River in Oregon; the Klamath in California; the Rio Grande in New Mexico; the upper Green River in Wyoming, and the Niobrara in Nebraska.

Also the St. Croix and Namekagon in Minnesota and Wisconsin; the North Branch of the Susquehanna in New York and Pennsylvania; the upper Hudson in New York; the Big South Fork of the

Cumberland in Kentucky and Tennessee; and the headwaters of the Savannah in North Carolina, South Carolina and Georgia.

A report on the outcome of the team's twelve-river study should be forthcoming during the late fall of 1964, it has been indicated.

In addition to the twelve rivers mentioned above, several others have already come under consideration in previous studies. These are the Salmon and Clearwater in Idaho, the Middle Fork of the Feather in California, the Suwanee in Florida, the Buffalo in Arkansas, the Upper Missouri in Montana, and the Current in Missouri. The Allagash River in northern Maine has already been recommended by the Bureau of Outdoor Recreation for preservation in its free-flowing state as a national riverway.

Two New Species of Birds Found in Panama

The world's list of known birds has recently been increased by two as the result of discoveries in Panama. The first of these, a large and colorful hummingbird, was seen but not identified as early as 1958 by Alexander Wetmore, noted ornithologist and research associate of the Smithsonian Institution. Actual identification was made by biologist Charles O. Handley, Jr., of the National Museum in the fall of 1963 during a reconnaissance of the island of Escudo de Veraguas. The new hummer will probably be known as Handley's hummingbird, or, scientifically, *Amazilia handleyi*.

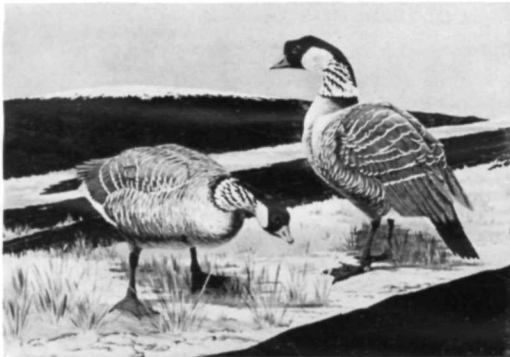
Second newcomer to the catalog of avian ranks is a wood quail, the discovery of a party under direction of ornithologist Pedro Galindo of the Gorgas Memorial Laboratory, in Panama. The new quail, inhabitant of the high jungles of Panama, has received the scientific name of *Odontophorus dialeucos*.

Society Makes Awards to Noted Conservationists

During the middle of January the American Scenic and Historic Preservation Society, of New York City, made its annual awards to outstanding workers in the fields of conservation and preservation.

Recipients of the Society's three Cornelius Amory Pugsley medals were: gold, Conrad L. Wirth, recently retired director of the National Park Service, for outstanding park work at the national level;

New Duck Hunting Stamp Features Rare Hawaiian Goose



The 1964-65 Federal duck hunting stamp will, oddly enough, picture a species of bird that cannot be hunted. This is the rare nene, or Hawaiian goose, presently to be found only on the "Mauna Loa Strip" of Hawaii Volcanoes National Park. Watercolor at left is the handiwork of Stanley Stearns, of Stevensville, Maryland.

silver, Edward J. Meeman of Memphis, Tennessee, for outstanding contributions in park and recreation work at the State level; and bronze, Thomas Sutton Jett, director of the National Capital Region of the National Park Service, for similar outstanding work at the city level.

Other medals awarded were: the George McAneny Historic Preservation Medal, to Angela Moore Place of New York City; the Horace Marden Albright Scenic Preservation Medal, to Sigurd F. Olson of Ely, Minnesota; and the Medal of the Society, to Representative John P. Saylor of Pennsylvania's 22nd District.

Audubon Society President Scores Federal DDT Use

At the opening session of the National Audubon Society's 59th convention in Miami, Florida, during November 1963, Society President Carl W. Buchheister of New York City urged local Audubon groups to "keep hammering away" at the problem of pesticide misuse. One of the Society's continuing goals, Buchheister indicated, would be to inform and arouse the public about the dangers of misuse and excessive use of chemical pesticides.

The Society's president was particu-

larly critical of Federal agencies which have continued the wholesale use of long-lived pesticides like DDT in their own spraying programs despite the 1963 findings of the President's Science Advisory Committee and the warnings of such prominent biologists as Rachel Carson. Buchheister noted that the Department of Agriculture has opposed a bill which would require a printed warning on packages containing chemical pesticides toxic to wildlife.

Conservation Study Areas

Two watershed areas in the Charles M. Russell National Wildlife Range in east-central Montana have been recently designated by the Bureau of Land Management and the Fish and Wildlife Service as "resource conservation areas," for determination and demonstration of the best methods of managing public and water resources in the Missouri River "breaks." Emphasis will be on restoration of native vegetation and demonstration of various accepted techniques for range management and development; also to be studied will be the grazing capacities of the areas for both wildlife and livestock and the extent to which both will thrive under differing management.

Vandalism

(continued from page 15)

road near the Daisy were torn up and thrown into its crater along with the soap."

During the 1955 season there was a tremendous amount of soaping in the park. Thermal features known to have been soaped during that season were Whistle Geyser, Castle Geyser, Scalloped Spring, Beehive Geyser, Sponge Geyser, Giantess Geyser, Chinaman Spring, Sapphire Pool, and numerous others.

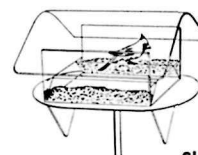
Giantess Geyser was soaped twice during the 1961 season. This geyser seems to be a favorite target for soap-induced eruptions because of its irregularity (it erupts only about twice a year) and its great beauty. During the 1962 season Beauty Pool, near Grand Geyser, was victim of considerable vandalism. Not only were rocks and sticks thrown into the pool, but a good deal of prodding was done in the bowl. Lovely Celestine Spring in the Lower Basin was the daily recipient of a shower of foreign matter which included coins, gum, stones, fruit pits, pop-bottle caps, sticks, cig-

arette-butts and paper.

In at least one instance the administration of the park has been partially responsible for vandalism. During the early 1930's a road was built between Daisy Geyser and Bonita Pool, in the Black Sand Basin, and a parking area was constructed surrounding Bonita. During the course of the past thirty years thousands of visitors have trod the mound which had taken Bonita so many years to build. Today this mound has been reduced in height by more than three inches. About two years ago Bonita began to overflow, causing dormancy in Daisy because of the fact that the two are connected underground. The author wrote to the superintendent of Yellowstone, soon after Bonita began to overflow, requesting that the road be relocated and the parking lot removed. The superintendent replied that this project was scheduled for 1961, and that the mound of Bonita would be restored to its natural condition. In 1961 it was postponed until 1962. In 1962 it was postponed until after July, 1964, because it was decided that other projects in the park had a higher priority.

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The present condition at Bonita is not normal, having resulted from vandalism during the past thirty years. If and when Bonita's mound is restored to its former natural condition (a difficult undertaking!) the beautiful Daisy Geyser will probably be rejuvenated, to again thrill its many admirers.

Yellowstone Park naturalist Herbert Lystrup wrote a few years ago: "Deliberate and malicious tampering with natural features cannot be tolerated. We are all vitally interested in keeping intact the features for which the Yellowstone region was set aside as a National Park. It is hoped that the offenders may be 'caught in the act'. Flagrant violations must not go by without proper penalty. They must be dealt with in such a manner that will serve as a warning to other tempted individuals."

Geysers and hot springs are among the rarest natural phenomena in the world. We in the United States are very fortunate to have such a large and varied collection of thermal features. Many already have been permanently lost to thoughtless vandalism. We must not lose any more! ■



JOURNEYS IN GREEN PLACES. By Virginia S. Eifert. Dodd, Mead and Co., New York, 1963. 215 pages. \$4.50.

The world began with only the water, the sky, and the sand. But omnipotent nature, using her genius for design, combined these elements and produced a master plan for the introduction and continuation of all life.

Virginia Eifert, author and devoted student of nature, is entranced, but not overwhelmed, by the majesty and mystery of nature's design. She understands the subtle process which occurs over millions of tireless years to produce life. "In my hands that morning I held plants shaped in the dawn of creation," Mrs. Eifert muses, "and in this white stuff on my hands I knew the material which had laid some of the foundations of lake and shore and forest."

Put yourself in Mrs. Eifert's hands and you will be taken back to the beginnings of the North American continent. You will know how the glaciers were formed, and how they changed the surface of the earth. You will stand upon barren sand, and know how a forest will someday grow in its place. You will know the drama in the lives of nature's creatures, and see in the tracks of the tiny shrew and the nervous digger wasp the marks of death.

The overpowering art of nature's arrangements is the real theme of this book. Everything in nature has order and purpose, from the scent of a flower to the tusk of an elephant. Mrs. Eifert asserts that with nature's creatures, "Each in itself is important because it is itself. If it is successful in being itself and in reproducing its kind . . . it has a place in the world. If it is unsuccessful, then it becomes extinct. Nature may seem whimsical at times, but it is also terribly final."

Mrs. Eifert's observations, however, are not final. She will tell you that the slender ladies'-tresses orchid, found along a woodland trail, smells like vanilla. But in order to capture the true delight of the flower, you will have to find one yourself. If you want to hear the "fairy music box," the winter wren, you must slip into the forest alone, and wait for the sound.

"Knowledge is good," Mrs. Eifert exclaims, "but wonder is priceless." *Jour-*

neys in Green Places will instill in every reader the knowledge of nature's magic. In the sensitive reader, it will also inspire the wonder which drives the nature lover out-of-doors to communicate with wilderness on its own terms. He must then believe, as Mrs. Eifert believes, that "It is for us, in no matter what part of the country, to guard the wild places, to hold on to them as something eminently precious and never to be truly regained, once they are lost. National parks, state parks, small back-country preserves . . . they are all part of America's background and possessions, part of our personal heritage. Our land is surely broad enough . . . so that we may . . . still hold on to and cherish the wild places, the invigorating atmosphere of swamp and forest and lake and bog." —M.A.R.

BECAUSE OF A TREE. By Lorus and Margery Milne. Atheneum Press, New York City. 1963. 152 pages. \$3.95.

One seldom encounters a book on ecology, written for children, that is not dull and watery. *Because of a Tree*, by two distinguished writers in the field of the sciences, is a happy exception. The Milnes have presented young folks with a basic introduction to the ecological role of trees in the life community with no sacrifice of subject matter.

Eight species of trees and their interdependent life communities are investigated; a final chapter looks at the dead tree and its contributions to the life cycle of the forest. The volume is liberally illustrated with sketches by Kenneth Gosner.

BIRDS OF THE NATIONAL PARKS IN HAWAII. By William W. Dunmire. Hawaii Natural History Association Ltd., 1961. Sixty cents, postpaid. 36 pages.

"The purpose of this booklet is to help anyone who cares to learn about the birdlife of the national parks in Hawaii." In addition to brief descriptions of thirty-two species of Hawaiian birds there is a brief history of the ornithological life of the State. Hawaiian names are listed for each bird; locale where it is most likely to be found in the parks, and its vocal characteristics. In the center of the book-

let there is a color plate of the dozen most common perching birds of the Hawaiian National Parks with their identifying names on the facing page.

ANIMAL LIFE AND LORE. By Osmond P. Breland. Harper and Row, New York. 388 pages. Illustrated. \$6.95.

In this volume the author, professor of zoology at the University of Texas, examines man's common beliefs and misbeliefs about the animal kingdom and answers the questions most frequently asked by the average reader. Divided into sections on vertebrates and invertebrates and organized by class and family, *Animal Life and Lore* is arranged both for quick reference and comfortable and casual reading.

SO MANY THINGS. By Gladys B. Cutler. Harlo Printing Co., Detroit, Michigan. 1963. 36 pages. \$1.50.

Nature is so many things. It is a chickadee pecking at some discarded bread. It is a clump of flowers stretching under a neighbor's fence. It is a mountain carrying fat clouds on its back; it is an eagle soaring on the wind.

To the poet, nature itself is a poem. Gladys Cutler, whose world is a nature-poem, has put that world into a little paper-bound volume telling about geese that "cleave the air on tireless wings, ineffably bird-wise," and "the jeweled fingers of dawn, gently insistent, prying off the dark corner of night sky."

Mrs. Cutler looks at nature and writes of it with love, warning the reader to "Be silent; you are standing on the brink of revelation."

—M.A.R.

BIRDS OF MOUNT MCKINLEY, ALASKA. By Adolph Murie, with photographs by Charles J. Ott. Mount McKinley Natural History Association, McKinley Park, Alaska. 1963. 86 pages and introduction. \$1.63, postage paid.

Dr. Adolph Murie, nationally known biologist and conservationist, introduces potential Mount McKinley National Park visitors to the 132 species of birds identified to date in this great Alaskan wilderness preservation. Many of the entries are accompanied by line drawings, work of the late Olaus J. Murie, the author's biologist brother and fellow conservationist. The high standard of excellence which typifies Ott's photographs has been marred in this volume by poor reproduction of his scenic park views.

—P.M.T.

Your National Parks Association at Work

Association Opposes Big Dams As Panaceas

During the spring of 1963 the late President Kennedy committed the Federal Government to a program of economic assistance to the Appalachian Mountain portions of nine of the Eastern States—areas collectively known as “Appalachia”—which long has been recognized as an economically depressed area. Under the program the Federal Government, through the President’s Appalachian Regional Commission, is to work with the States involved through the Conference of Appalachian Governors in formulating short- and long-term programs for alleviation of chronic depression in the “hill country” of Pennsylvania, Maryland, Virginia, West Virginia, Kentucky, Tennessee, North Carolina and Alabama. Undersecretary of Commerce Franklin D. Roosevelt, Jr., was named by the late President as chairman of the Commission, which is composed of a joint State-Federal group of appropriate bureau heads; the whole operation, as presently planned, will operate under title of the Appalachian Corporation.

It seems likely that the program will be geared to Federal and State spending, over a period of five years or so, on a program of new roads, airports, educational facilities and recreational developments and water-control projects; the sum involved may total several billions of dollars.

In regard to the water control projects, and in particular those within the portion of the Potomac River Basin which lies within so-called Appalachia, the National Parks Association has recently expressed the hope that the Commission will avoid the big-dam approach to injecting money into the mountain economy.

In a letter to Chairman Roosevelt the Association, through President Anthony Wayne Smith, has pointed out the destructive effects of the big so-called multiple-purpose dams and reservoirs on communities, farms, businesses, the natural scene and its recreational potentials, and wildlife and historical relics.

The Association has expressed the hope that the Commission will avoid the “conventional and hackneyed” solution of big-dam construction, and has told Chairman Roosevelt that, in its opinion, the time has passed when resources management policies in this part of the country should be oriented around large hydroelectric power projects; most especially in the bituminous coal-mining sections of the Appalachian mountain country where

hydropower would compete with coal as an energy source.

The Association has made the request that, before a positive program for Appalachia crystallizes, conservation organizations like the National Parks Association be given the opportunity to present their views and suggestions to the Commission.

A Letter to Agriculture Regarding Pesticides

In late 1963 the Department of Agriculture published its intention to make a revision of the regulations for enforcement of the Federal Insecticide, Fungicide and Rodenticide Act. The revision was aimed at strengthening regulations in regard to labeling requirements on pesticide containers; legibility and placement of labels; size of type used in warnings as to dangers in use; pesticide testing procedures, and certain other regulations concerning the packaging and handling of pesticides.

The National Parks Association, in a letter to Secretary of Agriculture Orville L. Freeman, has congratulated the Department for its action in tightening up labeling requirements as being a considerable improvement. At the same time the Association pointed out that it is very difficult, in the matter of pesticides, for a single bureau to administer the three fields of research, registration and operations impartially and competently, and that the research function, at least, should be separated from operation in the interest of scientific objectivity. Registration of pesticides—involving as it does delicate judgments of compliance—also should be separated from operation, the Association said.

The Association recommended in its letter to Secretary Freeman that the administrative structure of the Department be re-examined in the light of the Act to see whether a fundamental structural re-

organization could not be worked out which would be more in keeping with the principles of scientific freedom and objectivity and with good public administration.

Readers of this Magazine will recall that during May of 1963 the National Parks Association sponsored a discussion with Secretary Freeman—attended by representatives of a number of other national conservation organizations—to canvass the Department’s attitude toward its use of pesticides and to make a number of remedial recommendations. (*National Parks Magazine*: July, 1963; p. 19.)

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