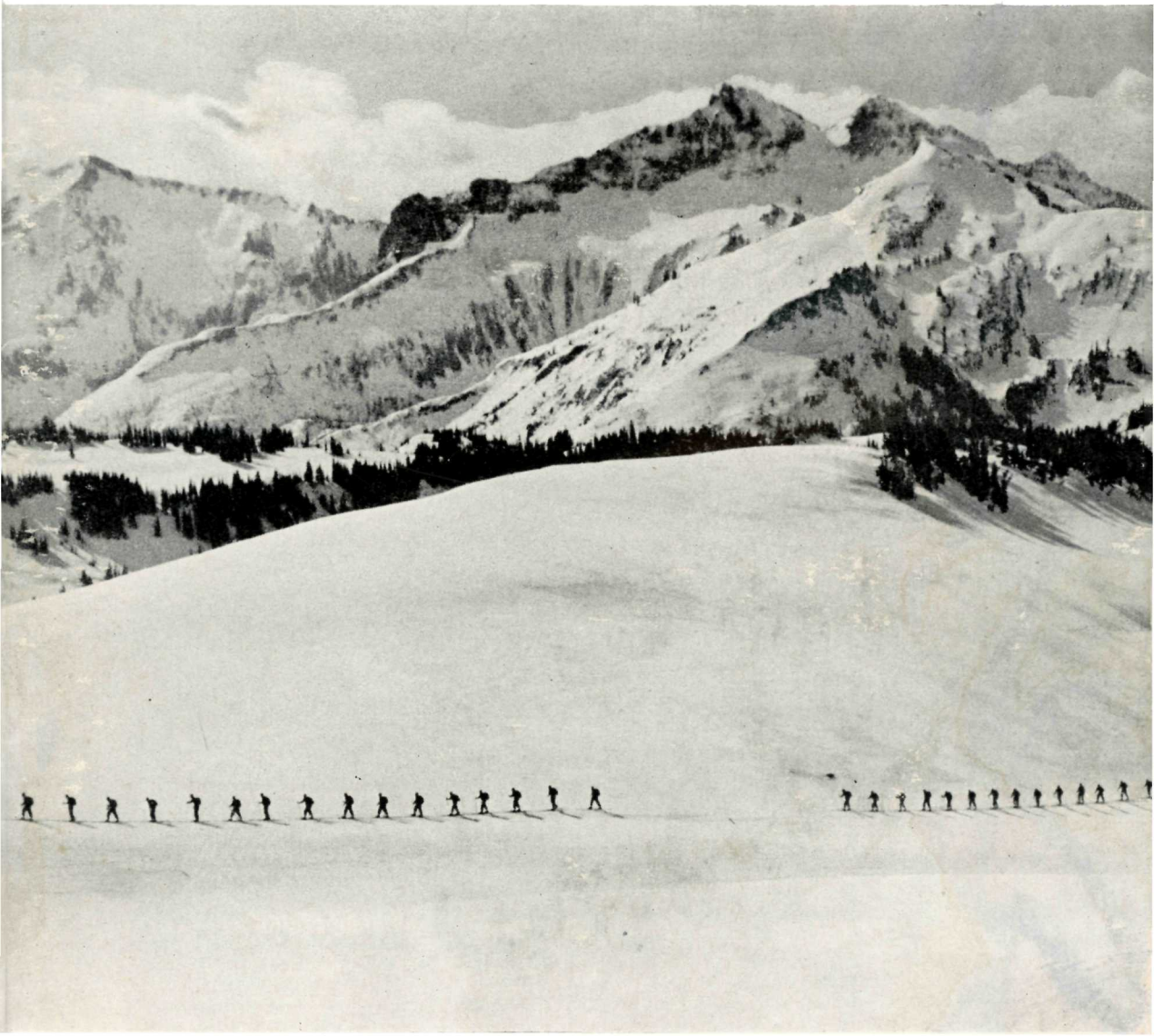
NATIONAL PARKS MAGAZINE

PUBLISHED BY THE NATIONAL PARKS ASSOCIATION



VISITORS IN UNIFORM — Page Eleven

JANUARY-MARCH • 1944 • NUMBER 76

The population of the world goes on constantly increasing and nowhere so fast as in North America. A taste for natural beauty is growing, and, as we hope, will go on growing. The places of scenic beauty do not increase, but, on the contrary, are in danger of being reduced in number. There is no better service we can render to the masses of the people than to set about and preserve for them wide spaces of fine scenery for their delight.—RIGHT HONORABLE JAMES BRYCE, *British Ambassador to the United States in 1912.*

NATIONAL PARKS MAGAZINE

formerly

NATIONAL PARKS BULLETIN

The Magazine of the National Parks Association
1214 Sixteenth Street, N.W., Washington 6, D.C.

Editor, Devereux Butcher

Advisory Editor, Robert Sterling Yard

January-March 1944 CONTENTS Number 76

NATIONAL PARKS MAGAZINE, formerly National Parks Bulletin, has been published since 1919 by the National Parks Association. It presents articles of importance and of general interest relating to the national parks and monuments, and is planned to be issued quarterly for members of the Association and for others who are interested in the preservation of our national parks and monuments as well as in maintaining national park standards, and in helping to preserve wilderness.

Letters and contributed manuscripts and photographs should be addressed to the Editor, 1214 Sixteenth Street, N. W., Washington 6, D. C. The National Parks Association is not responsible for loss or injury to manuscripts and photographs in transit. All contributions should be accompanied by return postage.

Santa Fe Railroad

Grand Canyon from North Rim at Bright Angel Point.—"The primitive condition of the national parks is a fragile thing. It must be protected at all cost, for all time to come, by the upholding of national park standards."

EDITORIAL

THE BIG EIGHTEEN

TO those who understand the why and wherefore of the "standards" relating to the preservation of our world-famous group of national primeval parks, about eighteen in number, any proposed idea to radically change those standards "to comply with the times" seems dangerous, and indeed unthinkable.

Just what are national park standards, and what threatens these standards today? They were written some years ago by members of the Conservation Committee of the Camp Fire Club of America, and they were endorsed by nearly one hundred associations interested in the function, use, and preservation of the national parks.

In the text of the standards, under the heading "Definition," it says that, "National parks are spacious land areas essentially in their primitive condition, and so outstandingly superior in quality and beauty to average examples of their several types as to demand their preservation intact and in their entirety for the enjoyment, education, and inspiration of all the people for all time."

Notice especially the words, "outstandingly superior in quality and beauty to average examples of their several types." Each of the big eighteen does represent the finest example of the type of country that was selected to be preserved in its primitive condition. For instance, Mount Rainier National Park contains the largest single-peak glacier system in continental United States, and the extinct volcanic cone, together with its surrounding forest-covered mountains, present the finest example of the type of country found in the Cascade Range; Olympic National Park contains the finest remnant of the Pacific Northwest forests, including the incomparable rain forest; and Great Smoky Mountains National Park encloses the loftiest range of mountains in the East, with one of the world's most diversified natural arboretums. Plainly enough we are here dealing in superlatives.

Under the heading of "System" in the text of the standards, we read that, "The addition to the National Park System of any park below standard lowers the standard of the system . . . Areas, essentially of state-park caliber or primarily of local interest must not be admitted to the National Park System." This implied that there is a limit to areas in the United States and its possessions where new areas of national park caliber can be found. Some people say that because of our increasing population, we must have more and more national parks for them to enjoy. Such a suggestion shows that the idea of the national parks is not understood.

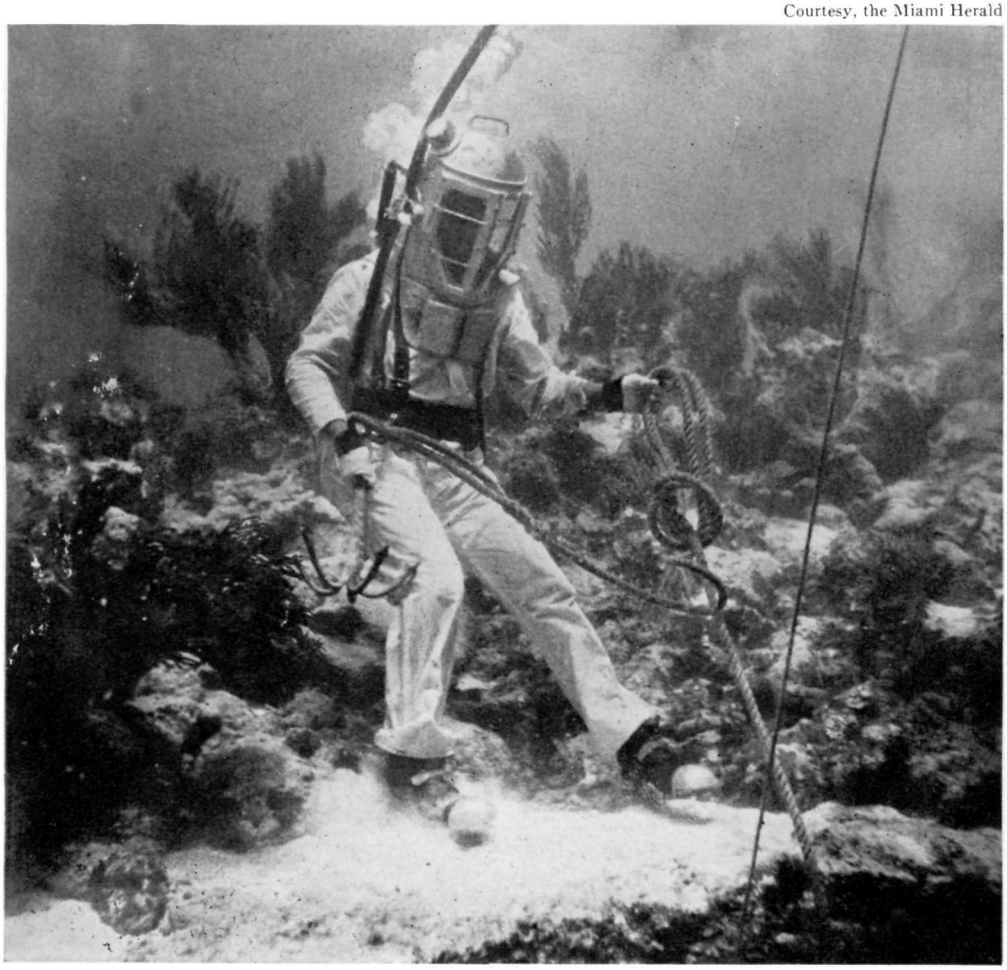
There can no more be mass production of national parks (nature's greatest work) than there can be mass production of the world's most noted art treasures (man's greatest work). An increase in human population can have no influence upon this. Let no one take this to mean an end to the preserving of new areas of wild and beautiful country, however. It means only that eventually the time must come, and is now nearly here, when no new areas can be classified as national primeval parks. If it is found that an exhibit can be improved, or the people can be better served, or a biologic unit made more complete, by adding land to an existing park, this should be done.

Another idea sometimes put forth in the cause of modernizing the standards to take care of the growing public is to open any or all of the big eighteen to all kinds of artificial amusements and recreational activities. Why, some ask, should we not have danc-

ing, swimming pools, and other commonplace entertainment? The answer is that the parks are exhibits of primeval nature. Those human activities, more than adequately cared for elsewhere, have no place in the primeval landscape, and most people do not go to the parks for those purposes. The standards, in this regard, tell us "That wilderness features within any park shall be kept absolutely unmodified . . . That existence of the parks is justified and ed by the educational and spiritual benefits to be derived from contact with pristine wilderness . . . That parks must be kept free from all industrial use, and that sanctuary, scientific, and primitive values must always take precedence over recreational or other values." The primitive condition of the national primeval parks, invaded only to provide accommodations and access to visitors, is a fragile thing. It must be protected at all cost, for all time to come, by the upholding of our national park standards.

On the Everglades' coral fringe, you will sink ten or fifteen feet to the reef, and as you land gently and look about, you will give a little gasp of astonishment at the wonderful world meeting your gaze.

Courtesy, the Miami Herald



The Everglades' Coral Fringe

By DR. PAUL BARTSCH

Photography by Fenimore Johnson

BOUNDING the east coast of Florida we have the only barrier coral reef in the United States. This reef has great historic value, for it furnished that enterprising group of pirates known as "The Wreckers" the basis for their activities.

Today these picturesque habitats of wreckers, pirates, and buccaneers, have lost most of the terror that they presented to the early navigators, for along the entire stretch of more than 210 miles our Government has placed lighthouses to give to mariners a warning of reefs that are dangerous to ships. Fowey Light, a little southeast of Cape Florida, is the most northerly one, and next comes Pacific Reef Light and Carrysfort, Molasses, Alligator, Sombrero, American Shoal, Sand Key and finally Loggerhead, the southernmost light, at the Tortugas.

If the lay of the above-sea land and its lore are fascinating, its charm cannot compare with the lure that the under-sea territory presents, for in this almost *aqua incognita* region the geologist and geophysicist will find large phases of world-making in operation, while the biologist, no matter what bent the predilection of his studies may take, has here source material of inexhaustible proportions.

Mindful of the fact that only a small fraction of humanity is scientifically inclined, I shall be generous and dip my pen in popular ink to point out some of the delights to be experienced under the sea by the casual observer.

To reach the reef you must go by motor boat to the line marked by the lighthouses. Here you drop anchor, don a diving helmet, and climb down a ladder into the water. Reaching the bottom rung you let go and sink ten or fifteen feet to the reef. As you land gently on your feet and look about, you will probably give a little gasp of astonishment at the wonderful new world meeting your gaze.

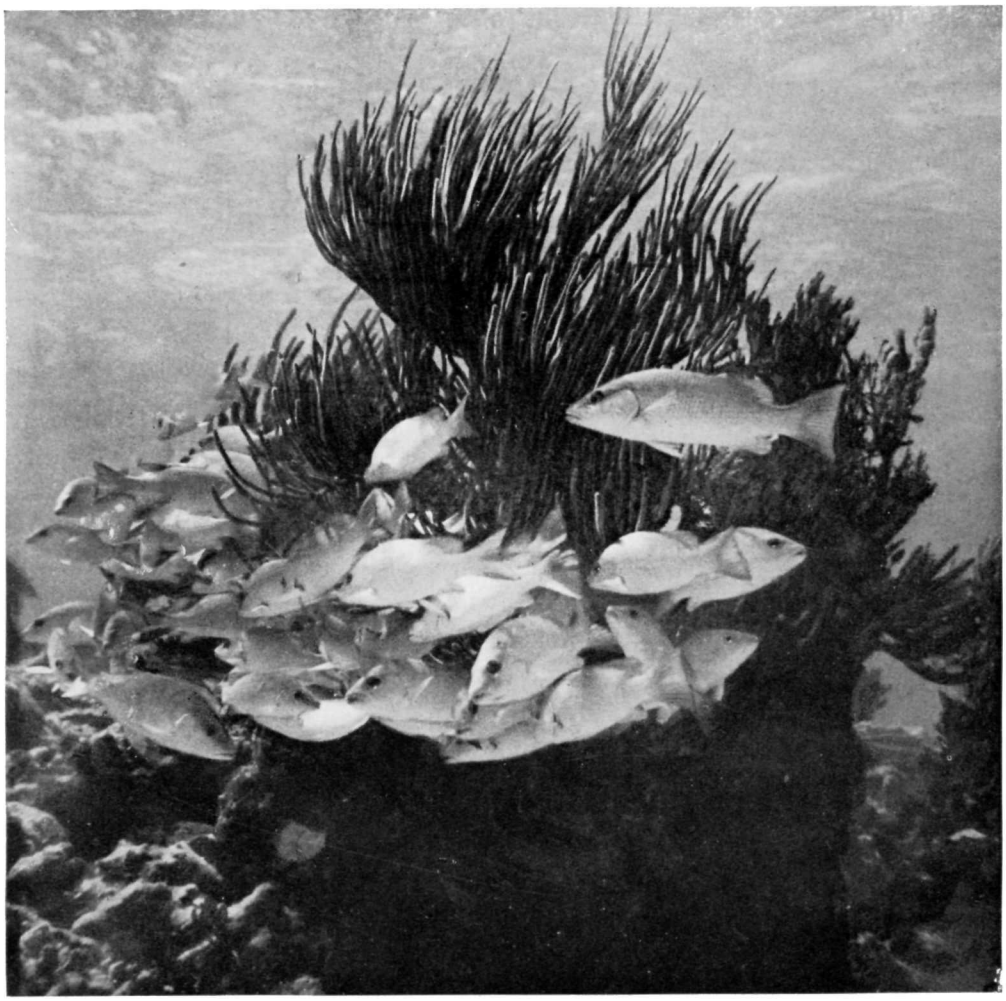
If you have been in a cathedral where acolytes were swinging censers, whose faint blue whiffs, diffusing, passed a sun-drenched window, then you may translate that into the color scheme of the subsea shallow-water atmosphere.

All your former concepts, gained by looking through a water glass (a pail with a glass bottom), or by cruising over shallow seas in so-called glass-bottom boats, are swept aside, for those aerial impressions are at variance with the subsea color scheme.

A passing big-eyed Gould's pompano, two feet in length, makes you realize why pelagic fish are colored as they are, for, barring the dark-edged fins, he blends with his surroundings.

Your eye may be next attracted to a Portuguese man-o'-war, that iridescent, naval chapeau-shaped float from which subtend streamers many feet in length. Beneath the shade of the float and protected by the streamers, a school of small sprightly carangid fish are disporting themselves. Beware! Don't touch. Those streamers are beset with nettling cells whose sting is like the burn of a red-hot poker. Here, too, are sea nettles, *Medusa*, floating by, which are equally peppery.

If the water is calm, you will note a flimmering of minute objects. Examination of a few drops of the water under a microscope would enlarge these objects to giant size by comparison with the swarm of lesser folk thus revealed. It has been found that in some places, 2,000,000 microscopic



In the shade of a clump of gorgonians, a school of gray snappers lends activity to the under-water scenery in the shallow reefs that border the Florida keys.

plants and animals are present in a single quart of such water. Your undersea visit, therefore, is not a mere immersion in a salt pond, but the visit of a curious giant into the wet saline realm of the myriads of invisible organisms that make their homes here.

As you look about, more wonders come to view. In the flat reaches are "marine gardens," swaying in the surge of the sea. If you look closely you will observe that these countless fantastic forms are not of the vegetable kingdom, but that they are masses of colonial animals known to scientists as Gorgonians. You will find that each little terminal branchlet ends in a small hydra-like animal. There are many kinds of these, some looking like the tail of a cat when raised in anger, while others have a fan-shaped form whose color varies from yellow to purple.

There are open fields of glistening coral

sand with little visible life, most of the animals of these regions being tucked away in burrows with only their eyes visible. Then there are meadows of turtle grass, *Thalassia*, to whose stems you may see the little sea horse clinging by his prehensile tail. Here, too, the slender varicolored pipefish and the horned cowfish find a protective habitat. Scattered through such meadows you may see some of the large brilliant red starfish, *Oreaster*, and lesser starfish with their relatives, the edible sea urchin, *Tripneustes*, and the flat sand dollar, *Mellita*, and that curious crustacean, the king crab, that reminds you of the denizens of ancient seas.

These thalassia fields also harbor many of the mollusks, among them the huge horse conch, *Fasciolaria*, that has been known to attain a length of two feet; the much-sought pink conch, *Strombus gigas*, a toothsome animal that has found favor as an article of human diet. Huge shell heaps bespeak their choice in the repast of the Indians, and the name conch opprobiously applied to certain portions of the white population speaks equally well for this mollusk.

Looking beyond the flats we find the coral reef beckoning. This may consist of pure stands—sometimes an acre in extent—of staghorn coral, *Madrepora*, whose in-

Beyond the gorgonians, the striped sides of a sergeant major can be seen at top, while a yellow-tail glides across the foreground.

dividual colonies are reminiscent of complex deer horns. Here one again is overwhelmed by a consideration of numbers, for we note that the pits we have seen in the skeletons offered for sale in curio stores are occupied by animals not unlike those seen in the horn corals. We count several hundred of these in a finger's length of a specimen and attempt to estimate the number of individuals in the coral patch. We give up, but realize, numerically considered, man forms but an insignificant element in the world's fauna.

Yonder are the solid walls of the reef builders. Heavy masses of brain coral, *Diploria*, and many others, veritable ramparts sculptured by the varying shapes of the constituting species into knobs, pinnacles, turrets and domes, and an endless number of caverns, arches and dark retreats. Do not touch the velvety surface of these masses, for, like their relatives the hydra and sea nettles, they are provided with nettle cells.

In the coral banks the beauty of the reef fishes vie with that of birds and butterflies in their gorgeousness. The undersea creatures play hide and seek in the nooks and crannies, and when you are quiet they lose their fear, evidently considering you one of their kind. They will swim about without the fear that they evince when they find you looking at them through a water glass. They will take bait from your hand and even rifle your pocket of bits of spiny lobster that you may have placed there for feeding purposes.

Here huge sea bass of more than a hundred pounds in weight will be tucked in caverns from which they are hard to lure forth in the daytime. Great schools of gray snappers will seek the shade and shelter of the open arches, swaying back and forth with the surge of the sea, waiting for the coming of night to go on forage. Grunts, which also school, are more restive, and huge flocks of yellowtails pursue their food equally well in daytime. Here, too, the sergeant majors, those brilliantly striped fellows, dart playfully about the massive coral heads. Occasional angelfish of several species, and hogfish, brilliant parrot fish, exquisite butterfly fish, and a thousand and one lesser folk hold sway.

Smash a Diadema, the sea urchin with long spines pointing in every direction, and you will soon have an assemblage of this brilliantly colored lesser fish fauna eating it up. In the crevices one may find the spiny lobster, a table delicacy whose long, vibrating tentacles betray his presence, as well as a hundred smaller crustaceans camouflaged to a most surprising degree.

Space forbids my doing justice to even a fraction of a specific faunal element, but perhaps this brief sketch hints at the possibilities which the inclusion of part of the Florida Barrier Reef in the Everglades National Park will render available to the student of nature and to the seeker of things beautiful.

The National Parks Association is not committed to inclusion of the reef in the proposed national park, but is interested in its preservation.—*Editor.*

Louisiana's Tensas Swamp

THE National Parks Association, through its Executive Secretary, obtained first hand information, last November, of the present condition of the fast vanishing primeval forest of the Tensas Swamp.

The Secretary, together with Mr. John H. Baker, Executive Director of the National Audubon Society, visited the area.

Owing to a long dry spell, the tract was accessible throughout, and even the winding Tensas River was far below its normal depth. Good weather prevailed on the day of the visit, so that a comprehensive inspection was possible.

Let us review briefly the recent history relating to the tract: Two years ago a bill was introduced in Congress to make 60,000 acres of the tract a national park. The bill was not passed. The same bill has been reintroduced in the present session of Congress, but no action has been taken on it because Congress seems unwilling to appropriate funds for such a purpose during wartime. The virgin tract is owned by the Singer Sewing Machine Company, which has entered into a contract with the Chicago Mill and Lumber Company permitting the latter to cut the timber. Under war pressure, the lumber company has been logging rapidly, and is today far ahead of schedule.

Conservationists throughout the nation have been concerned over the destruction of the area, for not only was the Singer tract the largest and finest remaining example of primeval southern bottomland forest, but it is the last habitat of the nearly extinct ivory-billed woodpecker. (See *Act Now, Louisiana* in the July-September 1942 issue of NATIONAL PARKS MAGAZINE; and *Louisiana's Vanishing Forest Primeval* in the January-March 1943 issue.)

The trip through the area began at the north side where a section was traversed that had been cut two years earlier. Here the lumber company has taken only the larger trees. Many smaller ones remain, and there is a thick understory of young gums crowding up among them. Farther on, a logging railroad was crossed—one of many with which the tract is thoroughly netted. In the vicinity of an abandoned logging camp there is a more recently cut area where giant stumps of the age-old trees had been taken. Strewn about are the huge trunks and limbs of trees that had been cut, but left when they fell because they contained imperfections such as hollows.

In the course of the journey, several regions of old-field timber were traversed. This timber has been grow many years on land that once was used for rice and cotton. The trees here are large, and the forest is often very beautiful. On the drier land in these old-field forests, as well as elsewhere in the tract, the dominant tree species are willow oak, overc oak, red gum, hackberry and cottonwood while cypress is found along the banks or bayous, lakes and the river.

It was the latter part of the day when the area containing the last of the virgin timber was reached. This is distinctly different from the old-field forest. In some parts of it there is dense undergrowth of young trees and vines, with widely scattered giants whose trunk diameters are six feet and over. Frequently the forest is more open, and in one or two places there are stands of wild cane that reaches a height of thirty-five feet and resembles bamboo.

Of the wildlife of the region, whitetail deer, one barred owl, a pileated woodpecker, red-bellied woodpeckers and flickers were seen. At first glimpse of the pileated with its flaming crest, there were hopes that it might prove to be an ivory-bill, but nowhere was one either seen or heard. The foreman at the lumber company's newest camp claimed he had seen an ivory-bill a day or two earlier.

It was at this newest camp that a glimpse

of logging operations was obtained. Located on the gravel road that enters the tract from the east, the camp is about one mile from the eastern edge of Sharkey Plantation. At this point a new spur of railroad plunges southward into the last of the virgin timber.

Today there remains but 7000 or 8000 acres of the primeval forest. As lumbering progresses, the tract becomes less suitable as an area to be administered by the National Park Service, although it continues to be valuable as a wildlife refuge. As much of the tract as possible should be acquired, and at the earliest possible date. It is encouraging to report that recent events give some reason to hope that there will yet be a reasonably satisfactory outcome.

New Attack on Rock Creek Park

ON November 21, 1943, a notice appeared in Washington newspapers which said, "Private citizens will invade one of the National Capital Parks and cut their own firewood for the first time Sunday. Anyone who has an ax or saw will be permitted to go to work in the Melvin C. Hazen Parkway, an arm of Rock Creek Park. Irving C. Root, Superintendent, said citizens may be invited later to clear other sections of the park of dead and fallen trees if response justifies."

The result was that 125 persons cut eleven cords of wood. The work has continued each Sunday since.

Last winter National Capital Parks started a "clean-up" program in this park when a contractor was allowed to come in and cut dead wood. (See *The Capital's Little 'Wilderness'* in the April-June issue of NATIONAL PARKS MAGAZINE). The National Parks Association pointed out, at that time, the injury that was resulting to park wildlife through the removal of nest and den sites in the dead wood; the injury being done to plants and small trees by hauling the wood; and the loss of the wild character of the park. Park officials agreed that the Association had taken a good stand, and they put a stop to the work.

Now these same officials renew their attack on the park, using the excuse that firewood is costly. This may be true, but the desecration of this most beautiful of city parks will not greatly ease that situation.

The wish of National Capital Park officials to alter natural landscape is not new. We have seen, in the words of John Collier, Commissioner of Indian Affairs, (*The Living Wilderness Magazine*, December 1937), "the costly slaughter of the Mall," "the wrecking of the Nelly Custis homestead area, that perfect little wild glen with its trees cut down and its hollows dragged to a level by the steam shovel," and "the obscene mutilation of that once exquisite wilderness island so close to Memorial Bridge."

An underlying purpose of the local park officials, we have reason to believe, is to bring about a change in the character of this last wild beauty spot in the nation's capital and make of the Rock Creek area just another formalized park. This should be resisted by every lover of natural woods and of wildlife. All interested persons should protest in writing at once to Mr. A. E. Demaray, Associate Director, National Park Service, Washington, D. C.

VISITORS IN UNIFORM

By ISABELLE F. STORY

"IF YOU need any recommendations for national parks, call on me. National parks really help you to understand the nation." These words were spoken by a colonel of the United States Army who with a detachment of his men visited a national park area on a recent week-end. He added that the men were so enthusiastic that the following week there was a shortage of transportation "for all the fellows who wanted to go."

This is indicative of the reaction of our fighting forces toward the national parks, as expressed in conversation and by letter. Practically all parks near points of military concentration serve as rest areas for the men and women of our armed forces. Of the approximately 7,000,000 visitors to the parks last year, some 2,000,000 wore the uniforms of the Army, Navy, or Marine Corps. Some came in line of duty, for various types of training; others came for recreation, relaxation, and recuperation. Whether at work or at play, they pay tribute to the morale-building effect of the national parks.

When the United States was plunged into war two years ago, the National Park Service was faced with a dual responsibility. Its primary function is to protect that segment of the federal estate that has been chosen for preservation in the National Park System so that the present and future generations may see a bit of the untamed America of the past, and may understand the compelling influences that produced the nation we are fighting for today. With the onslaught of hostilities there was added to this trusteeship the duty of cooperating in the war program to the fullest degree possible in the light of the Service's responsibilities.

At first it seemed that the two programs might conflict. But the utmost vigilance exercised by park men and a fine spirit of cooperation on the part of representatives of the War and Navy Departments and of other war agencies have resulted in avoidance of serious damage to irreplaceable park features, at the same time making possible an amazing diversity of cooperating endeavors involving approximately 700 authorizations for war uses. The great scenic and historical parks are so vitally important in sustaining national morale and for recreation and inspiration, that only as a last resource should those values be subordinated to other uses, even in time of war.

The phase of military cooperation that has appealed most strongly to Service officials has been the opportunity to minister to the health and comfort of the uniformed men and women who have come to the parks for rest and recreation. Almost every park has served to some degree in this capacity, but the most highly organized service of this kind has been developed in Yosemite National Park, California, where the Navy Department has taken over the Ahwahnee Hotel and is operating it as a convalescent hospital for the Navy. This picturesque and luxurious hotel has now been drafted to aid in the recuperation of naval veterans, primarily from the South Pacific. The *objects d'art* for which it was famous — antique rugs, "de luxe" furniture and equipment—are safely moth-proofed and stored. Its corridors now ring to the tramp of seamen's boots, and its great lounge, solarium and mezzanine reportedly hold double-deck beds for Navy personnel. At present the capacity of the hospital is limited to 600 ambulatory patients. In granite-walled lovely Yosemite Valley, and in the mountainous back-country they will gradually regain their strength—may, in Biblical terms, literally "draw their strength from the hills." Seven hundred miles of trails lead to beautiful lakes, to the vast expanse of high mountainous back-country, to

Ralph H. Anderson

The famous Ahwahnee Hotel at Yosemite National Park is now serving as the U. S. Naval Convalescent Hospital. Here sailors come to recuperate from the rigors of battle.

groves of trees that stand straight and tall despite the weight of ages that ofttimes range from thirty to forty centuries. The winter climate of Yosemite Valley, where the hotel is located, is mild, yet not far away is excellent skiing terrain.

This use of the Ahwahnee Hotel by the Navy does not bar the park to others. Civilians as always are welcome to this and other parks, and the Yosemite Lodge remains open for their convenience. Also using the park in substantial numbers, for both military purposes and recreation, are detachments of various Army organizations.

Once the Ahwahnee has completed its war-duty, it will be returned to park use, with no trace of the alterations necessary for its conversion to a hospital. The Navy has contracted to return it ship-shape for civilian needs.

Other facilities within the National Park System have been investigated by Army and Navy medical personnel as to their potentialities for convalescent hospital use. Most of them fail to meet the primary specification that they be operated all year, since the majority of the wilderness areas have too rigorous winter seasons for continuous operations and the available facilities were not constructed for winter operations. Or as happens in Death Valley National Monu-

ment, California, where the winter conditions and surroundings are excellent, but the summer heat is too severe for convalescents.

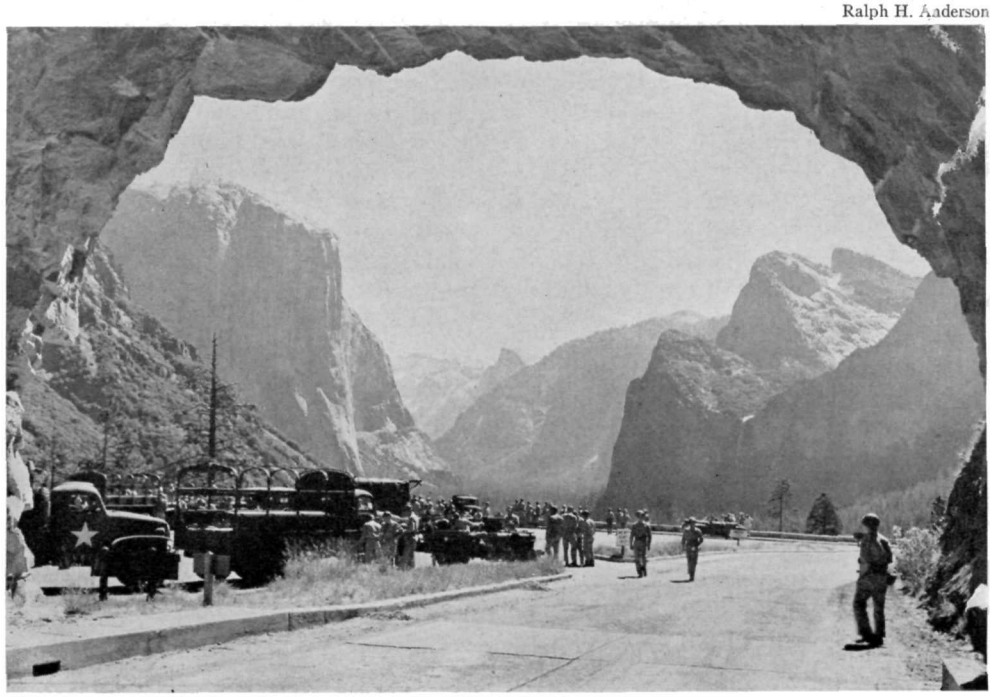
The Navy has, however, expressed interest in the facilities at Grand Canyon National Park, Arizona, should establishment of further convalescent centers in the park system be deemed advisable. Meanwhile, that area is host to thousands of troops each month who break convoy training trips and rest there for a few days. From a colonel in charge of an antiaircraft artillery battalion comes this praise: "The trip to the Grand Canyon proved to be beneficial far beyond our expectations in recreational and educational values . . . You are certainly doing a fine service for the men in the uniform of the United States Army." And in recent months the Army's commanding general in the Grand Canyon region issued a "directive" to all desert units recommending this maneuver-recreation trip.

Another park hotel that has been turned over to the military for the duration is the McKinley Park Hotel in Mount McKinley National Park, Alaska. No convalescent hospital that, but a place of seven-day periods of rest and relaxation for the soldiers who are carrying the burden of warfare in Alaska.

For a year and a half the Union Jack and the Stars and Stripes have flown together in the Hopewell Village National Historic Site, Pennsylvania, as young British seamen on shore leave have rested in the area, using facilities provided by the Civilian Conservation Corps. The visiting sailors are from ships docked in American yards. The National Park Service has provided similar rest camps in several eastern recreational demonstration areas. The international flavor of the camp recent

A convoy of soldiers of the 604th Ordnance Company at the Wawona Road Tunnel in Yosemite combines recreation with training in handling equipment on mountain roads.

Ralph H. Anderson



months was accentuated when men from French ships, while awaiting call back to sea duty, shared in the hospitality offered United Nations seamen at Hopewell.

When the first British sailors arrived at Hopewell, a CCC company composed of veterans of World War I and of the Spanish-American war were still in camp. Speculation was rife as to what the attitude of the veterans group and the young sailors would be toward each other. But the men of the American Expeditionary Force welcomed the young visitors with open arms. They swapped yarns and together sang the songs of the two World Wars. Warm hospitality has also been shown the visiting sailors by the people of neighboring communities, who strive to furnish entertainment that will erase from their minds, at least temporarily, the thought of nerve-wracking months spent running the gauntlet of submarine and mine-infested waters. On their part, the sailors of our allies have been deeply appreciative of everything done for them. From the British Admiralty have come the following words of appreciation: "These camps have proved to be a very effective tonic to men who have had arduous months at sea, and their value in affording rest and relaxation cannot be over-estimated."

The commanding officer of a Coast Artillery group wrote of a recent visit to Death Valley: "This encampment was in the nature of a rest for the men who had just undergone an intensive period of maneuver . . . a wonderful and interesting vacation for several thousand men who, coming from all walks of life and from all corners of the nation, had, with few exceptions, never seen the wonders of Death Valley National Monument."

In Mount Rainier National Park, Washington, mountain troops have trained in skiing and other techniques of mountain warfare; have tested equipment and studied camouflage. At Carlsbad Caverns National Park in New Mexico and many of the southwestern national monuments, notably White Sands in the same state, thousands of men have broken training for a few days. (See *Army Paradise* in the January-March 1943 issue of NATIONAL PARKS MAGAZINE.) Boulder Dam Recreational Area in Arizona and Nevada, through the recreational facilities provided on Lake Mead, has been a boon to soldiers and defense plant personnel in the vicinity.

Hawaii National Park, which cooperated closely with the military command in every way possible during the months following the attack on Pearl Harbor had approximately 225,000 military visitors last year —the greatest number to visit any of the wilderness parks.

In the eastern park areas, particularly those of military or other historic interest, soldier vacations and soldier training have gone on side by side. The Civil War areas of Virginia—Petersburg, Fredericksburg, Manassas, and others—have been studied intensively, and have proved excellent grounds for maneuvers. The Yorktown portion of Colonial National Historical Park in Virginia in one month was used for maneuvers by officer training groups from the Coast Artillery School at Fort Monroe, consisting of mapping and compass problems; and by two batteries from an antiaircraft gun battalion on field training problems involving setting up camouflaged gun positions, headquarters post, field hospital, and transportation and food centers. Chickamauga-Chattanooga National Military Park in Georgia-Tennessee is now a training ground for the Women's Army Corps.

Perhaps most interesting to the Service of all reactions on the protection of national parks in wartime are those that come from its own young men now under arms. (For an example of this, see *From a Former Park Ranger* in the April-June 1943 issue of NATIONAL PARKS MAGAZINE.)

Such evidence deepens the resolve of the Parks Service to assist the war program, and at the same time to hold inviolate the priceless areas entrusted to its care. They will be more desperately needed tomorrow.

Alarming News on the Everglades Project

OIL was discovered near the proposed Everglades National Park last October, in the vicinity of a settlement called Sunniland. As the crow flies, this is twenty miles from the northwest corner of the authorized area of the park.

The well, number 1, of the Humble Oil and Refining Company, is the first producing well in the state of Florida. It has brought in several hundred barrels of low grade, twenty gravity crude.

Company officials have recently filed claims that this well is a commercial producer. The well is 11,627 feet deep—more than two miles. It costs heavily to drill a well that deep, and whether the price and quantity of oil from this well will make the initial cost worth while is questionable.

There have been three other oil drillings within the proposed park area in the vicinity of the Tamiami Trail. None of these has reached oil. Two of them were abandoned at about 5000 feet, but further drilling has been stimulated by the Sunniland well in one now said to be down about 7000 feet.

The oil company has claimed the $50,000 state reward for the first operator who discovers oil in commercial quantities, but this claim is yet to be accepted by the state, pending its authorization by the state geologist.

The National Parks Association is in constant touch with Mr. Ernest F. Coe, Director of the Everglades National Park Association at Miami, as well as with other sources of information regarding this matter. From Mr. Coe we learn that, as far as he knows, the drilling of no other wells is anticipated.

It is too early to say what final effect the discovery of oil will have upon the establishment of the proposed park. With the passing of time, the Everglades area and its wonderful wildlife are not improving; but certain it is that the present flurry of drilling in the region is going to delay further the creation of an Everglades National Park.

Good News on Sitka Spruce

THE most serious threat to the National Park System which has occurred since the start of war, has been the demand to cut Sitka spruce in the magnificent rain forest of Olympic National Park.

Temporarily, at least, this threat has been averted. The War Production Board has determined that the logging of this tree in Olympic National Park is not at this time necessary to meet war aircraft needs. Mr. J. Philip Boyd, Director of the Lumber Products Division of the WPB, states that a change in aircraft lumber requirements has lately occurred. Factors that brought about this favorable situation for the park are that it has been decided to build no more C-76 cargo planes of wood, and that there has been an increase in the supply of aluminum for this purpose. Also, there has been an increase in spruce lumber production in British Columbia and Alaska.

Barring unexpected developments, there should be no further request from the WPB for logging within Olympic National Park. Mr. Boyd points out, however, that there is always a possibility of changes in the war program, that would produce sudden additional requirements for aircraft lumber.

A THREAT TO LIVING PUEBLOS

IN VIOLATION of a treaty, the Indians of several Rio Grande Valley pueblos may be forced to permit test drillings within their pueblos through the possible passage of a bill, H. R. 323. This bill, introduced in Congress by Representative Anderson a year ago, would "authorize the exploration of proposed dam sites located on Indian lands within the State of New Mexico."

Because the bill carries not only the implication of flooding ancient pueblos of [illegible]tectural and historic value, but also [illegible] it would bring about an irreparable [illegible] to the Indians, a controversy has ar[illegible]

M[illegible]ur Newton Pack of New Mexico, a member of the Advisory Council of the National Parks Association, has written to our national headquarters in regard to this matter as follows:

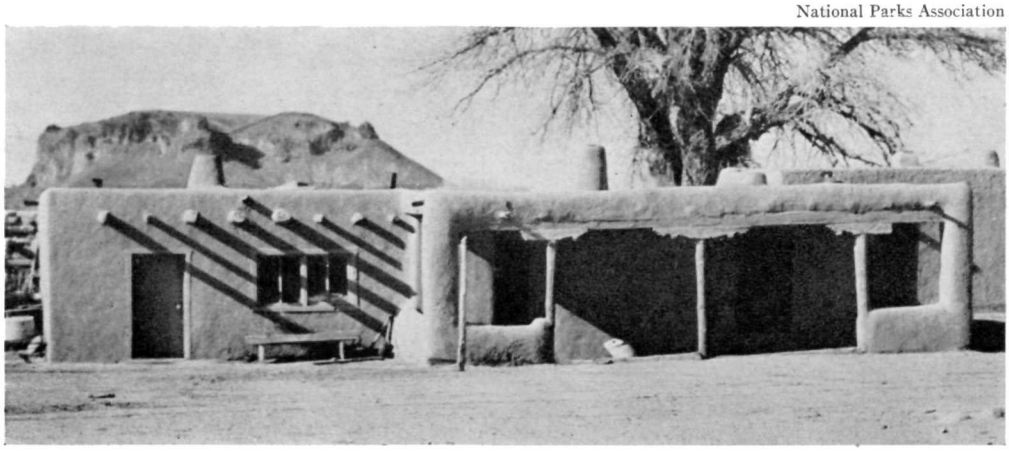
"In the sense that it is not rich in minerals or other raw materials, New Mexico is a poor state. For this reason New Mexico benefits from anything that can be done to conserve and develop its meager water supplies. Beginning with small Indian and Spanish diversion dams, agriculture in the Rio Grande Valley has been helped by such federal projects as Elephant Butte, Caballo and Vado dams which have aided in controlling floods and holding back water for irrigation use. The expense of such projects is invariably greater than independent districts can afford to maintain with water dues from their farmer members; and the Middle Rio Grande District, while well enough run, is continually on the verge of financial disaster.

"It seemed a logical move for the Middle Rio Grande Conservancy to attempt what other regions had successfully accomplished, namely—to get up a project for expansion and improvement, interest the federal government on a big scale, and then turn over the whole headache to Uncle Sam to re-finance out of the public pocket. There is nothing reprehensible about this, for it represents what is virtually a standard procedure in western irrigation.

"The National Resources Planning Board, with the support of the President, has urged every state to plan public works for the postwar adjustment period. In a 'water-conscious' state nothing possesses so great a public appeal as a water conserva-

The picturesque and historic San Ildefonso Pueblo, houses of which are shown below, and three other Rio Grande Valley pueblos are threatened with being flooded.

National Parks Association



National Parks Association

Children of the San Ildefonso Indians may be driven from their ancestral homes by the ruthless onrush of the white man's civilization, through the construction of dams for irrigation and flood control.

tion scheme. The project under discussion was launched with the introduction of Representative Anderson's bill, and it seemed to have the support of all except the 'cranks' who felt sorry for the poor Indian.

"Preliminary surveys have already convinced the field engineers that construction of a large dam somewhere near the place where the Rio Grande leaves the Espanola Valley and enters the narrow confines of a great canyon would be the most feasible project. There seemed to be at this point one or more natural dam sites and plenty of storage room behind. But in this location there happen to be several historic Indian pueblos, and Indian leaders promptly registered objection to the drilling of test holes—at least one of which was planned on the location of one of their sacred kivas. Representative Anderson's bill would force the Indians to allow the drilling. As a result, friends of the Indians have rushed to their rescue.

"Attempted justification of the proposed dams under the cloak of flood and soil erosion control is purely a customary legalized procedure for tapping the federal treasury. While some additional measures for control of floods originating on the upper Rio Grande and its main tributary, the Chama, would be highly desirable, the placing of a dam at the lower end of the Espanola Valley is not the only solution.

"The construction of such a dam would flood out several Indian pueblos and in so doing would break a treaty-made faith with the Indians, and would destroy a continuity of Indian culture that has existed since long before the first Spaniards set foot in the Rio Grande Valley—an event that preceded by one hundred years the landing of the Pilgrims in Massachusetts. This culture is said to be a link between prehistoric times and the present day, and is inextricably knit with the places sacred through centuries of use and belief. A modern village can be flooded out and rebuilt elsewhere with real improvement, but one cannot move the Acropolis at Athens or the hill upon which Christ was crucified. That is the way many of these Indians feel.

"This attitude on the part of the Indians is not theirs alone. In peace time thousands of visitors from all parts of the world come to see these ancient pueblos. Successive governors of New Mexico have repeatedly declared that the tourist business is the greatest single industry of the state in terms

of dollars brought in. Proponents of the dams have declared that the pueblos would be moved and reproduced elsewhere with 'improvements,' but this claim represents the most naive ignorance of what people come to see and feel. It has also been suggested that the creation of a great artificial lake, that might be stocked with fish, would bring many new tourists to replace those who would be lost. Wishful thinking ignores the fact that a million or so school teachers and even more well-to-do travelers are not all disciples of Izaak Walton.

"Proponents of Representative Anderson's bill have constantly countered all charges by those opposed to it, with the statement that the bill is not an authorization to build any dam, but merely one to permit exploration to find out where a dam could be built. They claim that now is not the time to oppose any specific dam site and that mere exploration is harmless. This is a pure quibble, for if it is now determined that the construction of a dam at the lower end of the Espanola Valley is contrary to the public interest, any exploration at that point is merely wasted money and effort and an unnecessary annoyance to the Indians.

"Preliminary investigations appear to have pretty well established that if H. R. 323 is passed, the engineers will be able to prove that a dam in the canyon above mentioned, at the lower end of the Espanola Valley or thereabouts, actually would hold back the most water for the least expense. It is a foregone conclusion that this location will therefore be chosen. The question is purely one of determining whether such a dam is in the public interest or not. At the same time it must be recognized that some project or projects for the improvement and extension of irrigation farming in the Middle Rio Grande Conservancy District do accord with the expressed will of a majority of the people of the state."

The following letter written by a Pueblo Indian gives the Indian point of view.

"What a time the politicos chose for springing the unwanted issue. This would be a stab in the back if it goes through for us boys who are away from those villages. Are we not saving democracy from being replaced by dictatorship? If we are not entitled to these rights—the rights of our forefathers we have enjoyed for so long—then I don't see any use in fighting this war. How do you think a boy overseas would feel knowing his home is threatened for destruction? An Indian village is not a mere camping ground—a temporary affair. It is a sacred area regulated by a series of rituals, customs, and traditions for generations. It is an area laid out with proper ceremonies by old men who know and which the modern generation does not know. So you see how unreplaceable an Indian village is."—San Ildefonso soldier.

At one of the sessions of the Annual Convention of the National Audubon Society held in New York last October, your Executive Secretary, Devereux Butcher, gave a short talk on the several problems with which the National Parks Association is dealing at this time. Mention was first made of the nation's good fortune, particularly during these critical times, in having Mr. Newton B. Drury as the director of the National Park Service, because of his exceptional understanding of the value of wilderness and nature preservation. Among the topics that were discussed were the recent improved situation relating to Sitka spruce in Olympic National Park; the bill H. R. 3084 to extend indefinitely the period to locate and patent mining claims in the same park; Jackson Hole National Monument with its artificial and commercially used Jackson Lake Reservoir; the vanishing primeval forest of the Tensas Swamp; the prospects of saving the primitive forest of the Porcupines; and the proposed Big Bend and Everglades national parks.

Jackson Hole National Monument

THE GEOLOGIC STORY

By FRITIOF M. FRYXELL

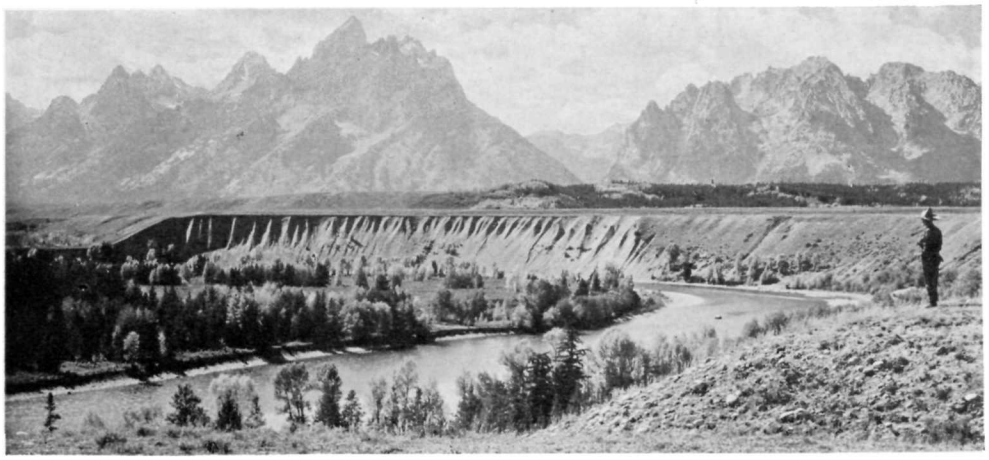
SYSTEMATIC people will encounter difficulty in attempting to classify the national parks and monuments into distinct, clearly defined categories, for many of the areas, particularly in the West, are too many-faceted to admit of such cataloging. Indeed, therein lies their greatness. Yellowstone, for instance, albeit the "geological wonderland" some have called it, appeals most strongly to many by reason of its abundant wildlife, and in addition it has a distinguished historical background—one so rich that it provided subject matter for the best known volume yet written about the park—*The History of Yellowstone National Park* by Hiram Chittenden. Clearly Yellowstone is exceptional from all these standpoints, geological, biological, and historical—and more, since one must add the superlative scenic and recreational values that characterize our parks and monuments.

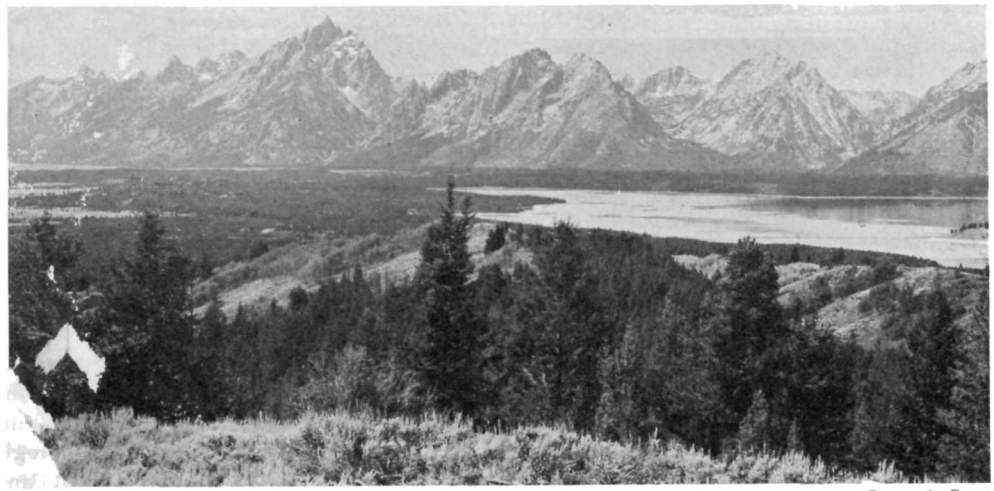
In its varied character the Jackson Hole National Monument, likewise, bears the marks of a notable area. Hence its national significance, so generally recognized that its inclusion among the parks and monuments has been long and ceaselessly sought. The new monument symbolizes for the nation the dramatic era of the western fur trade; it includes part of the range of the country's greatest elk herd, and it contains exceptionally clear and significant geologic phenomena. Further, it rounds out and completes the adjacent Grand Teton National Park by preserving unmarred the beautiful foreground from which one views the panoply of Teton peaks.

Geologically, as scenically, the Teton Range and the Jackson Hole valley are inseparably linked; it is virtually impossible to consider the one without including also the other. Through millenniums range and valley have been thus inter-related, involved jointly in the same long sequence of earth changes. Indeed, range and valley had a common origin, at a remote time

The central part of Jackson Hole National Monument shows the records of glaciations. The distant wooded ridge at right is a moraine with outwash plains this side and to left of it. The Snake River is in the foreground.

George A. Grant





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Here, in an area encompassed at a glance, the story of the Glacial Period is clearly revealed. In the Tetons every peak and canyon is a lesson in glacial erosion, and in the plain are the moraines and outwashes of long-vanished glaciers.

, along the line where the two meet, earth was broken by a north-south fracalmost forty miles long. On opposite of this fracture (the "Teton fault") two adjacent earth blocks were displaced with reference to each other. The west block was uplifted and given a westward tilt, the east block was depressed. Displacement along the fault was of notable magnitude, locally exceeding 7,000 feet. Thus, west of the fault, the Teton Range came into existence; east of it, Jackson Hole. A range so formed is termed a "fault-block range," and geologists regard the Tetons as one of the most impressive known examples of its kind. A valley so formed is termed a "fault-trough," and in its class Jackson Hole, likewise, is an outstanding example. One need not wonder that scenically the range and valley complement each other as they do, since between them exists this fundamental genetic relationship.

In the West are other fault-block ranges, with adjacent fault-trough valleys. However, as regards suitability for inclusion in the National Park System, the Teton Range and Jackson Hole are unequalled, for, besides serving admirably to illustrate their respective types, in highest degree they meet the scenic standards of the national parks and monuments. Further, the range and valley together constitute an area that is relatively small and compact, one covered in a single view and readily comprehended. In this respect the area is in marked contrast to some others that illustrate similar geologic features but on a scale too large to provide appropriate examples. The Sierra Nevada of California, for example, is another superb fault-block with fault-trough valleys at its east base. But this one is ten times as long and five times as wide as the Teton Range, and the adjacent valleys are of comparable magnitude.

For years naturalists of Grand Teton National Park have reviewed the geology of the Teton-Jackson Hole region for those thousands of park visitors who wish to understand the American scene as well as view it. But within the park has been available only that part of the geologic record relating to the mountains; the monument adds the complementary valley section.

As a matter of fact, the Teton Range itself is better interpreted from the monument than at the mountain front itself, where towering peaks and crags confine

one's view to details of the immediate foreground. For the broad, regional relationships, involving major features of the landscape, one should seek the views available from points in the central part of the monument or along its east margin. The unbroken Teton-Jackson Hole panorama as thus seen can become as meaningful as it is majestic, for with the record outspread before one like a tremendous scroll, formation of range and valley may be considered together as the related chapters of a single story.

Very evident, in such a view, are the features of the range that reveal its fault-block origin, such as the remarkable straightness of its east front, the "hanging" position of the canyons, and the termination of the intercanyon ridges in triangular facets. The amazingly abrupt rise of the mountains from Jackson Hole, and the complete absence of foothills—features that visitors almost invariably remark—likewise become significant when one understands how on this side of the range the rocks are cleanly cut off along the Teton fault, whereas on the west side, where foothills do occur, the rocks are upturned and not faulted.

Other noteworthy geological features appear when one can study the range in its entirety. For example, the Teton block is internally complicated by a number of lesser faults that subdivide it into secondary blocks. Only the large view provided by distance reveals the pattern of these faults, and its influence in blocking out the mountain topography. Likewise significant becomes the great contrast between those broad, flat-topped peaks like Mount Moran, situated toward the extremities of the range, and the central group of slender, bristling peaks dominated by the Grand Teton. The former have tabular summits because they are still capped by remnants of strata that once extended over the entire Teton block; the latter are pinnacled because, stripped of such protecting caps, they have been wholly carved from the underlying crystalline rocks, whose steep "grain" has given expression to distinctively spire-shaped forms. And only when the Teton-Jackson Hole panorama is thus viewed as a whole can one adequately visualize this region as it must have appeared in the Glacial Period, when ice tongues occupied the Teton canyons and their blunt, cold snouts were out-thrust into Jackson Hole.

Because of these factors, the National Park Service can now undertake a compre-

Glaciers once descended the Teton canyons invading Jackson Hole, and merged into a piedmont ice mass. The basin left by this mass, formed Jackson Lake, and the wooded hills shown here mark the borders of the glaciated area.

George A. Grant

hensive, long-range program for the Teton-Jackson Hole region. It may well prove that the east margin of the new monument provides the logical site for a center at which to schedule guided trips and campfire lectures, and arrange museum exhibits—facilities that are provided in all the major parks and monuments, and are appreciated by the public.

Like the Teton block, the earth-block underlying Jackson Hole is broken into secondary blocks. The eroded edges of some of these form prominent buttes that stand about 1,000 feet above the valley floor. Signal Mountain and Blacktail Butte, both within the monument, provide magnificent lookouts, whose popularity with visitors to the monument may be taken for granted. Standing on Blacktail Butte the visitor can look westward across the valley at the Teton block and in it recognize, several thousand feet above his own level, the same geologic formations that lie under his feet.

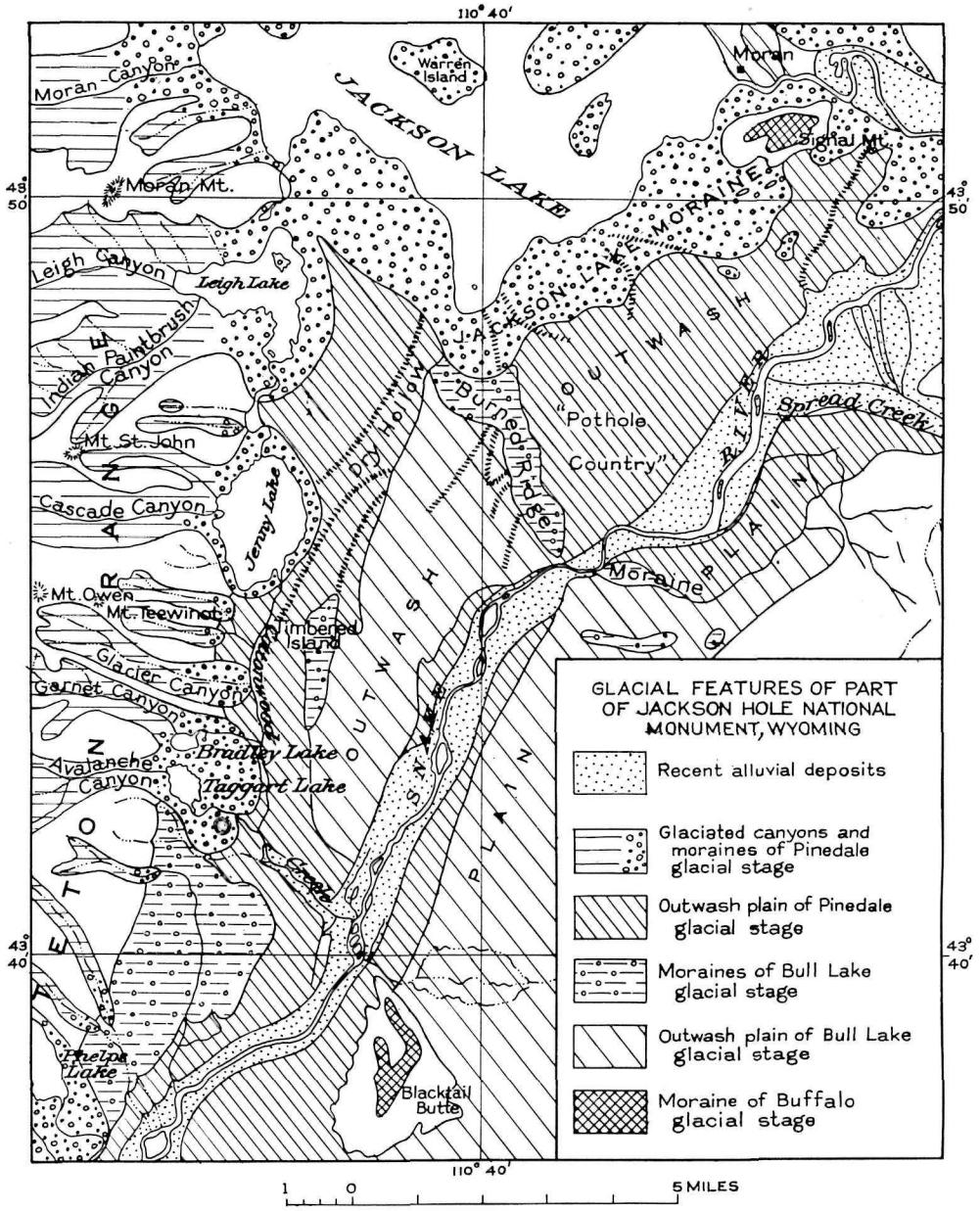
Elsewhere the Jackson Hole block is deeply buried beneath blanketing deposits of gravel and boulders. These form a vast plain, gray with sage, or dark green where covered with forests of lodgepole pine, extending in all directions to the edges of the bordering highlands. However unbroken this plain may appear as one looks down at it from the approaches to Jackson Hole, it proves to be far from featureless, for it exhibits a great diversity of ridges, terraces, channels, and depressions. These varied details give Jackson Hole its distinctive quality of landscape, and geologically they are significant as records of the Glacial Period, when Jackson Hole was a meeting ground for glaciers.

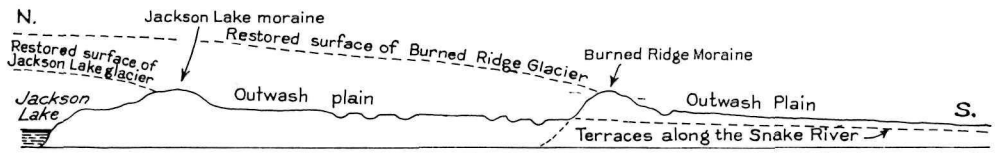
In the mountains from which they converged, the ancient glaciers, like their smaller modern representatives, were tremendously effective agents of erosion that sculptured the peaks and deepened and reshaped the canyons. Vast quantities of debris thus excavated were carried down and out of the mountains, into Jackson Hole. The record of the Glacial Period is therefore two-fold, erosional in the mountains, depositional in the valley. For an understanding of the Glacial Period both records are important, but the depositional record is the more useful in that it gives detailed information concerning the number and extent of the ancient glaciers, and the changes they underwent. In this respect, also, Jackson Hole supplements the Tetons, the valley becoming essential to an interpretation of the range.

Fortunately the monument includes the most important part of the glacial record, and has excellent vantage points from which the critical features may be viewed.

Thus, from a point in the central part of the monument, on Burned Ridge, we can survey areas to the north and south that record the sequence of glacial events. Here we observe that Jackson Hole is crossed diagonally by two low, wooded ridges: Burned Ridge on which we stand, and, several miles to the north, another ridge bordering Jackson Lake. Around this northerly ridge the Snake River makes a circuitous eastward journey before turning southwest and cutting directly through Burned Ridge, at our feet. Examination reveals that both ridges are hummocky and irregular of surface, and are composed of cobbles and boulders many of which are scratched—proof that they were transported by glaciers, and that the ridges (moraines) were ice-deposited.

Equally distinct from this vantage point are two broad plains that extend outward from the moraines and slope evenly southward. These plains, unlike the ridges from which they emerge, lack forest cover; glacial moraines and "outwash plains"—for such they are—are therefore strikingly distinct. Composed of porous gravel with little or no associated soil, these plains make up most of the southern half of the monument, and provide barren ground for anything but the sage brush with which they are overgrown. Both of the outwash plains are deeply trenched by the Snake





THE MORAINES AND OUTWASH PLAINS OF THE JACKSON HOLE NATIONAL MONUMENT

River and the northerly plain is continued south of the Narrows by terraces that border the Snake River well beyond Blacktail Butte, where they widen into the swampy flats of the southern part of Jackson Hole.

The meaning of these features now becomes evident; they record the fact that northern Jackson Hole was at two distinct times occupied by glaciers. Detailed studies have made clear many details of the glacial episodes. In the earlier stage (termed the Bull Lake Stage by geologists) a glacier, which has been named the Burned Ridge Glacier, entered the valley from the north and northwest, fed mainly by tributary alpine glaciers emerging from the northerly Teton canyons. Although at times it extended farther south, the glacier maintained its front for a long time at the position of Burned Ridge—long enough for the ice heap up this moraine and for the streams of melt-water to deposit the accompanying outwash plain. The unbroken plain reached southward around and beyond Blacktail Butte, into the southerly reaches of Jackson Hole.

In time the Burned Ridge Glacier melted back from its moraine, and eventually disappeared. A long interval followed, in the course of which streams flowing through Jackson Hole eroded away part of Burned Ridge and trenched the outwash plain between the Narrows and Blacktail Butte.

The task of the streams was arrested, unfinished, when glacial conditions returned. At this stage (termed the Pinedale Stage by geologists) a glacier again pushed into the north end of the valley, likewise fed by alpine Teton glaciers. This glacier has been named the Jackson Lake Glacier. In its southward growth it advanced over the same general path as its predecessor. The large size of the Jackson Lake moraine is evidence of a prolonged stand of the ice front at this position; but that the ice at times extended farther south is clear from outlying "islands" of moraine, and, south of these, pitted sections of the outwash plain. The pitted area, forming what is locally known as the "pothole country," is one of the most striking features in the monument. The pitted sections mark positions where stagnant masses of ice became separated from the main body of the glacier, were surrounded or buried by outwash gravels, and later melted, causing the gravels to slump into depressions that interrupt the otherwise even outwash plain.

Jackson Lake came into existence as the glacier retreated from the moraine that now hems in this lake. For a time the water was probably ponded between the moraine and the ice front.

But the glacial story can be carried back to another, much earlier chapter. For evidence of this, one must look to the summits of Signal Mountain or Blacktail Butte. In these surprising situations one again discovers scratched cobbles and boulders, mere patches of ancient moraine, like tattered manuscripts. Similar deposits occur on other buttes, and on the highlands east of Jackson Hole, capping intercanyon divides 1,000 feet or more above the valley floor. The presence of moraine in such situations, and its absence in the adjacent canyons, indicates a glaciation that occurred long before the other two stages, at a time when the floor of Jackson Hole was 1,000 feet higher than now. Up to that time the present system of canyons opening onto Jackson Hole had not been cut. Scanty as is the record of this stage (termed the Buffalo Stage by geologists) we cannot doubt that this, the earliest of the three glaciations, was much the most widespread.

Thus it appears that in this area the Glacial Period involved three distinct times of glaciation. Reading backward into geologic time, these may be represented tabularly as follows:

Postglacial time
Third glaciation (Pinedale Glacial Stage)
Later Interglacial Stage
Second glaciation (Bull Lake Glacial Stage)
Earlier Interglacial Stage
First glaciation (Buffalo Glacial Stage)
Preglacial time

The three glaciations were successively less extensive, and the later of the two interglacial stages was probably much more brief than the earlier. What then of postglacial time, which represents the briefest interval of all? Is it truly postglacial or are we now living in a third interglacial stage, with prospect of yet another return to glacial times? This and other interesting questions are raised by the glacial record in our newest national monument.

The climatic factors that caused the Glacial Period, whatever their nature, were of widespread influence. There are, therefore, other mountain areas in the West which tell a similar story. But it is doubtful if, among these, there is any tha outl the events of the Glacial Perioc mor ully, compactly, and vividly than does th eton-Jackson Hole region. Here, in an a encompassed at a glance, the stor of the Glacial Period is written in chara ters so clear and bold that he who will may read: partly at the west, in the incomparable Tetons, where every peak and canyon is an object lesson in glacial erosion; partly at the east, on the beautiful, widespread floor of Jackson Hole, where festoons of moraine and great sheets of outwash accurately record the advances and retreats of long-vanished glaciers through perhaps two million years of earth history.

The Porcupine Mountains May Be Saved

AT A recent meeting of the Michigan Planning Commission presided over by Governor Harry F. Kelly, it was unanimously decided to recommend to the special session of the legislature next February, that one million dollars be appropriated to save the Porcupine Mountains in Michigan's Upper Peninsula for posterity. Inasmuch as three members of the Planning Commission are leaders of the legislature, it is felt that the recommendations of the Planning Commission will receive respectful consideration and compliance by the legislative body. If this is the case, it will mark the culmination of ten years of effort on the part of the Save the Porcupine Mountains Association and conservation groups throughout the country to save this magnificent area from the destruction of the lumberman's ax.

The proposed area consists of some 46,000 acres of the Porcupine Mountains proper, and will extend from the lower reaches of the Presque Isle River on the west eventually to the Big Iron River on the east and will include the valleys of the Big and Little Carp Rivers, The Lake of the Clouds, Mirror Lake, and all the territory in between. It will have a shoreline on Lake Superior of some eventeen miles and extend inland to a depth ranging from five miles at the mouth of the Presque Isle River to some nine miles in the region of the lakes. (See *Going, Going, ——, the Forest of the Porcupines,* in the July-September 1943 issue of NATIONAL PARKS MAGAZINE.)

Two proposals for the management of the area have been made. 1. That when acquired, the area be turned over to the Federal Government to be managed by the National Parks Service. 2. That it be turned over to the State Conservation Department for management as a state park. Both schools of thought are definitely backing the bill to be introduced in the coming session of the legislature.

With regard to the present prospects of preserving the region, Mr. Raymond Dick, Secretary of the Save the Porcupine Mountains Association, says he is very optimistic about the success of the bill in the coming session of the state legislature. He adds: "I have talked with men in public life who ought to know, and they feel that, with the backing that the bill will have from the press and public in general, its success is assured."

Naturalizing the Lamar Bison Herd

IN 1901 the Superintendent of Yellowstone National Park, reported, "I do not believe that there are more than twenty-five buffalo left in the park."

This observation came at the close of a period in American bison history which has been called "the era of extermination": it presaged the opening of a period which might well be called "the years of restoration." The cry of alarm was not ignored. The Congress appropriated $15,000 for the rebuilding of the Yellowstone bison herd and in 1902 eighteen cows and three bulls were imported to form the nucleus of a new buffalo population in the park.

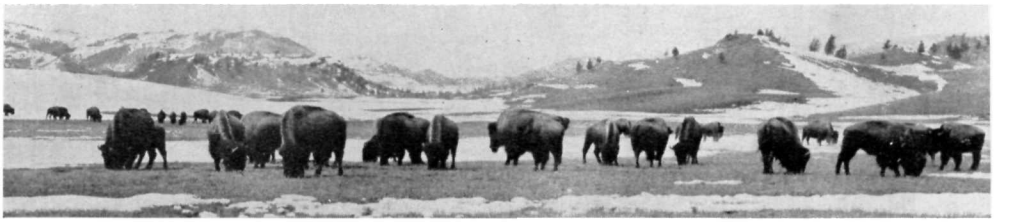
The necessity of saving this important member of the park's fauna left no alternative to intensive management, and many of the practices of the stock grower were followed at the Buffalo Ranch in the Lamar Valley.

When the herd increased, animals were released from fenced pastures, and the roundup, similar to the spring and fall roundup of the western stock ranch, was begun. By 1930, because of continued rapid increase, it became necessary to kill old animals, steers, excess bulls, and others considered unfit for breeding. One thousand animals constituted the maximum number regarded as satisfactory from the standpoint of available forage, but even this number required winter feeding and operation of a hay ranch.

In order that the herd might be dispersed and a part of the burden of feeding placed upon other sections of the park, small bands of the animals were reestablished in Hayden Valley, Pelican Creek, and the Fountain Flats, all of which localities were favorite parts of the ancestral range. Throughout the history of the park, bison have persisted in the Pelican Creek area. These small "wild" herds have fared well in a wholly natural habitat and have increased until they total 300 animals. They are not artificially fed or managed. The Yellowstone bison population in forty years has reached

The raising of hay and the winter feeding of the Lamar bison herd of Yellowstone National Park are the purposes of the Buffalo Ranch, part of which is shown here. Eventual elimination of the ranch may be possible.

National Park Service



National Park Service

When the distribution of bison in Yellowstone was first investigated, small herds were found in the Slough Creek, Pelican Creek, Madison Plateau, Fall River Basin, Alum Creek, Hayden Valley and Firehole areas.

its saturation point and has produced a surplus of some 2,000 animals that have been disposed of for meat or shipped alive to zoos, or to establish other herds throughout the country. The Lamar herd has been held at approximately 750. It has entered a third period in its history,—a period of minimum management and return to the wild so far as inherent limitations will permit.

Consistent with this policy, most of the domestic livestock practices in the management of the Lamar herd were discontinued several years ago. Only the feeding of hay during the critical period of each winter remains as an artificial feature, with, of course, the extensive ranch development necessary to produce and harvest some 300 to 500 tons of hay each year. Although the summer range is adequate for the 750 animals of the Lamar herd, the winter range is wholly inadequate.

This fall a further step has been taken in reducing the herd in order that artificial conditions gradually may be eliminated and the herd ultimately thrown on its own. This winter 400 animals will be removed leaving approximately 350 bisons in the Lamar Valley. Sufficient hay will be kept on hand to insure against any unusually severe weather that might strike the herd before it becomes reestablished. Eventually, corrals, barns, fences and other facilities may be eliminated. This ideal may not be attained for several years, but the National Park Service is proceeding toward this objective. In the meantime, the number of bison that can winter unaided in the Lamar region will be determined. Finally, the species will be limited to its natural niche in the Yellowstone fauna, and the present undue strain on the park's museum-of-the-out-of-doors will be relieved.—*From a National Park Service release.*

NEWS FROM THE CONSERVATION BATTLEFRONTS

ROCKVILLE DIVISION, IZAAK WALTON LEAGUE OF AMERICA, Rockville, Maryland.—The Rockville, Silver Spring, and Bethesda-Chevy Chase (Montgomery County, Maryland) chapters of the Izaak Walton League of America, through action in recent meetings, have joined in a request to the National Capital Parks Commission that certain work be done now on the Chesapeake and Ohio Canal, along the Potomac, from Seneca to Harpers Ferry.

Restoration of the banks and locks of the canal had been well under way from Georgetown to Violets Lock, below Seneca, when the war stopped all construction work. Above Violets there are breaks that make it impossible for the canal to carry water. The chapters of the League in Montgomery County feel that dirt fills to close the breaks, and dams to replace lock gates, would be

feasible at this time. This would restore a stretch of water and, with it, what was reputed to be the best bass fishing in this part of the country.

In considering the project, members of the League point out that this is a type of work that can be carried out now without interfering with the war effort; that work done along the river now toward developing the recreational and scenic values will lead to greater consideration of such values later, when postwar planning may overemphasize the angle of power development as a public works project; and that when our men return from overseas, the canal—ready for fishing and recreational purposes—will offer essential therapeutic and occupational features that will play an important part in rehabilitation for those that need it.

Officials of the Maryland State Conservation Department have indicated an interest in the project and have expressed a willingness to share in the stocking and maintenance.

Standing in the way of the suggested improvement is the possibility of dams and power projects on the river. Members of the League hope, however, that the National Park Service and conservation and nature associations over the country will successfully resist any project that will destroy the historic, scenic, and recreational values of the Potomac. People of the area, and of the country, should insist that this area be maintained in its natural state for future generations.

To carry out their plans in this and other conservation projects the chapters of the League in Montgomery County have each established a Planning Committee and designated members of that committee to serve as representatives on a County Coordinating Committee for effective joint action.—OWEN KNIGHT.

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THE JACK MINER MIGRATORY BIRD FOUNDATION, INC., Kingsville, Ontario, Canada.—Little did Jack Miner realize in 1904 that when he founded the Jack Miner Bird Sanctuary it would be recognized throughout the world as one of the outstanding achievements in conservation on this continent and an example to be copied by thousands of individuals.

Today Jack Miner is nearing 80 years of age. He and his friends have created what is known as the Jack Miner Bird Foundation, a philanthropic, tax-exempt corporation. Jack Miner is a poor man financially, but he has contributed his home, sanctuary and community park to the Foundation, and is asking men and women of wealth to give money for a trust fund to endow and perpetuate the sanctuary. Until the fund is created, there must also be money for the present functioning of the sanctuary. Although neither Jack Miner nor his sons receive salaries, $15,000 is required annually for sanctuary maintenance. The war has increased the difficulty of carrying on the work. Anyone interested in aiding or perpetuating this worthy cause may make checks payable to Jack Miner, Kingsville, Ontario. Inquiries will receive prompt attention.—MANLY F. MINER, *Secretary-Treasurer.*

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GENERAL FEDERATION OF WOMEN'S CLUBS, Conservation Committee, 227 Poinciana Drive, Birmingham, Alabama.—The following resolution was adopted at the Board of Directors meeting, June 2, 1943, at Swampscott, Massachusetts: "Resolved, that the Board of Directors of the General Federation of Women's Clubs reaffirms its convictions that a comprehensive program for the conservation of our natural resources is necessary through the study of: the evaluation of the status of our natural resources of soil, water, forests, wild life, minerals, metals, gases, fuels, helium, and other renewable and nonrenewable basic raw materials; through work for remedial action that will keep our renewable resources in continuous production; and promotion of measures to safeguard the prolonging of the life of nonrenewable natural resources; and through continued efforts to promote conservation education of adults and school children."—MRS. T. M. FRANCIS, *Chairman, Conservation Committee.*

NEW YORK ZOOLOGICAL SOCIETY, Bronx Park, New York 60, New York.—The New York Zoological Society, in cooperation with the National Film Board of Canada and the Office of the Coordinator of Inter-American Affairs, has produced a motion picture

story of bird migration entitled "Birds on the Wing."

Most of us know that many of our native birds migrate south in the fall and north in the spring, but few of us realize the beauty and mystery involved in the unfolding of this great drama of bird life. Where do they spend the winter? What routes do they follow? And above all, why do they make this semiannual pilgrimage?

By means of air photographs we see what the birds see on their seasonal flights. We follow barn swallows south to the plains of Argentina, and Canada geese from their nesting grounds in northern Canada to their winter home in the Chesapeake. Through animated maps we follow the ruby-throated hummingbird across the Gulf of Mexico, the golden plover on its nonstop flight from Newfoundland to South America.

Birds cannot tell us how they find their way, why they go, or where; but we have learned much about their journeys through bird-banding, a procedure explained in the film. Stirring pictures of tremendous flocks of birds dramatically bring to the viewer some idea of the great number of these creatures that call our different lands their own. The commentary ably assists the story.

The film has been released by Columbia Pictures. If "Birds on the Wing" has not yet come to your local theater, be sure to have your theater manager arrange for its showing. —FAIRFIELD OSBORN, *President.*

THE PARKS AND CONGRESS

78th Congress to January 1, 1944

S. 378 (Hayden) To provide for the addition of certain lands in the State of Arizona to the Montezuma Castle National Monument. Passed Senate June 15. Passed House with amendment October 4. Amendment concurred in by Senate October 12. Signed by the President October 19, 1943.—The area to be added is the Montezuma Well, a sink hole 470 feet in diameter, in which the water is believed to be 800 feet deep. There are seventy small masonry rooms in the ledges of the encircling cliff, and two small pueblos on the rim.

H. R. 3524 (Randolph) To provide for the establishment of the Harpers Ferry National Monument. Referred to the House Committee on Public Lands October 25, 1943.—A former bill called for the creation of Harpers Ferry National Historical Park.

H. R. 3084 (Magnusen) To amend the Act entitled "An Act to establish the Olympic National Park in the State of Washington," approved June 29, 1938, so as to grant for an indefinite period the right to locate and patent mining claims within certain areas of Olympic National Park. Introduced June 30, 1943. Referred to the Committee on the Public Lands.—This proposal is not in accord with national park principles. The Department has submitted a report stating that it would approve the bill only if it were amended to provide an extension of time to the end of the war or six months thereafter.

H. R. 323 (Anderson) To authorize the exploration of proposed dam sites located on Indian lands within the State of New Mexico. Reported out favorably by the Committee on Reclamation.—Dams built on the proposed sites would flood certain pueblos that are of national and historical interest. See *A Threat to Living Pueblos* on page 16.

H. R. 2241 (Barrett) To abolish Jackson Hole National Monument. Introduced March 19. A subcommittee of the Committee on the Public Lands has visited the monument. Several hearings have been held, and the latest one was November 17th.—On November 17 the bill was amended by striking out everything in the text beginning after the word "abolished" in line 5. The amended bill was reported out favorably by the Committee, with twelve for and seven against.

H. R. 3864 (Dimond), **H. R. 3884** (Chenoweth) To repeal section 2 of the Act entitled "An Act for the preservation of American antiquities," approved June 8, 1906. Introduced December 17 and 20, 1943. Referred to the Committee on the Public Lands.—These are companion bills to S. 1046 (O'Mahoney, McCarran), introduced April 29, 1943. The latter was reported out by the Senate Committee on Public Lands and Surveys, and is now on the Senate calendar. The bills would abolish the power of the President to establish national monuments by proclamation.

THE EDITOR'S BOOKSHELF

BURNING AN EMPIRE, the Story of American Forest Fires, by Stewart H. Holbrook. Published by The Macmillan Company, New York. Illustrated. 229 pages. Price $2.50.

This is a collection of lurid accounts of the great forest fires of the United States and the role they have played in human lives and frontier communities. The foreword is written by Colonel William B. Greeley, former Chief, U. S. Forest Service. A few of the fires described are the one at Hinkley, Minnesota, in 1894; Wisconsin's Peshtigo fire of 1871; Michigan's fires of 1871; and the Tillamook County fire of 1933 in Oregon, which the author himself witnessed.

The book contains considerable discussion of the effect of lumbering and fire upon our forests, and there is mention of modern methods of forest fire protection, reforestation, and other important forest problems.

Although the control of forest fire has made progress during recent years, the author takes no optimistic attitude toward the present. Mr. Holbrook admits there is no one cure-all for the prevention of forest fires; but who would not agree with him when he says, "it will call for a lot of education, with particular emphasis on the younger generations."

ADVENTURE TRAILS for Boys and Girls. A monthly magazine edited by Helen Chase Johnson. Published by the Steamboat Pilot. Business office, Steamboat Springs, Colorado; eastern office, Putney, Vermont; West coast office, La Posada Hotel, La Jolla, California. Illustrated. 32 pages. Price 25 cents a copy. $2.50 a year.

Adventure Trails is the western magazine for children from the age of six or seven years to the early teens. The articles in *Adventure Trails* are of an instructive and informative nature, with a wholesome entertainment value. Many stories are on subjects of historical interest, some tell of adventures in the scenic areas of our West, while others deal with events and activities in the lives of children. Illustrations are made from pen and ink drawings. Several poems appear in each issue.

Children who read *Adventure Trails* combine fun with learning.

HOW TO KNOW THE BUTTERFLIES, by J. H. Comstock and A. B. Comstock. Published by the Comstock Publishing Company, Inc., Ithaca. Illustrated. 311 pages. Price $3.50.

In this volume there are descriptions of 152 species and varieties of butterflies occurring in eastern United States. Texts are brief and simply written. Food-plants are named, and there is an interesting account of the life history of each butterfly and its caterpillar. The most outstanding feature of this book is its exceedingly fine collection of 312 natural color illustrations in which most species are shown in their full size. In addition, there are forty-nine line drawings. The book is well suited to the needs of the hobbyist and the beginner.

A MANUAL FOR THE STUDY OF INSECTS, by J. H. Comstock, A. B. Comstock and G. W. Herrick. Published by the Comstock Publishing Company, Inc., Ithaca. Illustrated. 401 pages. Price $4.00.

The text of this book, now in its 22nd edition, has been revised and brought up-to-date. Written primarily for school and college work, and to aid agricultural students, it serves well for any person wishing to learn about the fascinating world of insects. A feature of the book is its series of analytical tables which help in identification. The clearness and simplicity of the text and the carefully selected and numerous illustrations make this the most useful textbook on North American insects.

CONTRIBUTORS TO THIS ISSUE

Isabelle F. Story

Isabelle F. Story (*Visitors in Uniform*) has been in charge of the information work of the National Park Service—press, publications, radio, and general publicity—since 1924. In addition to her heavy schedule of Service work, she has ranged the field in free lance work from a weekly newspaper column to encyclopedia material, including many contributions to the New York *Times* and other leading newspapers and magazines. Her professional affiliations include the Women's National Press Club and the Society of Women Geographers. She was invited to join the latter because of her widespread travel to the many park areas.

Dr. Paul Bartsch (*The Everglades' Coral Fringe*) is a native of Bresleau, Silesia, but came to this country at an early age. He graduated from the State University of Iowa, and then took a position at the U. S. National Museum where today he is Curator of Mollusks. In 1907 Dr. Bartsch was in charge of the pearl mussel inquiry in the Mississippi Valley conducted by the U. S. Bureau of Fisheries. He later became the Smithsonian representative on the Philippine Expedition and the Gulf of California Expedition. He also accompanied expeditions to the Bahamas, Cuba and the Lesser Antilles. Besides being connected with numerous scientific organizations, he is the author of 384 papers on mollusks. Dr. Bartsch is a member of the Board of Trustees of the National Parks Association.

Fritiof M. Fryxell

Dr. Fritiof M. Fryxell (*Jackson Hole National Monument, the Geologic Story*) and his students have been studying the Teton-Jackson Hole region for many years. As one of the early mountaineers, between 1927 and 1932 Dr. Fryxell made many first ascents in the Tetons, and was first to climb all of the major peaks. His book, "Mountaineering in the Tetons," is the standard Teton guide. From 1929 to 1934 he served as first park naturalist of Grand Teton National Park, in this capacity directing many aspects of early park planning. His publications on the Tetons and Jackson Hole include several monographs and many shorter studies. From 1935 to 1939, as museum consultant for the National Park Service, he prepared plans for a number of the museums in western parks and monuments. In 1939-1940 he was in the Orient, engaged in geologic investigations for the Philippine government. Up to the outbreak of war he filled the chair of geology at Augustana College, Rock Island, Illinois; he is now on leave of absence, as geologist with the U. S. Geological Survey, assigned to special war studies for the Corps of Engineers.

Never destroy a copy of NATIONAL PARKS MAGAZINE. The largest single element in the endeavor to preserve nature and primitive wilderness is public enlightenment. You can help the cause by passing your copy of the magazine on to a friend, or to a school, hospital or public library, so that its message will spread and benefit the nation.

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WHY THE NATIONAL PARKS ASSOCIATION

ORIGIN OF THE NATIONAL PARK SYSTEM AND SERVICE

Wanderers penetrating the wilderness that is today known as Yellowstone National Park told tales of the natural wonders of the area. To verify these tales an expedition was sent out in 1870. At the campfire one evening, a member of the expedition conceived the plan of having these natural spectacles placed in the care of the government to be preserved for the inspiration, education and enjoyment of all generations. The party made its report to Congress, and two years later, Yellowstone National Park came into being. Today its geysers, its forests and its wildlife are spared, and the area is a nearly intact bit of the original wilderness which once stretched across the continent.

Since 1872 twenty-five other highly scenic areas, each one a distinct type of original wilderness of outstanding beauty, have also been spared from commercial exploitation and designated as national parks. Together they comprise the National Park System. To manage the System the National Park Service was formed in 1916. In its charge are national monuments as well as other areas and sites of varied classification.

COMMERCIAL ENCROACHMENT AND OTHER DANGERS

Most people believe that the national parks have remained and will remain inviolate, but this is not wholly true. Selfish commercial interests seek to have bills introduced in Congress making it legal to graze livestock, cut timber, develop mines, dam rivers for waterpower, and so forth, within the parks. It is sometimes possible for an organized small minority working through Congress to have its way over an unorganized vast majority.

Thus it is that a power dam built in 1913 floods the once beautiful Hetch Hetchy Valley in Yosemite National Park; and that during World War I certain flower-filled alpine meadows in the parks were opened to grazing. The building of needless roads that destroy primeval character, the over-development of amusement facilities; and the inclusion of areas that do not conform to national park standards, and which sometimes contain resources that will be needed for economic use, constitute other threats to the System. A danger also grows out of the recent establishment of ten other kinds of parks lacking the standards of the world-famous primeval group. These are designated by descriptive adjectives, while the primitive group is not. Until the latter are officially entitled *national primeval parks* to distinguish them from the others, they will remain subject to political assaults.

THE NATIONAL PARKS ASSOCIATION

The Association was established in 1919 to promote the preservation of primeval conditions in the national parks, and in certain national monuments, and to maintain the high standards of the national parks adopted at the creation of the National Park Service. The Association is ready also to preserve wild and wilderness country and its virgin forests, plantlife and wildlife elsewhere in the nation; and it is the purpose of the Association to win all America to their appreciation.

The membership of the Association is composed of men and women who know the value of preserving for all time a few small remnants of the original wilderness of North America. Non-political and non-partisan, the Association stands ready to oppose violations to the sanctity of the national parks and other areas. When threats occur, the Association appeals to its members and allied organizations to express their wishes to those in authority. When plans are proposed that merely would provide profit for the few, but which at the same time would destroy our superlative national heritage, it is the part of the National Parks Association to point the way to more constructive programs. Members are kept informed on all important matters through the pages of NATIONAL PARKS MAGAZINE.

THE NATIONAL PARKS AND YOU

To insure the preservation of our heritage of scenic wilderness, the combined force of thinking Americans is needed. Membership in the National Parks Association offers a means through which you may do your part in guarding the national parks and other wilderness country. Join now. Annual membership is $3.00 a year; supporting membership $5.00 a year; sustaining membership $10.00 a year; contributing membership $25.00 a year; life membership $100.00, and patron membership $1,000.00 with no further dues. All memberships include subscription to NATIONAL PARKS MAGAZINE.

EXPERIENCE HAS PROVED
THAT THE NATIONAL PARK SYSTEM
CANNOT BE WHOLLY ENTRUSTED TO A GOVERNMENT BUREAU
BECAUSE ANY SUCH BUREAU
IS NECESSARILY SUBJECT TO PARTISAN CHANGES,
POLITICAL INFLUENCES, AND SHIFTINGS OF POLICY