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Square Tower House.
ANNUAL REPORT OF THE DIRECTOR OF THE
NATIONAL PARK SERVICE.

DEPARTMENT OF THE INTERIOR,

NATIONAL PARK SERVICE,

WASHINGTON, OCTOBER 16, 1919.

SIR: In submitting this third annual report of the National Park Service, which covers the tourist season that has just come to an end, and the fiscal affairs of the bureau for the year ended June 30 last, I am more than pleased to advise you that in every branch of our activities successful results, directly beneficial to the national parks, have been obtained.

On the other hand, legislation enacted during the year has added two new national parks of great distinction to the system, and has opened new avenues of development that will make our future administrative efforts more effective. Other legislation which failed of enactment, on account of the accumulation of business at the close of the last Congress, passed either the Senate or the House of Representatives unanimously, thus indicating a generally favorable sentiment toward meritorious national-park measures.

However, quite aside from our administration, protection, and improvement of the parks and the extension and advancement of the system by Congress, the enormous use of these great playgrounds is worthy of first consideration because this is the factor that determines the success or failure of what the Government is doing for and with the national parks. Never before has there been such travel in America, and never before have so many people toured the parks. Released from the strain of war activities, and freed from the power of sentiment against vacation touring, there was a general desire to move about the country for recreation, for amusement, in search of new business opportunities, and oftentimes simply to get a change of scene. It was this overwhelming ambition to get far from the activities of the previous two years that prompted thousands to go from coast to coast and through many national parks in their automobiles, using hotels as they traveled, or, as was very often the case, taking their own equipment and supplies and camping along the highways.

Likewise, other thousands sought the service of the trains to take them away to new scenes and they came to the national parks from every corner of the United States. Travelers from abroad put in appearance once more, and all combined to make this the greatest travel season in the history of the Nation.
BUREAU OF SERVICE HELPS.

The attitude of the United States Railroad Administration toward travel influenced profoundly the general interest in making extensive trips. By sharp contrast with its firm policy of discouraging travel during the war, it took the opposite stand soon after the cessation of hostilities, with the result that winter resorts of the South and West enjoyed extremely heavy patronage. Continuing this policy, the Administration, through its passenger traffic committees, authorized extensive advertising of the summer resorts of the country, with special emphasis on the national parks, because they were public possessions and under the control of the Government. The promotion of park travel, of course, fell naturally to the western committee and under the control of the Government. The promotion of the summer resorts of the country, with special emphasis on the national parks, because they were public possessions and under the control of the Government. The promotion of park travel, of course, fell naturally to the western committee and under the control of the Government.

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This service bureau had been created nearly a year before for the purpose of coordinating the distribution of park-travel information, advising ticket agents regarding ways and means of reaching the parks, and forming the point of contact between the National Park Service and its business interests on the one hand and the Railroad Administration on the other. The war had prevented the achievement of most of the results desired, but this bureau was well organized and prepared to perform its functions when changed conditions made the resumption of travel promotion advisable.

It planned a series of national-park booklets, which were prepared and published in cooperation with a committee on advertising under the supervision of the western passenger committee. Differing from the usual railroad folder in shape, and vastly more attractive, this series of booklets on the national parks became at once the most powerful inducement to travel in the parks that had appeared since the publication of the National Parks Portfolio some three years ago, and was more effective than the portfolio because issued earlier in the season than the older series. Not only did the beautiful series of railroad booklets greatly increase train travel illustrated and as well written as any railroad publication issued in recent years—might be reissued each year for distribution by the bureau and by the National Park Service, because we can and do use this series with great effectiveness.

A NATIONAL TRAVEL BUREAU.

With a coordinated railroad travel bureau and a division of the National Park Service charged solely with the encouragement of American travel by rail and automobile working together and in harmony with all other agencies interested in the promotion of touring in this country, we will be able to meet the competition of Europe from the beginning of its renewed activity.

I can not too strongly recommend the establishment of a travel division in the National Park Service. It is vitally important to the Nation, and our bureau is certainly the place for it, because no other agency of the Government is so interested in or closely connected with the touring public as is this Service.

A division of touring could cooperate closely with the resorts of the Nation, whether in a national park or not, and by issuing promotive literature under the stamp of the approval of the department and the Service could more effectively stimulate travel in the United States than any other agency, because its data would not be selfish or exaggerated and would have the confidence of everybody using it. This is the type of literature that several foreign countries use, and it is distributed through governmental or semiofficial offices.

Another reason for the establishment of a touring division is to be found in the fact that the National Park Service is not equipped to adequately furnish the information that is now requested of it. Last spring inquiries were received at the rate of several hundred a day, and although two additional clerks were secured from the department to assist in answering the vast number of requests for travel data, it was impossible to keep abreast of the incoming tide of information.

COMPETITION OF EUROPE.

To say that European nations will seek to recover their American tourist business is to state a self-evident fact. One of their greatest and most profitable prewar sources of income was the throng of tourists that yearly crossed the ocean from America. It is but natural that they should seek to rebuild this business among their first efforts at reconstruction of their shattered fortunes. Also it is to be expected that Americans will travel in Europe again as soon as facilities are available for their accommodation and entertainment. The nations that have a tourist business to rebuild will undoubtedly operate official advertising bureaus for the encouragement of American travel. Some of them are engaged in such promotion work now, and are already obtaining results. All this is to be expected, but should not America, through her Government, take similar official steps to encourage touring here? Certainly this seems the course to pursue.

Protection of the dyestuff industry of the United States will come as a matter of course, aid to our potash producers will doubtless be granted, and similar assistance will be given to other industrial organizations; but what protection will the great resorts of this country have from the greatest campaign for tourist travel in foreign lands that will ever have been waged? There is only one kind of aid that can be offered to these enterprises and that is active promotion of all travel in America by the Government through an agency such as this Service; it, in turn, working in cooperation with the railroads, the automobile associations, highway associations, mountaineering clubs, travel organizations, etc. The establishment of such an agency is a present national necessity.
PUBLICATIONS OF THE PARK SERVICE.

We have not been able to issue any entirely new literature regarding touring in the national parks, but the circulars of information for all of the parks were corrected, and issued in considerably increased editions. An illustrated cover of high-grade coated paper was used for the first time and made these circulars quite attractive, and probably induced many people to keep them. These booklets were distributed by the Service, by the park superintendents, and by the Bureau of Service, National Parks and Monuments, of the Railroad Administration, and to a limited extent by commercial clubs and highway associations of the Western States.

"Mountaineering in Rocky Mountain National Park," by Superintendent Roger W. Toll, of Mount Rainier Park, was issued prior to the opening of the season. It is a valuable manual for mountain climbers in Rocky Mountain Park and has been eagerly received by the outdoor clubs and individuals interested in the sport it champions and helps. It is a sale publication, under the control of the Superintendent of Documents.

"Wild Animals of Glacier National Park," by Vernon Bailey and Florence Merriam Bailey, which I described in last year's report, also came from the printer early in the current year, and the first edition is already exhausted.


Popular publications on the wild life of Mount Rainier National Park and the flora of Glacier National Park are to be issued during the winter months. Data for these books were gathered in the parks in August and September.

As usual, we published large editions of automobile maps, which were widely distributed, free of charge.

PICTURE SERVICE.

The stock of motion-picture films, lantern slides, and other pictorial material belonging to the Service was considerably used during the year, but was not in so much demand as it was prior to the war. The material, on the other hand, is in need of repair and reclassification. Much good motion-picture film should be edited. All of this work requires time that could not be afforded during the past year.

Meantime there has been a larger demand than ever before for permission to make motion pictures in the national parks. Permits covering this work in the parks require the delivery of one positive print of all film finally selected for use to the National Park Service. Thus the prospects of largely augmenting our film stocks are bright.

The traveling exhibits of national-park pictures, mentioned in last year's report, is still in great demand and is being constantly exhibited in public libraries. More of these exhibits would be powerful factors in promoting national-park tours, and as soon as the

EXHIBITS OF NATIONAL-PARK PICTURES.

In February I conducted, at the Cosmos Club in Washington, D. C., a photographic exhibit of winter scenes in the national parks. This display attracted a very large attendance of official and private citizens of Washington and other cities. The parks represented were Mount Rainier, Yosemite, Yellowstone, Sequoia, Grand Canyon, and Rocky Mountain, and included some of the finest works of such well-known photographers as Asahel Curtis, Herbert W. Gleason, J. E. Haynes, Rodney Glisan, Lindley Eddy, and the Wiswall brothers.

In the exhibition of the activities of the Interior Department, held in May, a comprehensive display of park pictures was the chief representation of this bureau.

A STUDY OF THE PARK TRAVEL.

Having covered the range of our activities in the promotion of travel and the furnishing of information, and having discussed the effective work of the railroads and other agencies in stimulating interest in the national parks, it is well to revert to a further survey of the season's travel.

The most significant data to consider are the total travel figures for the past three years; 1917, the best season prior to that of this year; 1918, the war year, which saw decreased travel in nearly all the parks; and 1919, by a considerable margin the most satisfactory season in the history of the park system. These figures follow:

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of visitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1917</td>
<td>488,269</td>
</tr>
<tr>
<td>1918</td>
<td>451,681</td>
</tr>
<tr>
<td>1919</td>
<td>755,325</td>
</tr>
</tbody>
</table>

Expressing this in the striking terms of percentage, travel in 1919 increased 54 per cent over that of the previous record year and 67 per cent over the war season of last year.

Now let us consider the increase in motor travel to the national parks, which is more astounding than the total increase. The following figures tell the story:

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of private cars</th>
</tr>
</thead>
<tbody>
<tr>
<td>1917</td>
<td>54,692</td>
</tr>
<tr>
<td>1918</td>
<td>58,960</td>
</tr>
<tr>
<td>1919</td>
<td>97,721</td>
</tr>
</tbody>
</table>

The increase in the number of cars is 78 per cent over the number that entered the parks in 1917. While the numbers of motorists entering in these cars might not bear the same relation to each other, nevertheless, in the absence of exact data on the number of tourists visiting the parks each season, we may safely assume that they have increased this year 75 per cent over the number of motorists that toured the park system in 1917.

In Yellowstone National Park, where a very accurate record is kept of each class of travel, the statistics of private motor travel
prove the reliability of these percentages. The following table shows this clearly:

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of private cars</th>
<th>Number of motorists.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1917</td>
<td>5,708</td>
<td>21,268</td>
</tr>
<tr>
<td>1918</td>
<td>4,224</td>
<td>12,317</td>
</tr>
<tr>
<td>1919</td>
<td>10,737</td>
<td>39,886</td>
</tr>
</tbody>
</table>

TRAVELERS COME FROM EVERY STATE.

Just as the rail lines brought people to the parks from every State in the Union and from several foreign countries, so the motorists came in their own cars from every corner of the country and from Canada and Mexico, traveling on the great transcontinental highways until they reached the approach roads to the national parks where they used what will be the park-to-park highway. Some motorists all of the national parks, and many others toured from two to four or five.

More than half carried their own supplies and camp equipment and enjoyed their playgrounds in their own way. As they went from their own homes to the parks or between these reservations, they found in almost every town a well-kept automobile camp which they were privileged to use free of charge. Many of these camps are rather elaborately equipped with electric or gas stoves and ample water supplies. Wood is nearly always made available. Of course small charges are made in some places to cover the cost of wood or other fuel.

The evolution of the automobile camp has been a source of great interest to me. I have seen it grow year by year from a modest space in a park of a thriving western city to large and bountifully supplied camps in hundreds of towns and cities. It is now an institution of the West and particularly of the park-to-park highway.

CONVENTIONS IN THE PARKS.

There has been considerable use of the parks for conventions this year, and in some cases these gatherings have caused such overcrowding of hotel and camp facilities that more or less inconvenience and discomfort resulted. It is doubtful whether the holding of conventions in the parks can be generally encouraged again until such time as most of the hotel and camp facilities are extended.

Among the large conventions held in the parks were those of the Montana Bankers’ Association in Yellowstone Park; the Washington Bankers’ Association, the West Coast Lumbermen’s Association, the Association of Western Confectioners, the Knights of Pythias, and Order of the Eastern Star, in Mount Rainier; and the Native Sons of the Golden West, in Yosemite.

INTERPARK TRAIN PARTIES.

Another unusual feature of the season’s travel was the number of large parties that traveled between the parks by train. I have no means of knowing just how many such parties toured all or part of the park system, but several have been reported to the Service in the course of the summer, among them the Travel Club of America party and the Massachusetts Forestry Association which visited Rocky Mountain, Yellowstone, Glacier, Mount Rainier, Crater Lake, Yosemite, and Grand Canyon National Parks. The unique and interesting trip of the Brooklyn Eagle party is described elsewhere in this report. It visited Rocky Mountain, Yellowstone, Glacier, and Mount Rainier National Parks and two parks of the Canadian system.

The National Editorial Association, nearly 400 strong, visited Crater Lake and Mount Rainier National Parks and some of the Canadian parks.

THE PARK-TO-PARK HIGHWAY.

The prospects for the establishment of the national park-to-park highway as a great system of interstate routes in the West have grown brighter almost daily since the opening of the past touring season. The immense value of such a system has come to be appreciated more this year than ever before. There is now a wide demand for the highway, where prior to this year its importance was seen by relatively few communities, most of which were on direct routes to the national parks, and had unusual opportunities to observe its growing volume of motor travel.

The unprecedented travel of the season just closed, however, demonstrated to cities and towns far distant from the national parks that these great playgrounds were the most powerful magnets for motoring tourists that the western country possessed, and that if this travel was to continue and grow in volume roads to and between the national parks must be made the object of special attention by the various States and all of their local subdivisions.

BROOKLYN EAGLE AND OTHER INTERPARK TOURS.

Another reason for the unusual interest that is being taken in the park-to-park highway plans is found in the operation of special transportation service between certain parks during the past summer. The Yellowstone Park Transportation Co. and the Glacier Park Transportation Co. cooperated in the operation of an automobile line between Yellowstone and Glacier National Parks, making an overnight stop in Helena. The maintenance of this service naturally attracted attention to the feasibility of making the trip between the two parks and many private cars followed the automobile stages.

Likewise an attempt to maintain service between Denver, Rocky Mountain Park, and Yellowstone Park by the owners of the transportation lines of these two parks by way of Cheyenne, Casper, Thermopolis, and Cody, Wyo., stimulated extraordinary interest in that section of the interpark highway.

The first extensive park-to-park trip to be made utilizing the facilities of this interpark motor service was taken in July and early August by a party organized by and under the guidance of the Brooklyn Daily Eagle. This party traveled in a special train to Denver, where it transferred to cars of the Rocky Mountain Parks
Transportation Co. for a tour of the Rocky Mountain National Park. Thence in national park cars it proceeded to Cheyenne where it attended the Frontier's Day celebration on July 25. Later a portion of the party motored across Wyoming, through Yellowstone Park, and thence to Glacier National Park in the cars of the Yellowstone Park Transportation Co. and the Glacier Park Transportation Co., respectively. In the meantime, the special train carried the other members of the party between the three parks of the Rocky Mountains. From Glacier Park the entire party proceeded to Mount Rainier Park by special train. Thus the interpark motor service was inaugurated and travel between parks by special train was likewise begun by this group of Brooklyn people.

Sections of the highway between Rocky Mountain and Yellowstone Parks that were in bad condition prevented the continuation of the regular automobile service throughout the season, but, as I have indicated, this service was maintained between Yellowstone and Glacier Parks for a considerable period of time.

Of course hundreds of motorists traveling in their own cars visited more than one park during the summer, and numerous parties toured every big park of the system.

BY AUTOMOBILE FROM SEQUOIA TO MOUNT RAINIER.

In my own car I covered a large mileage on several of the roads in Oregon, Washington, and California which will become sections of the park-to-park highway when it is finally designated. The tour that I originally planned was to have extended from Sequoia National Park to Yosemite, Crater Lake, Mount Rainier, Glacier, Yellowstone, and Rocky Mountain Parks, but lack of time and conditions demanding return to California from Mount Rainier Park prevented the completion of this tour. However, I covered the highway between Lake Tahoe and Yosemite National Park by way of Tioga Pass, whence I drove to General Grant and the Sequoia Park region, turning northward at Visalia and proceeding to San Francisco, and thence to Crater Lake National Park by way of the coast redwood region of California, inspecting on the way the logging operations that are engaged in cutting the big redwood trees and looking into the possibility of preserving several of the groves of these redwoods that have not as yet been touched.

Leaving Crater Lake Park, I drove to The Dalles, Oreg., on the highway system east of the Cascade Mountains, visiting the thriving city of Bend and other communities en route. From The Dalles to Portland I drove over the wonderful Columbia River Highway. The last leg of the northward journey was from Portland to Tacoma, Seattle, and Mount Rainier National Park.

Compelled to abandon my trip to the Rocky Mountain Park, I returned to Medford, Oreg., over the Pacific Highway, and thence drove directly to Klamath Falls, from which point I moved southward over the lava beds of the Pitt River region, where I visited the beautiful Burney Falls, which John Muir long ago mentioned as one of the most beautiful waterfalls in the State.

Returning to the main highway system of the central part of California, I passed as closely as possible the Hat Creek district of Lassen Volcanic National Park. Practically all of the roads covered on this tour of more than 4,000 miles will undoubtedly become links in the interpark highway system.

DETECTION OF HIGHWAY, FIRST STEP.

Many of the sections of any interpark highway system are, of course, so situated as to naturally require no special designation, and in such cases the roads are either being repaired or plans for their improvement are under way. On the other hand, in several States there are numerous routes that might be selected as sections of the system, and it is necessary to choose one or two routes for special attention if the funds available are not to be spread thinly and ineffectively over all such roads. It is a program of selection of routes that is necessary at this time. Once selected, it would be the advisable thing for all States and local communities through which the park-to-park highway would run to concentrate their funds on these sections of the system before extensively improving other roads.

In the northwest many sections of the interpark system have been designated. Much of this work was done by the National Parks Highways Association, which has headquarters in Spokane, Wash., particularly between Yellowstone, Glacier, Mount Rainier, and Crater Lake National Parks. Some routes have also been designated by the Yellowstone Trail Association; and the National Park-to-Park Highway Association, with headquarters in Cody, Wyo., has selected and marked the Yellowstone highway between Cheyenne and Cody, the eastern entrance to Yellowstone Park.

There is a general disposition on the part of the States of the northwest to improve these roads in advance of other highways, and this is especially true in Montana and Wyoming, where recently-approved bond issues have made considerable sums of money available for road work in cooperation with the Federal Government under the Federal aid laws. In these States roads leading to Yellowstone and Glacier National Parks were among the first to be considered for extensive development.

Wyoming is concentrating most of her funds on roads approaching the east and south gateways to Yellowstone Park, while Montana is making comprehensive plans for a great east and west highway that will bring throngs to the parks from beyond her borders, and for several cross-State roads that will considerably distribute the interpark travel through her communities as it passes from one great park to another. Among these cross-State roads are the Yellowstone-Glacier Bee-Line highway through Livingston, White Sulphur Springs, and Great Falls, traversing the Little Belt Mountains; the “Geyser to Glaciers” highway through Livingston, Bozeman, Helena, and Choteau, by way of Wolf Creek Canyon and the Flathead Valley route, which takes its course through Butte, Missoula, and Kalispell to the western entrance of Glacier National Park.

Colorado, too, has given special attention to her park-approach roads.

ALTERNATIVE ROUTES ADVISABLE.

When the idea of an interpark highway was first suggested, it was conceived as a great circle route beginning and ending in Denver,
Colo., and following the Rocky Mountains north to and through Rocky Mountain, Yellowstone, and Glacier Parks, thence along to the west side of the Cascades to and through Mount Rainier and Crater Lake Parks, thence into California, skirting the west side of the Sierras and connecting the four parks in that State, thence to the Grand Canyon and by way of New Mexico back to Colorado, with Mesa Verde Park as an objective, and finally completing the circle after making Colorado Springs and Pikes Peak a part of the route.

It is now quite evident that there must be a number of alternative routes in the system and a number of what may be termed small circle tours for the use of motorists who can not complete the big trip in one season. For instance, there must be an alternative route from Denver to Salt Lake City, whence sections will run to the western entrance to Yellowstone National Park, to Zion Canyon, and the north rim of the Grand Canyon, across to Portland, Ore., and likewise to Lake Tahoe and Yosemite by way of the Lincoln Highway and the Roosevelt Highway. Again, in Oregon an alternative road should skirt the east side of the Cascades from The Dalles through Bend to Crater Lake National Park, thence east of the California mountains on El Camino Sierra to Lassen Volcanic Park, Lake Tahoe, and through Tioga Pass to Yosemite, or through Owens Valley to Southern California and the Grand Canyon; or, perhaps, from Crater Lake through the great redwood forests, where another national park will be established, we hope in the early future, to Muir Woods National Monument, and thence to Yosemite and Sequoia Parks. There are several other such routes. As I have already stated, I traveled over several of these routes during the past summer.

It is expected that the interpark system will be outlined before the elapse of many months. It merely requires now the time of a few enthusiastic believers in the project and the funds to defray the cost of a scouting and promotion tour.

FRIENDS OF INTERPARK SYSTEM GATHER.

On August 10 and 11 a meeting was held in Yellowstone National Park for the purpose of discussing ways and means of expeditiously advancing the selection and improvement of the park-to-park highway and cooperating with this bureau in the encouragement of travel to the parks. Twelve States were represented at the conference, which organized the National Parks Touring Association, to secure the “cooperation and coordination of all State and national highway associations with a view to a composite-road system leading to and connecting the national parks.” This association is now completing its organization by the selection of State vice presidents and the appointment of the necessary committees, which will have in hand the formulation of the details of its policies and the means of carrying them into effect. L. L. Newton of Cody, Wyo., is general secretary of the association.

The men who attended the Yellowstone conference have all been identified with good-roads movements in the Western States; they have the broadest conceptions of the purposes to be accomplished by the establishment of a highway connecting the national parks; they are capable of rising above sectional jealousies and prejudices; and they may be expected to accomplish the end for which they are striving.

NATIONAL AID TO COMPLETE SYSTEM.

I should point out again the fact that some links of any complete park-to-park system of highways may have to be constructed by the Federal Government without State cooperation. In certain States through which the highway would run most of the land belongs to the Federal Government and is either unreserved, unappropriated public land, or reserved for national forests, national parks, or under other forms of withdrawal. There is relatively small taxable property under the jurisdiction of the State. Such country is usually sparsely settled and the burden of building extensive roads would be more than the people could bear. In such cases, particularly where the road would be used principally by motorists en route to the national parks from all parts of the United States, it would seem that the Federal Government would be under the obligation of defraying the cost of such sections of the interpark system. Such a section of the system would be a highway connecting Mesa Verde National Park and the Grand Canyon by way of the Natural Bridges, Rainbow Bridge, and Navajo National Monuments in southeastern Utah and northern Arizona. Practically all of the land such a highway would traverse is under the control of the Federal Government. It should be recalled here that Senate bill 35 providing for the survey of this route for a national highway is now pending in Congress.

GOOD ROADS NEEDED EVERYWHERE.

Never before in the history of this or any other nation has there been such a widespread demand and necessity for good roads as at present. The enormous number of automobiles and trucks that are owned, and used by the American people, which is increasing from 10 to 25 per cent annually, and at present estimated at over 7,000,000, has developed the fact that the roads of a few years ago, which in general met the needs of horse-drawn vehicles in a satisfactory manner, are woefully inadequate to serve the motor-propelled traffic of to-day. To remedy this condition the Federal Government, the various States, and the counties of the States are appropriating millions upon millions of dollars to improve existing roads and construct many thousand miles of new roads throughout the Nation, and especially to pave the principally traveled roads with some sort of permanent pavement suitable for automobile travel; all of which will make automobile and truck transportation pleasanter and cheaper, will develop the resources of the States and counties they serve, and will benefit the entire country through offering additional travel advantages, the exchange of money, thought, knowledge, and the recreational benefits that make those who spend their vacations in travel more healthy, virile, and better able to meet the exacting demands of our business life.

1 See report on S. 4439, a similar bill in the 65th Congress on p. 242 of the 1918 annual report.
Paving Roads to National Parks.

Many of the States and counties in which our national parks are located have provided, or are providing, paved highways to the park entrances. Notable examples of this are found in California, where Tulare County has paved the highway to Three Rivers, the junction of the entrance roads to Sequoia Park, and the State has recently passed a $10,000,000 bond issue containing an item of $300,000 for completing the paving of the roads to the park line; at Yosemite Park, where the State has undertaken the construction of a paved highway from Merced to El Portal; in Oregon, where the State and the Federal Government are engaged in the construction of a highway that will later be paved from Medford to the west entrance of Crater Lake Park, a distance of 72 miles; in Pierce County, Wash., where bonds have been sold and funds set aside to pave next year the Nisqually entrance road to Mount Rainier Park and within the next two years to complete and pave a road to join our proposed new highway up the Carbon River within this park; and in Colorado, where the State is spending $200,000 in improving the entrance roads to Rocky Mountain Park, which they will undoubtedly pave a little later, this in addition to the construction of the Fall River Road, which is being built over the Continental Divide connecting the east and west sides of the park. The State of Montana and several of its counties are engaged in making permanent improvements in roads approaching Yellowstone and Glacier Parks, and Wyoming is rebuilding two roads leading to the south entrance of the Yellowstone, both States concentrating a large portion of their highway funds on these park approaches.

No Money for Park Road Construction.

Although there has been such tremendous activity in the construction of roads in the national-park States, practically no money has been available for road extensions in the national parks this year with the exception of a fund provided to complete the rebuilding of the El Portal Road in Yosemite National Park. Work on the highways under our jurisdiction has been confined entirely to ordinary maintenance and repair, while in some parks the funds available have not been sufficient to prevent perceptible deterioration.

The program covering the expenditure of hundreds of millions of dollars by the Federal Government in cooperation with the States in the building of highways was adopted soon after the close of the war, and the same legislation contained a provision for a comprehensive improvement and extension of roads in the national forests. The road-building program of these measures is to be carried out over a period of years, and in my opinion a similar program, with the appropriation of approximately $1,000,000 a year for extending the existing road system of the parks and undertaking the paving of such parts of this system as may be advisable, should be adopted by Congress.

In regard to the paving of highways, it is certain that this is the only economic means of meeting the constantly increasing road-maintenance expense. In some parks paving must be done, and it can justly be said that motorists visiting our parks have a right to demand from the Government, as they do, as good, if not better, roads in the national parks than are furnished by the States and counties as approaches to the parks, especially as the Government exacts an entrance fee from the automobile owners for using the park roads.

The greatest immediate need for permanent paving is found in Yellowstone, Yosemite, Crater Lake, and Mount Rainier National Parks, and in order to meet these needs I have incorporated in my estimates for the 1921 fiscal year items for starting the payment of the most needed sections of the roads in Yosemite, Yellowstone, and Crater Lake Parks and for graveling and providing a sub-base for the paving of roads in Mount Rainier Park. I trust that Congress will realize the economic advantage and real necessity for this work. The annual cost of sprinkling and maintaining to a satisfactory standard certain sections of the heaviest-traveled roads in some of the parks will provide the interest on the cost of paving them, their maintenance expense after being paved, and establish a sinking fund to repay the indebtedness in from 20 to 40 years, at the same time adding to the enjoyment and comfort of travel and lessening the expense of those who will use the roads.

As will be noted in the following discussion of the activities of the National Park Service, there are a number of important new highway construction projects ready to be undertaken, all necessary surveys and estimates having been completed and approved. This is the time for the Nation to adopt a broad-gauge road extension and paving program for the national parks, and I sincerely trust that it may be approved by Congress in connection with our budget for the next fiscal year.

General Engineering Department.

Much important work has been accomplished during the past year in development and execution of general engineering projects under the direction of Civil Engineer George E. Goodwin. The general engineering division is charged primarily with the formulation of plans for new roads and trails, the gathering of all data relating to such projects, and the preparation of the same for the approval of the Service and final submission to Congress when adopted by the Service and the department. As necessity arises, however, engineering work is carried to completion by the civil engineer. Throughout the working season of 1918 he supervised the maintenance and improvement of the roads of the Yellowstone.

New Roads Planned and Surveyed.

During the past year the most important project to be developed was that covering a transmountain road connecting the east and west sides of Glacier Park. The survey was undertaken during the autumn of 1918, and the project, with all quantities and estimates, was framed during the winter. It is now ready to submit to you for final approval as a part of the Glacier Park budget for the 1921 fiscal year.
Another very important survey undertaken and now approaching completion is a part of a road project which contemplates the connecting of the Yosemite Valley with Tenaya Lake on the Tioga Road by a highway up the Merced Canyon to Little Yosemite Valley, thence along the route of the trail to Clouds Rest and Forsyth Pass, and thence along the upper reaches of Tenaya Canyon to the lake.

Of equal value from almost every standpoint is the survey of a road in Sequoia Park, which has just been completed. This highway will connect the road in the valley of the Middle Fork of the Kaweah River with the Giant Forest and will ascend the steep slopes of the mountain of which the famed Moro Rock is the commanding feature. Construction work should begin on this road next year.

ENGINEERING STUDIES IN GRAND CANYON AND OTHER PARKS.

Reconnaissance and other surveys and preliminary examinations of prospective road routes were also conducted in Grand Canyon and Mount Rainier National Parks. A road along the rim of the Grand Canyon from El Tovar Hotel to Grand View is the important project of the former park, and in the latter a highway up the Carbon River to the mouth of the Carbon Glacier is the next improvement to be made.

Another proposed highway route examined by the general engineer is known as the Trail Ridge “Y” route in Rocky Mountain National Park. This road, when constructed, will leave the Fall River Road and run along the crest of the Rockies for several miles. At some future date it will be constructed down Windy Gulch to the lower levels of the park. Work on this road should begin next season.

ROAD PROJECTS OF THE EARLY FUTURE.

Among other projects to be surveyed and developed in the early future are the proposed highways to Fern Lake and Loch Vale in Rocky Mountain Park, and a road from Moraine Park to the region of Longs Peak post office in the same park; a road to the top of Mount Evans, if the territory including this mountain is added to Rocky Mountain Park; a road from Grayling Creek to the Madison River in Yellowstone Park, thus greatly improving access to the main highway system of this park from the Gallatin Valley; and new roads to Leigh and Jenny Lakes in the area proposed for addition to Yellowstone Park; a road to Diamond Lake from Crater Lake, in the event that the Diamond Lake region is added to Crater Lake National Park; and roads to Wetherill Mesa and to the Shiprock highway from the existing highway system of Mesa Verde Park.

TRAIL ROUTES EXAMINED AND BRIDGES DESIGNED.

Trail surveys and studies conducted by the general engineering division include several important projects in the Grand Canyon Park and in the Belly River district of Glacier Park. The most important engineering project completed under the direct supervision of this division during the year was the construction of the new road in the Gardiner River Canyon, Yellowstone National Park, thus eliminating the menace of a sliding hill which has endangered traffic in the canyon for many years. Another valuable piece of construction work accomplished directly by the division was the installation of a water system in Muir Woods Monument.

Several very important bridges were designed by the division, and the projects were carried forward to the point of letting contracts for actual construction work. Among the bridges designed were the new Marble Fork Bridge for Sequoia Park and an under-pass bridge for Sylvan Pass, Yellowstone Park, to replace the well-known “cork-screw” bridge. Plans are now in course of development for a new bridge over the Flathead River at Belton at the western gateway to Glacier Park.

USE OF T. N. T.

Even in this brief discussion of some of our engineering problems in the national parks I do not want to overlook giving credit to T. N. T. for the splendid results which it has been possible to accomplish with this material. Of the great quantities of surplus explosives which the War Department had on hand at the close of recent hostilities, the National Park Service was successful in securing a considerable amount of trinitrotoluene, or T. N. T., as it is popularly called. This powder has been utilized for blasting purposes in road and trail building and the like and has given uniform satisfaction, besides effecting a small saving by making it unnecessary for us to purchase large quantities of dynamite and blasting powder as has been done in the past. Where justified, we have obtained quantities of T. N. T. for some of the parks sufficient to care for our needs for the next several years.

VALUABLE ENGINEERING WORK AND ADVICE.

I am greatly pleased with the accomplishments of the engineering division, and I feel that in establishing it for the purpose of planning new road and other development, and advising the park superintendents, as well as performing extremely valuable inspection service, the field force of the bureau has been greatly strengthened. On the other hand, the existing satisfactory method of managing the individual parks—that is, through centralizing all powers relating to administration, protection, maintenance, and improvement in the superintendents—has been constantly maintained.

LANDSCAPE ENGINEERING DEPARTMENT ESTABLISHED.

In my last annual report I mentioned the appointment of Charles P. Punchard, jr., as landscape engineer in the field forces of the National Park Service. In recommending the establishment of the position of landscape engineer, I had some very definite objects in mind as possible of attainment only through the advice and assistance of a man trained in landscape architecture and yet possessed of the ability and willingness to take a very practical view of the problems to be solved, and to attack them always with full appreciation of the limitations of the park appropriations and the relation of these problems to other features of improvement of the park system. Mr. Punchard has met the difficult requirements of the place and has already made his department one of the most important influences for the betterment of the national parks.
The landscape engineer devoted a considerable portion of the year to travel in the parks of the West for the purpose of studying their various types of scenery and analyzing in some detail the landscape problems that awaited early solution, while boldly observing conditions requiring treatment according to his advice in the more or less distant future. The parks visited during the year were Yellowstone, Yosemite, Grand Canyon, Rocky Mountain, Mount Rainier, Crater Lake, Sequoia, General Grant, and Hawaii. Inspections were also made of Muir Woods, Casa Grande, Papago Saguaros, and Tumacacori National Monuments.

PERMANENT CAMP IMPROVEMENTS PLANNED.

In Yellowstone and Yosemite National Parks several months were spent by Mr. Punchard in planning the location and development of permanent camps or the rehabilitation of existing camp systems. The rearrangement and the improvement of the big camps of the Yellowstone Park Camping Co. and the reconstruction of Camp Yosemite, owned by the Yosemite National Park Co., presented exceedingly important problems that are still receiving much attention.

The location and improvement of automobile camps for private motorists has been another extremely important task of the landscape engineer. During the year a complete camp system was outlined for Yellowstone National Park, and satisfactory progress was made on similar plans for several other reservations, notably Yosemite and Sequoia Parks.

LANDSCAPE ARCHITECTURE AND PARK GATEWAYS.

One of the most complex problems of park development is that relating to the marking of park entrances with appropriate gateway structures. This landscape problem has been studied in a number of parks with very satisfactory results. Plans are now complete for several gateways that will be a distinct credit to the service. They will be entirely unique, yet as harmonious with their surroundings as any similar structures that I have seen. For some parks special appropriations must be secured before necessary gateways can be built, but I feel certain that the funds for these improvements will shortly be forthcoming. In all of my reports I have emphasized the advantages of the park gateway, not the least of which are the sense of pride and the thrill of pleasure that are inspired in the American tourist as he passes through imposing pillars or arches that announce to him that he is entering a great playground that belongs to him and to all America.

ATTRACTIVE BUILDINGS DESIGNED AND SITES SELECTED.

Besides the designing of gateways, it has been the duty of the landscape architect to plan employees' cottages, ranger stations, gasoline and oil stations, automobile checking stations, comfort stations, etc., or to criticize plans submitted by the superintendents for such buildings. Locations for buildings of all kinds, whether they are to be erected by the Government or by the business interests catering to the needs of the public, are selected by the superintendents of the parks in conference with the landscape engineer on the ground, and all timber of the parks necessary in construction of such buildings is selected and marked for cutting by these officers.

FORESTS AND LAKES RECEIVE SPECIAL ATTENTION.

The landscape engineer has also given his attention to forest improvement and vista thinning in certain parks with excellent results. Closely related to this is the problem of preserving stands of trees along highways crossing private holdings, the clearing up of brush and down timber along roadsides, and the elimination of dead timber in flooded lakes, such as Lake Eleanor in Yosemite Park. These problems are especially hard to solve in some cases because of the expense involved in making the necessary improvements, and in others because of the lack of interest in this work on the part of private individuals or corporations possessing property rights in the park waters or along the roads, or positive unwillingness on the part of such parties to cooperate in any way.

STRICT CONSERVATION PRINCIPLES GOVERN LANDSCAPE BETTERMENT.

In all of our landscape work the guiding principle followed is that the natural conditions of the parks must be disturbed as little as possible consistent with necessary development in the public interest, and where such conditions have been unnecessarily or carelessly or wrongfully changed in the past they must be restored where this can be done, and in any case made less objectionable if restoration to a state of nature is impossible. This principle is a corollary of the governing rule in our general policy that "the national parks must be maintained in absolutely unimpaired form for the use of future generations as well as those of our own time."

For lack of space I have only briefly discussed a few of the functions of the landscape engineering department, and have touched only two or three of the salient features of our landscape betterment program. The details are to be found in the report of the landscape engineer in Appendix B and in the reports of the superintendents of a number of the parks. They are worthy of careful perusal. It is desirable that the public know of this progressive and enlightened landscape work, and it is to be hoped that this work will be helped by the encouraging and assisting criticism of the people using the parks. Unfortunately there has been some recent adverse criticism of landscape conditions in the parks by tourists who know our policies regarding betterments, but who refuse to consider the practical difficulties in the way of accomplishing everything in a single year.

VALUABLE AID IN LANDSCAPE PROBLEMS.

Time and opportunity have combined this year to make it possible to give a great amount of consideration to the preservation and, in some cases, the restoration of the native landscape of the national parks. In this activity I have been fortunate in receiving the advice and assistance of several noted architects and landscape engineers. For instance, Mr. Charles Moore, chairman of the Commission of Fine Arts, accompanied me on a tour of inspection of Yosemite National Park and a part of the proposed Roosevelt National Park. On this trip his helpful criticisms were the source of inspiration and greatest encouragement to me.

Mr. Frederick Law Olmsted, former chairman of the Commission of Fine Arts and always interested in national park progress, visited
Lafayette Park during the year and made some very interesting and constructive criticisms of conditions in that park which will profoundly influence its improvement.

In December, 1918, Mr. Jens Jensen, landscape architect of Chicago, made a trip to Hot Springs Reservation, and gave his time, without charge, to the Government in supervising the planting of a large quantity of tulip, narcissus, hyacinth, and other bulbs on the Reservation area. He also made several valuable suggestions relating to landscape improvement of the Reservation and the city of Hot Springs.

AEROPLANES IN THE NATIONAL PARKS.

The close of the war brought no decrease in the public interest in the construction and operation of aircraft. The minds of the people merely turned more definitely to the use of the aeroplane for pleasure and for commercial purposes. It was natural, therefore, that during the past season the aeroplane should have appeared in the national parks.

On May 27 Lieut. J. S. Krull, flight commander at Mather Field, near Sacramento, Calif., landed in Yosemite Valley after a successful flight from Mather Field. This is the first aeroplane to fly into the famous valley. Later Lieut. Neubig, also of Mather Field, landed in the valley with a passenger, after a nonstop flight of 2 hours and 40 minutes, coming from San Francisco, a distance of approximately 180 miles.

The first aeroplane to fly over Rocky Mountain National Park landed near the Stanley Hotel on August 8, 1919. It was piloted by Mr. I. B. Humphreys, who was accompanied by Mr. A. M. Lendrum. The machine used was a Curtis-Oriole biplane.

Tentative proposals to operate aircraft in the national parks for the purpose of transporting passengers have been made from time to time during the year, but as yet no complete proposition has been submitted to the National Park Service. Among the tentative proposals were suggestions that an aeroplane line be established between Yellowstone and Glacier National Parks, with side trips through the parks themselves, and that aeroplanes be used as means of connecting the north and south rims of the Grand Canyon of the Colorado. While the former proposal is believed to be partly feasible, the latter is probably wholly impracticable, because of the fact that it would be necessary to rise to a great altitude above the Grand Canyon in order to obtain the proper factor of safety. This would necessitate taking passengers to an altitude of from 10,000 to 14,000 feet above the sea, which would result in occasional distress and injury, and, of course, the Grand Canyon from such an altitude would be indistinct. I am of the opinion, however, that aeroplanes can be used to great advantage in several of the national parks, and undoubtedly the time is not far distant when service between the parks can be maintained by the use of heavier-than-air machines.

Experiments conducted during the past year in California, particularly from the base at Mather Field, have determined the practicability of using the aeroplane for fire patrols over forested areas. Patrols have been made in the national forests in the State of California with great effectiveness, and during the recent ex-tensive forest fires they rendered much aid in detecting and controlling the flames. It is to be hoped, as Yosemite and Sequoia Parks are not far distant from Mather Field, that some arrangements can be made next year for regular fire patrols by aeroplane over these park areas. Owing to the expense of maintaining aeroplanes near other parks, we may not be able to utilize them for fire patrols at present, but they could be used to great advantage in all of the parks of the Rocky Mountains where the fire hazard is often great and where during the past summer there were unusually large fires to contend with.

THE NATIONAL PARKS IN THE FIELD OF EDUCATION.

In my report for last year and in statements issued from time to time from the National Park Service I have called attention to the fact that the national parks and monuments have educational advantages of value which have not as yet been utilized to any appreciable extent either by the colleges and universities of the Nation or by individual scholars and scientists unassociated with particular institutions. As I have gone about the parks this year, their usefulness as fields for practical summer investigations in numerous branches of scientific and historic research have impressed me more forcibly than ever before, and I am extremely anxious that steps should be taken in several of the largest parks next year to demonstrate the practicability of conducting studies of the natural features at reasonable expense to students availing themselves of the opportunities for the field laboratory work that the parks afford.

NATIONAL PARKS STUDIED AT COLUMBIA.

I have not intended to convey the idea that there is not a deep interest in this proposed educational use of the national parks outside of the National Park Service. There are many far-seeing educators, public officials, and men and women in several very different walks of life who are thoroughly alive to this enlarged opportunity. Several associations with high public aims have also become interested in the subject. Columbia University has definitely opened the field of national-parks study as a distinct feature of its curriculum. It has announced, and is actually conducting, a course in the scenery of the national parks, with special emphasis on its production or formation by the forces of nature that have developed the surface of the earth and are to-day modifying and changing it. It is not unlikely that Columbia will follow this course with a field expedition of faculty members and students to one of the national parks.

THE LE CONTE MEMORIAL LECTURES.

Meanwhile the University of California, through its extension division, has established courses of lectures on the national parks which are to be given each year in Yosemite Valley. These are to be known as the Le Conte Memorial Lectures, in commemoration of the late Prof. Joseph Le Conte's devotion to Yosemite National Park and his contributions to science.
The first course of these lectures was delivered in Yosemite Valley this season, in accordance with the following program:

I. Willis L. Jepson, professor of botany, University of California:
   1. The History and Origin of the Buttercup Family in Yosemite. Tuesday, June 24.
   3. The Ancestry of the Yosemite Pines and Sequoias. Friday, June 27.

II. William Frederic Bodé, literary executor of John Muir:
   3. Muirs Services to the Nation. Friday, July 4.

III. François Emile Matthes, geologist, United States Geological Survey:
   2. The Highest Ice Flood in the Yosemite Valley. Wednesday, July 9.

IV. A. L. Kroeber, professor of anthropology, University of California:
   1. Tribes of the Sierra. Friday, July 11.
   2. Indians of Yosemite. Saturday, July 12.

The 1920 series will probably include lectures by Dr. C. Hart Merriam on anthropological subjects—by Dr. J. C. Merriam on the Philosophy of Le Conte; by Dr. Joseph Grinnell on zoology; and by Dr. A. C. Lawson on geology.

CAMP FIRE EDUCATIONAL TALKS.

Dr. Matthes, of the Geological Survey, who delivered some of the Le Conte lectures during the past season, remained in the park for a considerable time and delivered many talks and addresses at the public camps and at the Sierra Club camp fires. Likewise, in Yellowstone National Park, Mr. M. P. Skinner, who has studied the wild flowers, mammals, and birds of that park for many years, gave talks on the features of the park to Howard Eaton’s big trail party at its camp fires and to other interested groups of visitors. He is now engaged in collecting specimens for the new Yellowstone museum.

Informal talks on Yellowstone Park were also given by Mr. Frank Reed, of the Southern Methodist University, who has been visiting the park each summer for many years.

While the Brooklyn Eagle party was visiting Yellowstone and Glacier National Parks, Miss Isabel D. Bassett, formerly of the faculty of the department of geology at Wellesley, gave interesting and instructive talks on the geysers and hot springs of Yellowstone Park and the peculiar geological formation of Glacier Park.

In Mesa Verde National Park, Dr. J. Walter Fewkes, chief of the Bureau of Ethnology, continued his archaeological work by excavating Square Tower House, one of the finest cliff dwellings of the park, and likewise he followed his custom, established some years ago, of telling around the camp fire the story of the cliff dwellers and their customs and works.

In the far Southwest, Dr. Byron S. Cummings conducted a class of students in archeology and ethnology to the Grand Canyon National Park and to the remote Navajo National Monument in northern Arizona.

Nature guides in Mount Rainier and Rocky Mountain Parks have done much to stimulate interest in the wild flowers, trees, and animal life of these reservations, as well as in the glaciers and the mountains themselves. Still, in mentioning these instances of the newest use of the national parks, I do not by any means touch upon all of the educational work that has been accomplished this year.

MUSEUMS TO BE ESTABLISHED.

Last year I mentioned the establishment of a museum in Mesa Verde National Park to house relics taken from the cliff dwellings and other prehistoric ruins. This museum has become one of the most interesting features of the reservation and has been thoroughly enjoyed by the traveling public. Dr. Fewkes used it for his talks on archaeology.

A new administration building has been planned for Yosemite National Park, and in designing this structure provision was made for a large museum, to be constructed with every modern appliance for effective exhibitions. The lighting methods for habitat groups adopted by the California Academy of Sciences for its new museum in Golden Gate Park, San Francisco, will be utilized in this building if authorized.

In Yellowstone National Park a large room in a building formerly a part of Fort Yellowstone, which has been selected for park headquarters, will be developed as a museum to house specimens of the hundreds of different objects of interest that the park contains. These specimens are now being collected and marked for exhibition. It will take several years to complete the display, but ultimately it will be complete in every particular.

In Casa Grande National Monument a collection of prehistoric implements and other relics of interest to the visitor has been made available by Custodian Pinkley, who has also assembled a library on archaeology and ethnology that is quite comprehensive. A suitable museum to house this collection is now under consideration.

The superintendent of Rocky Mountain National Park has assembled a vast number of specimens of wild flowers and some exhibits of mounted birds and animals that are attracting considerable attention. I do not know of any work that the National Park Service is undertaking that is of more value to the public than this use of the resources of the parks for the enlightenment of their visitors.

NATURAL HISTORY SERIES OF PUBLICATIONS.

Last year we published “Wild Animals of Glacier National Park,” a volume on the mammals of the park by Mr. Vernon Bailey, chief field naturalist of the Biological Survey, and on the birds, by Mrs. Florence Merriam Bailey, and this book was so favorably received that this edition was soon exhausted. A second edition is in course of publication. Continuing the preparation of this natural history series, we were fortunate in securing the cooperation of the Smithsonian Institution in assembling data for a book on the wild flowers and trees of Glacier Park. Dr. P. C. Standley, of the Smithsonian Institution, was sent to the park to gather the necessary data, and he will write a popular book which the Service will publish early next year. Technical papers will also be prepared for the use of the National Museum and other scientific institutions.
Under a similar cooperative arrangement, the Biological Survey, the State College of Washington, and the National Park Service are conducting investigations in Mount Rainier National Park for the purpose of gathering data for a popular volume on the wild life of that park. Dr. W. P. Taylor of the Biological Survey is in charge of the party, and Dr. William L. Finley, State biologist of Oregon, is doing the photographic work, which will include motion pictures of the mammals and birds.

THE NATIONAL PARKS ASSOCIATION.

That the Service might be supported by outside institutions and individuals in its advancement of the educational use of the national parks, a group of men and women in June, 1918, organized the National Parks Educational Committee, under the leadership of Charles D. Walcott, Secretary of the Smithsonian Institution. This organization was noted in my last report. Its activities were limited during the war, but its opportunities broadened and increased with the dawn of peace, and it was decided early in the year to establish a national organization to promote the aims of its founders. On May 29, 1919, such an organization was formed. It was called the National Parks Association, and its objects can be best conveyed to the reader by quoting direct from a bulletin issued from its headquarters at Room 914, Union Trust Building, Washington, D. C.

They are as follows:

1. To interpret the natural sciences which are illustrated in the scenic features, flora and fauna of the national parks and monuments, and to circulate popular information concerning them in text and picture.
2. To encourage the popular study of the history, exploration, tradition, and folk lore of the national parks and monuments.
3. To encourage art with national park subjects, and the literature of national parks travel, wild life and wilderness living, and the interpretation of scenery.
4. To encourage the extension of the national parks system to represent by consistently great examples the full range of American scenery, flora, and fauna, yet confined to areas of significance so extraordinary that they shall make the name national park an American trade-mark in the competition for the world's travel; and the development of the national monuments into a system illustrative of the range of prehistoric civilization and early exploration and history, land forms, American forest types, wild life, etc.
5. To enlist the personal services of individuals and the cooperation of societies, organizations, schools, universities, and institutions in the cause of the national parks and monuments.

Henry B. F. Macfarland, of Washington, D. C., is the president of the new association. The vice presidents are Nicholas Murray Butler, president of Columbia University; John Mason Clarke, chairman of the section of geology and paleontology, National Academy of Sciences; William Kent, of California; and Henry Suzzallo, president of the University of the State of Washington. The executive secretary is Robert Sterling Yard, formerly chief of the educational division of the National Park Service. Huston Thompson, member of the Federal Trade Commission, is chairman of the ways and means committee, which is composed of all of the charter members of the association. Charles J. Bell is treasurer.

HELP OF THE MOUNTAINEERING CLUBS.

The mountaineering clubs of the country, which have effectively aided in the advancement of the interests of the national parks ever since the establishment of this bureau, and in many instances, ever since the creation of certain national parks, continued to render all assistance possible during the past year, not only in the promotion of the broader uses of the parks such as the educational use just covered, but in actually sending parties and individual members into several of the parks for outings and to consult with park officers in improvement plans.

The Associated Mountaineering Clubs of North America, with headquarters in New York City, kept closely in touch with national park activities and through its bulletins distributed to the various member clubs data regarding progress in the development of the parks. The general secretary of the association, Mr. LeRoy Jeffers, visited Yellowstone and Glacier National Parks during the summer and climbed some peaks, notably Mount Moran (altitude 12,100) in the Teton Mountains in the proposed extension of Yellowstone Park, making the first ascent of this granite peak. He also visited some of the parks of the Canadian national park system.

MOUNTAINEERING CLUB OUTINGS.

More of the big mountaineering clubs conducted outings in the national parks during the summer than ever before. A party of the Appalachian Club visited Lafayette National Park on Mount Desert Island, Me., and were delighted with the opportunities for club outings in this reservation. Several members of this club, including Messrs. Frederick Law Olmsted, Allen Chamberlain, of the Boston Transcript, and Herbert W. Gleason, the lecturer, visited the park for the purpose of consulting with our superintendent on various phases of the development of the reservation and its promotion as a member of the park system.

The Colorado Mountain Club held its annual outing in Wild Basin, Rocky Mountain National Park, in August, and in February sent several members to the winter carnival at Fern Lodge in that park.

One of the members of this club, Mr. Roger W. Toll, became superintendent of Mount Rainier National Park on May 10, 1919. Mr. Toll's book, "Mountaineering in the Rocky Mountain National Park," which was issued by the service early this year, was compiled in part from the very comprehensive mountain climbing records of the club.

Several members of the Prairie Club, of Chicago, enjoyed the Wild Basin outing of the Colorado organization.

The Mazamas, with permanent headquarters in Portland, Ore., held their annual outing in Mount Rainier National Park. They were in the park nearly three weeks in August, and made many climbing trips. Their main camp was on Mazama Ridge, an old and favorite camping ground of this organization.

The Mountaineers of Washington likewise selected Mount Rainier National Park for their summer outing. They walked completely around Mount Rainier, spending three weeks in the park. This
club will hold its annual winter snowshoe outing in that park on New Year’s Day. Elsewhere in this report I have mentioned the plans of the Mountaineers to erect near Sluiskin Falls, in the Paradise Valley region, a memorial to the late Gen. Hazard Stevens, who, with P. B. Van Trump, made the first ascent of Mount Rainier, in 1870.

The Sierra Club, of California, again visited Yosemite National Park on its annual outing. Its headquarters at Tuolumne Meadows, however, was used throughout the summer by visiting members. On the regular outing, which was enjoyed by a very large group of members, trips were made to the Devil Postpile, Mount Ritter, the Ten Lakes Basin, and many other high Sierra points. Several members of the Sierra Club joined me on my trip to Yosemite Valley in late December, 1918, some of these climbing in the snow to Glacier Point.

A list of the associated mountaineering clubs and their officers is given in Appendix G.

WILD LIFE CONSERVATION.

No opportunity to improve the condition of the wild life of the national parks has been neglected by the Service during the past year, nor have we relaxed in any degree our vigilant protection of these reservations. All are refuges for wild animals, and some of them are among the finest preserves in the world. However, conditions over which we have not had control have affected our charges more or less adversely. Lack of funds made it impossible for us to assume charge of Mount McKinley National Park, which was established nearly three years ago as a game conservation measure; failure of the Legislature of California to pass a bill, strongly urged upon it, which would have established a game preserve west of Yosemite Park, leaves the deer of the Yosemite in a rather unsatisfactory situation; an epidemic of hemorrhagic septicemia caused the death of 36 animals of the tame herd of buffalo in Yellowstone Park; and the Blackfeet Indians took their regular toll of elk and bighorn sheep belonging to Glacier Park as these animals came down from the mountains to the plains of the Indian Reservation.

In other respects, however, the wild animals of the parks have thrived splendidly. An open winter in nearly all of them made grazing conditions good. On the other hand, the prospect that a long cold period will occur in the winter that is approaching is causing us uneasiness because the drought of the summer dried up the ranges in several parks and some species of animals, particularly the elk of the Yellowstone, are likely to leave these preserves and pass beyond control. In case they do this, there may be heavy losses through unlawful killing of the animals or, in the case of the northern herds, through starvation.

This brings me to a renewal of the statements of previous annual reports of the Service that in several States more attention should be given to the establishment of game preserves adjoining the national parks, particularly in California, where a preserve of reasonable size should be established along the western side of Yosemite National Park; in Oregon, where large refuges around Crater Lake National Park are essential to the preservation of the growing herds of animals of this reservation; and in Washington, where the wild life of Mount Rainier National Park is in dire need of better protection after it leaves the park boundaries. Of course the problem of protecting the elk of the Yellowstone after these animals leave the park boundaries in winter is still most serious. All of these needs are discussed under the sections of this report relating to our activities in the various parks. In Wind Cave and Sullys Hill National Parks game preserves are maintained under the supervision of the Biological Survey, and recent appropriations for the latter park will make possible its larger development as a game refuge.

Our efforts to reduce the number of predatory animals in the national parks have met with unusual success during the past year, and in several of the bigger parks so many of these animals have been killed that there has already been a noticeable increase in the deer and other species that are usually their victims.

NOTES ON FISH AND FISHING.

Fishing in the national parks was excellent during a large part of the season. In several of the parks the unusually large number of tourists enjoying the sport greatly depleted the streams. Large consignments of fish were planted in practically all of the parks where there are suitable waters, but it is apparent that hereafter this restocking of the lakes and streams must be conducted on a larger scale. Fish hatcheries were operated by the Federal Government in Yellowstone and Glacier National Parks, but consignments of fry in other parks were usually given to the Service by the States. In Yosemite National Park a temporary hatchery was maintained by the State preparatory to building a permanent station. Plans for the construction of this station, however, have been temporarily suspended and we are not certain that the type of building that the National Park Service will approve will be authorized by the State government. The State of California also maintained a temporary hatchery on one of the branches of the Kaweah River, near Three Rivers and close to Sequoia Park, and the Fish and Game Commission expects to convert this establishment into a permanent hatchery. Fish for Rocky Mountain National Park were supplied through the cooperative efforts of the Federal hatchery at Leadville and the hatchery maintained by the State in the park itself.

During the season the United States Commissioner of Fisheries, Dr. Hugh M. Smith, spent considerable time in Yellowstone National Park studying the fish supply and making plans for stocking its waters on a larger scale. He also collected data to be used by his bureau in cooperation with the National Park Service in an effort to make Yellowstone one of the greatest fishing resorts of the Nation. The opportunity to make such a resort of this big park is all that can be desired, as there are hundreds of lakes and streams that are suitable for the various species of trout, many of which have not yet been stocked for the first time.

There is no feature of the park improvement that appeals more to me than the maintenance of good fishing waters for the visiting public, and it is my purpose to cooperate in every possible way with the Federal Bureau of Fisheries and the State commissions in intensively
improving the opportunities for the sport of fishing in every national park where this can be done.

**TWO NEW NATIONAL PARKS.**

For a time, in the early part of the current calendar year, it appeared as if 1919 would become the most important year in the recent legislative history of the national park system. Bills providing for the establishment of the Grand Canyon and Lafayette National Parks were passed by both Houses of Congress, and the inclusion on the appropriation of more than $10,000 annually for Rocky Mountain National Park was repealed. A bill providing for the enlargement of Sequoia National Park and renaming it Roosevelt National Park was passed by the Senate unanimously, and an equally important measure enlarging Yellowstone National Park was approved unanimously by the House of Representatives. These last two measures, however, failed of final enactment in the closing days of the Sixty-fifth Congress. Nevertheless, the measures that were put on the statute books during the year marked a tremendously important step in rounding out the park system. It should be noted also that the legislature of California passed a law ceding jurisdiction over Yosemite, Sequoia, and General Grant National Parks to the Federal Government.

By the establishment of the Grand Canyon and Lafayette National Parks, the number of parks was increased to 18, while the monuments under the National Park Service were reduced to 23. Lafayette Park having been Sieur de Monts National Monument prior to its advancement to the park class. The creation of the Grand Canyon National Park also reduced the number of monuments under the control of the Department of Agriculture to 10.

The total area of the national parks is now 10,739 square miles, or 6,872,960 acres, and the area of the national monuments is 1,931 square miles, or 1,235,840 acres. There is one national park on the Hawaiian Islands, one in Alaska, and 16 in the States. Lafayette Park is the first scenic national park to be established east of the Mississippi River. There are two monuments in Alaska that are under our jurisdiction, but the others are in the States west of the Mississippi.

The first national park to be established was Hot Springs, first set apart in 1832. Yellowstone came second in 1872, and its development by the Government was really undertaken in advance of the former park. The last parks to be created, Lafayette and Grand Canyon, were both established on the same date—February 26, 1919. The first monument to be established was Devils Tower National Monument in Wyoming, September 24, 1908, although Casa Grande National Monument was first reserved in 1892 under a special act of Congress relating to that particular group of ruins.

**SYSTEM NOT YET COMPLETE.**

There are several important steps yet to be taken by Congress before the national-park system is complete. Several new national parks should be added to the group already created, and there should be some important extensions of a number of the existing parks.

These extension projects will be discussed later in this report under the outlines of the needs of the respective parks. They include the enlargement of Sequoia National Park and the changing of its name to Roosevelt National Park, the inclusion of the Tetons Mountains and other scenic territory in Yellowstone National Park, and the addition of the Diamond Lake region to Crater Lake National Park. Likewise there is a pressing necessity for adding the Mount Evans region to Rocky Mountain National Park. It is not unlikely that certain changes should be made in Yosemite National Park, some lands being excluded and other lands in the High Sierras being included. Also, it seems essential that the east boundary line of Glacier National Park be extended to the section of the park highway that traverses the Blackfeet Indian Reservation.

**PARK STATUS FOR ZION AND BANDELIER MONUMENTS.**

Two national monuments should be raised to the dignity of national parks. One of these, Zion National Monument in Utah, is already receiving the consideration of Congress, and a bill providing for its elevation to the park class has been passed by the Senate. It was slightly amended in the House of Representatives and at this writing the amendments are being considered in conference. The other project relates to Bandelier National Monument in New Mexico. Now situated in a national forest, it is under the control of the Department of Agriculture. It contains a vast number of prehistoric ruins, including cliff dwellings entirely different from any in Mesa Verde National Park, enormous pueblos, and several remarkable shrines. Furthermore, these interesting objects of antiquity abound in a beautiful mountainous region accessible by railroad and automobile. When made a national park, this region would splendidly complement Mesa Verde Park.

Two bills providing for giving the Bandelier Monument and its surrounding region a park status are now pending in Congress. One proposes to call the new park the National Park of the Cliff Cities, and the other measure contemplates the establishment of the Pajarito National Park. The latter bill covers a smaller territory than the former, but nevertheless it includes within the boundaries all of the prehistoric ruins and the finest scenery of the region.

**THE PROPOSED REDWOOD NATIONAL PARK.**

In my report for last year I mentioned that plans were being formulated for the acquisition of a stand of redwood trees of the species *Sequoia sempervirens*, which is native to the coast regions of California and southern Oregon. Splendid forests of these trees are fast being cut, and if anything is to be accomplished in
the way of preserving a tract of the best of these trees it must be done quickly. This necessity for immediate action prompted the organization of the Save the Redwoods League, of which you are the head. Since the organization of the league was completed much has been accomplished, particularly in bringing to the attention of the people the precarious situation of the redwoods, and in stimulating interest in their preservation.

On July 8, 1919, Congressman Clarence F. Lea, of California, introduced in Congress House resolution 159, which brings the redwood problem definitely before Congress and which, if adopted, will result in the presentation of a comprehensive report on the redwood situation to the national legislature which may secure national aid in preserving these noble trees. The resolution reads as follows:

Resolved, That the Secretary of the Interior be, and is hereby, directed to investigate and report to the House of Representatives as to the suitability, location, cost, if any, and advisability of securing a tract of land in the State of California containing a stand of typical redwood trees of the species *Sequoia sempervirens* with a view that such land be set apart and dedicated as a national park for the benefit and enjoyment of the people of the United States and for the purpose of preserving such trees from destruction and extinction, and also as to whether or not the whole or any part of such lands or the purchase price thereof would be donated to the United States, and the probable cost of maintaining such lands as a part of the national park system.

On my recent automobile trip over some proposed sections of the park-to-park highway during the past summer, I visited some of the best groves of redwoods in California. I was strongly impressed not only with the importance of preserving one or more big groves of redwoods, but of making the highways which are to be provided by the State through this region an alternative route of the interpark road system.

I was accompanied by Mr. Madison Grant, of the New York Zoological Society, who, acting in the capacity of organizer for the Save the Redwoods League, assisted me greatly in bringing the attention of the local communities to the importance of preserving timber along all of their highways.

In connection with the preservation of groves of the redwood trees three lines of activity have been proposed, as follows:

1. The acquisition of a large tract of redwood timber as a national park.
2. The establishment of county parks by Humboldt, Del Norte, and Mendocino Counties, each of which would preserve rather small but exceedingly important stands of redwoods. Such a park has already been established by Sonoma County, which recently acquired the well-known Montgomery grove of 7,000 acres.
3. The construction by the State of California of a highway through the redwood regions, preserving strips of timber from 300 to 1,000 feet wide as a part of this road project, the highway to run through the center of the safeguarded strip.

If these projects could all be carried out, examples of the finest stands of timber that have ever been known in the history of the earth, according to eminent authorities like Henry Fairfield Osborn, president of the American Museum of Natural History, would be preserved for all time, and if properly brought to the attention of the public through the medium of maps showing the newly acquired areas, together with Muir Woods National Monument and the present State Park in the Big Basin, San Francisco, motorists visiting California would find a marvelous exhibit of redwoods to enjoy. Add to this a trip to Sequoia and General Grant National Parks and to the Mariposa Grove in Yosemite National Park, and a "redwood trip" would be possible that would vie in interest with any other trip in the world.

Mr. George Horace Lorimer, editor of the Saturday Evening Post, during a tour of a number of the national parks, was thoroughly impressed with the need of saving the redwoods of California. In an editorial entitled "Selling Scenery," one issue of the Saturday Evening Post of October 11, 1919, he points out that the saving of the redwoods is as much a national matter as if Independence Hall or the Capitol at Washington needed saving from destruction. He concludes his editorial with the following paragraphs:

It is natural and human that the men who put their money into these trees should want to coin them into grape stakes or into whatever else the local market wants. But there should be a big national market for standing redwoods. A little of that unrest we keep hearing about is not the fact that we are restless about the right things. Saving the redwoods is one of those things.

Selling beauty is a dangerous business. But buying beauty and keeping it unspoiled to enjoy and pass on—that is a different matter. Why not endow a forest or a mountain or a canyon for the people, as well as a college?

By way of emphasis I mention again the necessity of preserving strips of redwood timber along the roads that California is building or will build to the northern section of the State. The same observation applies to roads now under construction in Oregon, or that will probably be undertaken. A strong effort is being made to plant trees along the transcontinental highways which will soon link up the various sections of the East with the West, and it certainly behooves us to preserve the trees along highways where they already exist.

I am leaving no stone unturned to secure the preservation of trees along approach roads to Mount Rainier and Yosemite National Parks and along the highways within Yosemite and Glacier Parks, where the roads traverse private holdings. There are, however, many problems connected with the safeguarding of the strips of trees necessary to preserve the sylvan beauty of these highways that are very difficult to solve, and in almost every case cooperation of agencies unconnected with the National Park Service is necessary. In certain projects the Forest Service will be able to help materially by making exchanges of timber along roadsides for merchantable timber in the near-by forests, but in other cases only the whole-hearted, enthusiastic, interested aid of entirely unofficial organizations and individuals can help us meet the conditions confronting us.

The general offices of the Save the Redwoods League will be maintained at the University of California, Berkeley, Calif. Dr. J. C. Merriam, of that institution, is general secretary of the league.

**THE SAND DUNES OF INDIANA.**

Since the close of the war renewed interest has been taken in the idea of establishing a national park in the sand-dune area of northern Indiana. Individuals who know the dunes intimately and who have a true appreciation of their beauties, and societies of which
these lovers and users of the dunes are members, are preparing to arouse wide consideration of this park project. They realize that if steps are not taken soon to set apart a section of the dunes area as a national playground, it will be cut up and sold for commercial uses of one kind or another.

It will be recalled that in the autumn of 1916, pursuant to the request contained in a Senate resolution, we conducted a careful investigation of this sand-dune park proposal, holding hearings on the plan in Chicago and later publishing a comprehensive report on the findings. This report has been in constant demand, and the first edition has become exhausted. A new edition will soon be published for use in the forthcoming campaign to safeguard a portion of the dune area.

The people who are interested in this project understand clearly the policy of Congress relating to the purchase of land for national parks, and are not preparing to call upon the Government for funds to aid their enterprise. On the contrary, they expect to enlist the financial aid of unofficial bodies and of individuals in the purchase of as much of the dune region as possible.

I will be much interested in the progress of the movement to save a bit of the typical sand-dune landscape. It is entirely unique, and the region possesses, in addition to this, recreational advantages of national importance. The Lake Michigan beach, a part of the sand dune area, would alone furnish pleasure to hundreds of thousands in the summer season, while a tract of from 8,000 to 12,000 acres, including some of the woodlands, would offer opportunities for camping that could hardly be excelled in most of the big parks of the West.

I hope the movement may splendidly succeed.

MAMMOTH CAVE NATIONAL PARK PROPOSED.

In my last report I called attention to the advisability of placing in a national park the Mammoth Cave of Kentucky, and possibly the Great Onyx Cave, not far distant from it. On May 26, 1919, Representative R. Y. Thomas, of Kentucky, introduced H. R. 3110, a bill "Establishing the Mammoth Cave National Park," but no action has been taken on the measure as yet. It proposes the outright purchase of the Mammoth Cave for national park purposes. I renew my observation of last year that this region is a worthy candidate for parkhood and that its acquisition should be seriously considered at this time. Whether it be purchased by Congress or whether it be acquired by private funds and donated to the Government, it ought soon to become the Nation's property.

EASTERN NATIONAL PARKS.

Any discussion of the sand dunes of Indiana or of the Mammoth Cave region of Kentucky as possible national parks raises the question of national parks in the East and the method of acquiring such areas. That there should be a group of parks in the eastern section of the country which would include the best examples of its varying landscape and some of its most wonderful natural features can not be denied. Not only is the East entitled to recognition of the importance and value of these features by having placed upon them the stamp of superlative excellence which the national-park Status conveys but the people of the Nation are entitled to have them selected, described, and developed for their benefit.

As to the means of acquiring parks in the East, Congress, as I have said, has never adopted a policy of purchasing lands for this purpose, but there seems to be a precedent for such action by its authorized purchase of national forest lands in the Appalachian Mountains in accordance with the provisions of the Weeks Act of March 1, 1911. On the other hand, no more noble gifts could be made to the Nation by public-spirited individuals than tracts of land suitable for national parks or monuments.

GIFTS OF LANDS FOR EASTERN PARKS.

Such a gift was made when the lands that now form Lafayette National Park were conveyed to the Federal Government as a national monument—the Sieur de Monts National Monument, created July 8, 1916.

Again, the upper reaches of Grandfather Mountain, in North Carolina have been tendered to the Federal Government for park purposes, and authority has been granted by Congress for the acceptance of the tract. An examination has been made of the area, and it has been finally determined that it is not susceptible of development as a national park.

In the will of the late Joseph Battell, of Middlebury, Vt., a devise of 4,000 acres of fine forest land in the Green Mountains was made to the United States for a national park. As yet it has not been possible to examine the land and determine whether or not it is worthy of acceptance for park purposes. Unless, of course, it fully complies with the high standards of our park policies with respect to new parks, we can not recommend to Congress that the lands be accepted under the terms of Mr. Battell's will.

THE NATIONAL MILITARY PARKS.

A further question that naturally arises in a discussion of eastern national parks relates to the national military and other parks under the control of the War Department. All of these parks are in the Eastern States, the one farthest west being Vicksburg National Military Park on the shores of the Mississippi. The others are Gettysburg in Pennsylvania, Chickamauga and Chattanooga in Tennessee and Georgia, Antietam in Maryland, Guilford Courthouse in North Carolina, and Lincoln's Birthplace in Kentucky.

Should they not belong to a general national park system and be under the jurisdiction of the National Park Service? With very few extensions of our administrative organization these parks could be cared for splendidly. It seems illogical that control of national park areas should be so divided. Certainly if it should be concentrated under one bureau the entire system could be better ad-
ministered. Furthermore, greater interest in the historic places of the Nation could be stimulated by promotive and travel literature issued in connection with the development of the scenic parks of the country.

**CONSOLIDATE NATIONAL PARK AREAS UNDER ONE HEAD.**

Reference is made to the chart opposite, which shows a still further division of control of our national park areas than I have yet mentioned. Besides the War Department control of the national military parks and Lincoln's Birthplace National Park there are 10 national monuments under the jurisdiction of the Department of Agriculture, all of which should be a part of a single national park and monument system. Likewise the two national monuments under the War Department should be a part of a unified system. It is to be hoped that Congress will remedy this illogical situation in the early future.

It is interesting to note that the Dominion of Canada not only had a national park bureau long before a similar organization was established here, but that our northern neighbor placed full control of all of her parks, scenic and historic, under this bureau regardless of where they were located or what prompted their creation.

**APPROPRIATIONS AND REVENUES.**

Appropriations for the current fiscal year were small, only $754,195 having been made available for the entire park system, including the new Grand Canyon National Park, for which no appropriations have heretofore been made. Last year the total appropriations were $1,062,205, including $50,000 to be expended in Crater Lake National Park in the improvement of roads under the jurisdiction of the Army Engineers. It is fair to note, however, that last year $140,000, together with $50,000 from the revenues of the reservation, was made available for the construction of a new free bathhouse and administration building at Hot Springs Reservation, which, owing to war conditions, was not spent and was reappropriated for the current fiscal year in addition to the fund of $754,195 above mentioned.

Nevertheless, in view of the enormous travel to the national parks and the extraordinary wear and tear which the roads and trails and other improvements suffered, not to dwell upon the extra burdens of patrolling the national parks in a season when the fire hazard was unusually great, the appropriations were far too small. It is true they were made in accordance with estimates for the current fiscal year, but the estimates, at the request of the Committee on Appropriations, were placed on a "rock-bottom" basis in view of the prospective continuance of the war. The estimates contained no requests for new construction work, except for the completion of the El Portal Road in Yosemite National Park, and this was the only road improvement project that the appropriation act authorized for the year.

Due to the fact that our use of the revenues of the various parks, except Hot Springs Reservation, was prohibited by legislation in 1917, the funds earned in the operations of the parks could not be used to meet the need for more funds than were appropriated by the sundry civil act.

Furthermore, Congress omitted to give us a special fire-fighting fund for the park system. The lack of this fund greatly handicapped our operation of Glacier and Yellowstone National Parks, where extensive fires broke out, compelling the use of road-maintenance funds in fighting the flames. Reimbursement of the appropriations of these parks is made in a pending deficiency bill, but this money comes too late to perform work that will benefit the traveling public. The season has long since closed.

I can not too strongly urge the necessity for providing a general fire-fighting fund for the national parks, to be available in any park where fires happen to occur. It will not only provide insurance against extensive injury to the parks but it will protect the road and other maintenance funds against depletion just at the time when they are needed most in the upkeep of the parks.

**REVENUES INCREASING.**

Despite the fact that travel in the national parks fell off during the season of 1918, the revenues decreased very slightly. This is particularly remarkable when we consider the fact that the biggest revenue producer, Yellowstone Park, suffered a very large decrease in visitors. The total revenues for the fiscal year ended June 30, 1918, were $217,230.55, while the receipts for the fiscal year ended June 30, 1919, were $196,708.05.

The current fiscal year, however, will produce more revenues than any previous year. On October 13, 1919, they had reached $171,305.12. This fund will undoubtedly reach $250,000 before the end of the fiscal year, or approximately one-third of the amount of the appropriations for the year. In Yellowstone and Mount Rainier National Parks the revenues will reach about 50 per cent of the appropriations.

If large appropriations should be made for a few years in order that the roads and trails of the parks might be extended and improved sufficiently to attract an enormous volume of travel to every park in the system, the revenues could be brought to a figure approximating the cost of the administration, maintenance, and protection of these reservations.

**THE YEAR IN THE PARKS.**

The following summary of conditions in the parks and monuments during the past year, their important needs, and our plans for their early future development and improvement is purposely made brief in view of the very comprehensive reports of the superintendents which have been printed in full in Appendix B.

**YELLOWSTONE NATIONAL PARK.**

Yellowstone, biggest and best known of all the national parks, has advanced with mighty strides during the past year. The action of Congress in granting to the National Park Service absolute control of the park's affairs, including its protection and improvement, is chiefly responsible for this progress, because it opened wide the door of opportunity to develop the park in harmony with the general pui-
cies of the department and under a permanent management. Much was expected of this unified control; and although the permanent organization is not yet complete, the new order of things has much more than justified its establishment. Its accomplishments, as observed by me on a recent trip through the park, were evident on every hand, and yet the intangible achievements connected with the operation of this great reservation in a season of enormous travel were certainly very much greater and more far-reaching in their influence than the physical improvements and evidences of efficient protection of the natural resources of the park that were to be seen on a tour of the park covering the ordinary routes of travel.

ADMINISTRATION OF THE PARK REORGANIZED.

On July 1, 1918, the law authorizing the withdrawal of the military forces engaged in protecting Yellowstone Park became effective, but the 1918 season came to an end and autumn was well advanced before the War Department could arrange for the abandonment of Fort Yellowstone. The old post was finally turned over to the National Park Service on October 31, 1918. The engineering work, however, was formally transferred to the Service with the beginning of the past fiscal year, the officer of the Corps of Engineers of the Army in charge, Maj. G. E. Verrill, having received orders to proceed to another post of duty. However, uncertain conditions governing every activity of our field service, due, of course, to the war, made it inadvisable to attempt the immediate organization of the permanent administration; hence our efforts to coordinate the various elements of control were confined to temporary measures. These continued in effect until the beginning of the present season.

ASSISTANT DIRECTOR ALBRIGHT BECOMES SUPERINTENDENT.

In June, 1919, the assistant director of the Service, Mr. Horace M. Albright, who had been my chief aid for over four years, and who had made a most comprehensive study of conditions in the Yellowstone region with a view to the future broad development of the park, was appointed as its chief executive. Mr. Albright assumed the duties of the superintendent’s office on July 1. His long experience in dealing with the affairs of the parks and his extensive traveling in all parts of the park system, in addition to his intimate knowledge of conditions in Yellowstone Park and his deep interest in its welfare, have particularly qualified him for his new office. Mr. Chester A. Lindsley, former chief clerk of the park, who efficiently guided the administrative affairs of the Yellowstone during the war emergency and the period of transition from military jurisdiction to the control of this bureau, has been appointed assistant superintendent.

Further organization of the permanent force of the park will proceed rapidly, and concurrently comprehensive measures will be proposed for the improvement of the park and the encouragement of its larger and more beneficial use by the people of the Nation.

ALL TRAVEL RECORDS BROKEN.

Yellowstone Park was toured this year by more people than ever visited it before in a single season. The travel record of 1915, the

"Exposition year," when 51,895 people visited the park, was broken shortly after the middle of August, and as this report is written the news comes to me that the total number of tourists entering the park this year will exceed 62,000. The average travel per season for the 10 years immediately preceding 1919 has been less than 29,000, and, excluding the record year 1915, the seasonal travel of the past decade has averaged about 26,000. This remarkable increase in travel considerably exceeded our highest estimate of the number of people who would visit the park this season, and no one will contend that the coming of this vast throng of tourists could have been foreseen. The travel by rail could probably have been predicted, but the largest portion of the total number of visitors came in automobiles from every State of the Union. It was the motorists that could not be estimated in advance of the season. As the travel tables in the superintendent’s report in Appendix B will show 21,275 visitors came to the park by rail lines and 40,986 by privately owned means of conveyance—a truly remarkable record considering the present limitations on travel promotion by railroads, the motor travel of the past years, and the fact that Yellowstone Park is remote from large cities and in a relatively sparsely settled region.

HOTELS AND PERMANENT CAMPS SOMETIMES OVERTWORTHED.

The absence of any facts upon which an estimate of travel to the Yellowstone could be based made it impossible to ascertain what accommodations ought to be provided for the season’s business. It appeared in the early spring that it would not be necessary to open the hotel and camp at Yellowstone Lake, nor did it seem advisable to do this, because the hotel required certain important repairs and the camp had to be rebuilt. Later, when the prospects for heavy travel improved, it was too late to employ necessary assistance to improve the plants and operate them. The result of this curtailment of accommodations was an overcrowding of the hotel and permanent camp at the Grand Canyon of the Yellowstone at the period of heaviest travel. This shortage of sleeping quarters, however, only became serious in times of storm, when hundreds of motorists camping in the park sought the shelter of hotels and camps more substantial than their own. These occasions were few, however.

MORE ACCOMMODATIONS AVAILABLE IN 1920.

Work has already been undertaken in the hotel and camp at Yellowstone Lake, and next year these plants will be operated to their fullest capacity. The camp at Tower Falls, known as Roosevelt, in commemoration of the late ex-President’s visit in 1903, will be greatly expanded and improved before the opening of next season. Thus there will be four large hotels and five permanent camps available for the public next year. The Fountain Hotel, abandoned in 1917, when the transportation of the park was motorized, is in a state of dilapidation that probably places it beyond repair.

It was only a few years ago that Yellowstone Park seemed equipped with hotel accommodations beyond even her future needs. Now, it is clear that very shortly all of her hotel and permanent camp establishments must be expanded enormously and at large expense. It will be
our policy to require expansion of these plants each year to an extent consistent with the maintenance of good service to the public.

In May, 1919, Howard H. Hays, formerly manager of the Bureau of Service: National Parks and Monuments, of the United States Railroad Administration, purchased the property and franchises of the Yellowstone Park Camping Co. He brings to the park a splendid enthusiasm and confidence in the recreational and educational advantages of the Yellowstone region, which, combined with his knowledge of conditions in all of the parks of the system gained in his railroad experience, make his business connection with the Service particularly helpful.

**MOTORISTS CAMP OUT IN THE YELLOWSTONE.**

More interesting to me than the fact that over 62,000 people visited the Yellowstone this season is the report of the superintendent that nearly half of the tourists camped out, using equipment and supplies brought with them in many instances from States as far distant as the Atlantic seaboard. Not a few of the cars outfitted for camping were large and costly. During the greater part of the season from 5,000 to 6,000 people were enjoying motor trips over the road system each day, while night found them sitting around hundreds of camp fires or forming the throngs at the hotels and camps.

The private camping outfit of the motorist has gained for the Yellowstone widespread recognition of its great resort possibilities. The public is coming to the full realization of the fact that this is a scenic and recreative park of the first order, as well as a wonderland of nature’s curiosities. The beauties of its mountains, lakes, waterfalls, canyons, and forests are gripping the traveler with the same power that has long been exercised by the geysers, hot springs, fossil forests, and similar features. He is enjoying a new Yellowstone.

**BIG AUTOMOBILE CAMP GROUNDS NECESSARY.**

The use of the park by motorists bringing their own camp outfits has clearly demonstrated this year that we must develop the automobile camp on a very comprehensive scale. Plans already outlined by the landscape engineer of the service and the superintendent call for the improvement and maintenance of over 50 large camp grounds reasonably adjacent to the park roads. The most important grounds will be made available for next season’s use. Water will be piped from streams and lakes known to be free from pollution of any kind, comfort stations will be built, and cooking grates will be provided. As all of the wood in the vicinity of the camp grounds was utilized this year, fuel must be sawed for each new camp before the opening of the new season. Camps of this kind, but on a small scale, have been maintained at the principal points of interest in the park for several years, but they were wholly inadequate to accommodate even a small proportion of the motor parties of the past summer.

**THE CHARM OF YELLOWSTONE TRAILS.**

Many people who visited the park in the days of the stagecoach declare that it has lost much of its romance and charm, that it seems less wild. They recognize that the regular tour of the park is more
A. JACKSON LAKE AND THE TETON MOUNTAINS IN THE PROPOSED ENLARGEMENT.

Grand Teton, elevation 13,747 feet, on the left, and Mount Moran, elevation 12,100 feet, on the right. The elevation of Jackson Lake is 6,700 feet.

B. AUTOMOBILE CAMPERS BELOW MAMMOTH HOT SPRINGS TERRACES.

YELLOWSTONE NATIONAL PARK.
A. SHOWING OLD ROAD AT RIGHT.

B. OF EASY GRADE AND AMPLE WIDTH.

NEW GARDINER ROAD, YELLOWSTONE NATIONAL PARK.

Photographs by J. E. Haynes.
comfortable and generally more satisfactory, because of the greater amount of time that the visitor has to spend in seeing the most remarkable features of the park, but they experience a longing for the stillness of the forests and peculiar fascination of the park in the stagecoach days. It was inevitable that the automobile should revolutionize the park tour, just as it changed travel conditions everywhere and turned into memories cherished methods of seeing and doing things. However, the old atmosphere of the Yellowstone is still to be enjoyed, not perhaps on the roads, but certainly only a few hundred yards distant, where the trails take their winding course through the forests. Wild animals are abundant along the trails, and the wild flowers grow in greatest profusion. No wildness has been lost from these trails; no charm of the old West has vanished. The trails should be used, and I am happy to state that a considerable number of parties came through the park with pack trains this season. More are coming next season. Some of these trail parties, among them one headed by former Secretary of the Interior Walter L. Fisher, saw nearly every species of wild animal that inhabits the park, including the wild bison of the upper reaches of the Lamar River and the moose of the Upper Yellowstone.

More trails needed.

There are more than 300 miles of tourist trails in the park, and over 200 miles of fire lanes and patrol routes. Some of these trails need repair, and the system should be extended, especially in the Absarokas and east and south of Yellowstone Lake, the wildest section of this great reservation. It is particularly necessary that a trail be built around the arms of Yellowstone Lake connecting Heart Lake and the Upper Yellowstone River. Trails over Jones Pass and Eagle Pass into the Shoshone country should be built soon, and everywhere that a trail does not parallel a road one should be constructed, because riding horses along motor roads is both unpleasant and unsafe.

It is altogether likely that when the park is extended to include the headwaters of the Yellowstone, Pacific Creek, and the Teton Mountains the trail system can be so extended as to make it the equal of any mountain trail system in existence.

Park extension bill in Congress.

In the annual reports for 1917 and 1918 we urged the enlargement of Yellowstone Park by the addition of the Teton Mountain region, the country north of the Buffalo Fork of the Snake River, and the territory at the headwaters of the Yellowstone River. The Mondell bill, 1 H. R. 13350, of the Sixty-fifth Congress, passed the House of Representatives on February 17, 1919, but when it came up in the Senate an objection was interposed to its passage. The difficulties that prompted the objection were later explained satisfactorily, but in the rush of business at the close of the session there was no other opportunity for consideration of the measure. Early in the Sixty-sixth Congress Mr. Mondell introduced H. R.

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1 See p. 319 for committee report on H. R. 13350 containing favorable reports of both the Department of the Interior and the Department of Agriculture.
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1412, similar to the bill of the previous session, and this legislation is now pending.

Some opposition has developed against this project, but much of it is caused by a misunderstanding of the terms of the bill. On the other hand, a few of the opponents are seeking grazing privileges in the extension area, especially in the Buffalo Fork region. All existing rights and privileges enjoyed in the country proposed for addition to the park are fully protected in the Mondell bill. Practically all of the territory is within the boundaries of a State game preserve. All of it is in a forest reserve at the present time. It belongs absolutely to the Federal Government. Both the Interior Department and the Department of Agriculture have endorsed the extension plan, and there seems to be no good reason why the project should not be adopted except that the Buffalo Fork region might be needed for the pasturage of cattle. The Biological Survey, officers of the Forest Service, and others who have studied the problem of the southern herd of elk declare that this Buffalo Fork territory is needed for summer range for the elk. If this is the situation, it must always serve this purpose and ought to be put in the park.

The statement of any other merits of this project would merely be a reiteration of arguments of my last report, and the reasons set forth in the House report on the extension bill already referred to in the footnote.

THE TETONS VALUABLE ONLY FOR PARK PURPOSES.

The Teton Mountains and the headwaters of the Yellowstone River can never be put to any commercial use. There should be no question about their preservation forever in a state of nature as a part of the park. These magnificent Tetons are each year becoming better known, and already hundreds of tourists have claimed them for the park. Naturally belonging to the park, they should be formally added at the earliest practicable date, in order that immediate steps may be taken to render them more accessible to Yellowstone visitors. The statement of any other merits of this project would merely be a reiteration of arguments of my last report, and the reasons set forth in the House report on the extension bill already referred to in the footnote.

THE MENACE OF IRRIGATION PROJECTS.

Since the close of the war, certain irrigation works have been projected which contemplate the use of waters of Yellowstone Park. I am not advised as to the details of these projects, but my own understanding plans for the utilization of Yellowstone, Lewis, Shoshone, and Heart Lakes and the Falls River Basin as storage reservoirs. With possibly one exception, all of these plans propose the construction of dams, the raising of the water levels of the lakes, and the flooding of timbered land along the lake shores. In the case of the Falls River project, a vast area of forested parks and marshes would be flooded, thus ruining what is probably the best range for moose in the park. Approximately 600 moose thrive in this region at the present time.

Frankly admitting lack of knowledge of what these projects would accomplish, I contend that there can be no utilization of the lakes of the park, or of the Falls River Basin for irrigation that will not bring with it desecration of the people's playground for the benefit of a few individuals or corporations. All of the lakes of the park are in heavily timbered districts. Great forests reach down to the water's edge. In some parts of the park, level tracts of land embracing thousands of acres lie at an elevation of only a few feet above the lake shores. Raising these lakes would kill millions of feet of timber, wipe out miles of roads and trails, and create a scene of chaos and destruction that would be an eyesore for a thousand years.

Is there not some place in this great Nation of ours where lakes can be preserved in their natural state; where we and all generations to follow us can enjoy the beauty and charm of mountain waters in the midst of primeval forests? The country is large enough to spare a few such lakes and beauty spots. The Nation has wisely set apart a few national parks where a state of nature is to be preserved. If the lakes and forests of these parks can not be spared from the hand of commercialism, what hope can we entertain for the preservation of any scenic features of the mountains in the interest of posterity?

Yellowstone Park has been established for nearly half a century. Every plan to exploit it for private gain has failed to receive the consideration of Congress. Mighty railroad projects have even gone down to everlasting defeat. Must all the victories of the past now become hollow memories by the granting of reservoir rights that will desecrate its biggest and most beautiful lakes, and form the precedent for commercial exploitation of all of its scenic resources—its waterfalls, its forests, its herds of wild animals, its mineral waters? It is to be hoped that the projects now being developed will meet the fate of the others that have come before Congress in the past.

THE ELK HERDS IN DANGER.

While the wild animals of the park, with the exception of the bison, have been in excellent condition during the past year, last winter having been mild in the extreme, the drought of the summer has so injured the fall and winter range in the park and in the adjoining forests that the outlook for next winter for several species of big game, especially the elk and antelope, is anything but promising. In anticipation of a long cold winter we have made all possible arrangements for caring for these animals. Considerably more than 1,000 tons of hay and other forage is now available for feeding, and these stocks would be further increased if we had more funds. This forage will be used in the northern section of the park. For the southern herd of elk, a large portion of which moves into the lower Jackson Hole in winter, the Biological Survey has made available at its ranch near Jackson a very large supply of hay. In

1 See sundry civil act of July 19, 1919, on p. 305.
MAP SHOWING PROPOSED ENLARGEMENT OF YELLOWSTONE NATIONAL PARK AND DEVELOPMENT OF SOUTHERN ENTRANCE.
Epidemic among the bison.

In February of this year an epidemic of hemorrhagic septicemia in the herd of tame bison ranging at the big farm in the Lamar River Valley resulted in the death of 36 animals. The cause of the epidemic has not been definitely determined. The bison will be vaccinated hereafter as a protection against the disease, and no further trouble of this kind is anticipated.

There are now 413 in the herd of tame bison, including 85 calves born this year. The wild-bison herd ranges on the headwaters of the Lamar River and is now composed of about 90 animals. It has been seen by several trail parties this summer, as well as by the rangers who know its haunts in the mountain fastnesses.

New telephone and telegraph lines needed.

In the protection of this great park from fire and in the dispatch of the public business, an excellent telephone system is an essential utility. Such a system has never been installed. The existing lines are not adequate to meet the ordinary requirements of the daily routine business, not to mention emergency calls. It is used by the

Winter feeding grounds necessary.

There are many steps to be taken in a program that will absolutely insure the perpetuation of the elk herds. Most of these measures relate to adjustments of one kind or another in the use of the adjacent forest reserves, but the all-important feature of the program is the purchase of lands in the valley of the Yellowstone north of the park for the cultivation of hay for the northern herds of elk and for the establishment of a feeding ground for use in severe winters when the elk leave the park, and the purchase of additional land in the Flat Creek Basin of the Jackson Hole to greatly enlarge the Biological Survey elk farm for the winter care of the southern herds. It will require several hundred thousand dollars to carry out this program, but it is worthy of the consideration of every public-spirited individual and society of the Nation.

In the safeguarding of elk herds the enlargement of the park, as already discussed, is a factor of great importance, because much of the territory involved in the extension is used by the southern elk bands as a summer range, and a portion of it is the winter home of a considerable number of elk.

Road system in fine repair.

Although the very dry season made it extremely difficult to maintain the roads of the Yellowstone in good condition for travel, this result was attained, and when I visited the park early in September I found the highways in an excellent state of repair. In fact, I have never seen them in better condition.

The tremendous increase in travel to the park; and the prospects of further enormous increase in the use of automobiles on the roads, will make necessary the undertaking of some rather extensive improvements in the way of widening certain sections, renewal of bridges and culverts, construction of parapets, etc. The Firehole cut-off should be completed, and the old road along Yellowstone Lake from the Thumb region to Bridge Bay near the Lake Hotel should be restored.

Next year the road in the northwestern section of the park connecting with the highway through the splendid colored canyon of the Gallatin River—the approach to the park from Bozeman—should be widened and improved, and the year following, as this reconstruction of the Gallatin Canyon road nears completion, the section of this highway from Grayling Creek to Yellowstone, Mont., at the western entrance, now outside of the park, should be relocated within the park boundaries and entirely rebuilt.

Approach-road problems.

The east and south approach roads to the park, running through adjacent forest reserves, require considerable permanent improvement including, in the case of the east or Cody approach highway, the installation of several new bridges.

The performance of such work outside of the park on strictly tourist highways is certainly a proper field for Federal assistance.
Similar aid is desired by Montana authorities in the upkeep of a portion of the northern approach road from Livingston to Gardiner at the north gateway. This highway is used to considerable extent by residents of the Yellowstone Valley north of the park and, because of this use, Montana should bear a very substantial portion of the burden of maintaining this road. On the other hand, its local use is exceeded greatly by the travel of Yellowstone Park tourists, and, for this reason, the Federal Government should undoubtedly either take over the upper or southern third or half of the road or contribute generously to the State in aid of its improvement work on the highway.

RANGER STATIONS AND SNOWSHOE CABINS.

The buildings of Yellowstone Park, except at Mammoth Hot Springs and in a few other sections of this great reservation, are in need of repair or reconstruction. Most of the ranger stations were built many years ago for the summer housing of troop detachments. They are not fitted for the use of rangers, and several of them are in such a dilapidated condition that it would be false economy to repair them instead of constructing new buildings.

It is particularly necessary to build new ranger stations and information offices in connection therewith at Upper Geyser Basin, Yellowstone Lake, and Grand Canyon, the three great centers of tourist interest aside from Mammoth Hot Springs. These should be built next year.

Likewise the snowshoe cabins of the park, which are constantly used in the dead of winter by patrolling rangers, ought to be rebuilt and refurnished. They are old, in bad repair, poorly located, and unsatisfactory from every standpoint. The ranger force of every park, considering the nature of its work, should have dry, sanitary quarters, and, in winter, the means of overcoming the effects of exposure while on long patrols in below-zero weather. Such quarters are few in the Yellowstone, where the weather conditions are more severe in winter than in any other member of the system. This is frankly an appeal in the interest of humanity.

GLACIER NATIONAL PARK.

So far as tourist travel is concerned Glacier National Park had a most successful year, but in some other respects the season was disappointing and unsatisfactory. The underlying cause of the incomplete success of all features of the operation of the park was the lack of rain, which caused the forests to become veritable tinder boxes, and made it particularly difficult to maintain the roads and trails in good condition. Forest fires were started by lightning or by careless campers and raged furiously in different sections of the park, sometimes six or eight burning at one time, and fire followed fire for nearly two months. Scarcity of labor, due to unprecedented demands for fire fighters in the national forests of the State, made it unusually difficult to get the park flames under control or to keep them in hand when partly subdued. The lack of available men, of course, made it necessary to utilize road and trail crews in the fighting of fires. Thus it was quite impracticable to make any satisfactory progress in the maintenance or improvement of the park.

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DROUGHT AND FIRES STOP IMPROVEMENTS.

The lack of a general fire-fighting fund was a further serious obstacle to meeting the emergencies with which the park was confronted. Funds for protection and improvement of the park had to be diverted to the fighting of the fires. This so reduced the available funds that when the fires were all under control it was impossible to begin road and trail repair where the interruption of this work had taken place. At this writing the deficiency appropriation bill carrying funds to reimburse the regular appropriations for the park has not yet been enacted into law. Consequently a very small amount of improvement work was accomplished in the park this year.

The only fire which seriously marred the beauty of the park originated in the Dry Fork of the Two Medicine River and, fanned by terrific winds, swept down to the main valley. Fortunately it did not reach the heavily wooded section about Running Eagle (formerly Trick) Falls, nor did it proceed up the Two Medicine Valley toward the chalet system of the Glacier Park Hotel Co. An area of 3,000 acres in the park and a larger area around Lower Two Medicine Lake in the Blackfeet Indian Reservation were burned over.

SMOKE DIMS MOUNTAINS AND GLACIERS.

At no time was any of the main hotels of the park in the path of a forest fire, and with the exception of the Two Medicine group not a chalet system was ever in the slightest danger, yet whenever the smoke concentrated in certain sections of the park, which it did occasionally, and the mountains were obscured, wild rumors of danger were often spread by excited employees of the business enterprises of the park and by tourists themselves, sometimes with the result that vacations would be cut short by precipitate departure from the park region. Also there were visitors with only a few days to spend in the park who were unfortunate enough to arrive just when smoke conditions were exceptionally bad and they had to leave again before the pall lifted.

While these conditions were annoying in the extreme and caused real hardship in many cases, the majority of the people who visited Glacier National Park this season had most delightful trips.

LONG VACATIONS AS USUAL.

In recent years there has been a growing tendency on the part of Glacier Park visitors to spend longer and longer vacations at the hotels and chalets or on camping trips in the more remote sections of the park. This year the desire on the part of tourists to spend a long period of time in the park was even more general than has been evident in previous seasons.

Many more extensive camping trips were enjoyed in the park this year than ever before. Some of the parties that went into the mountains for long trail trips engaged unusually large outfits, and on two occasions there were so many of these parties on the trails that the shortage of saddle horses became acute.
SADDLE HORSES IN GREAT DEMAND.

Considering the extraordinary demand for saddle horses, and especially the demand for elaborate camping outfits, the business was handled in a satisfactory manner by the Park Saddle Horse Co.; in fact, better saddle-horse service was rendered this season than at any time since the creation of the park. The horses were generally in good condition and were well cared for. I do not mean to convey the impression that there is not room for greater improvement in this service, because it requires considerable development before it will be in a position to meet every unusual or emergency demand made upon it. I do, however, regard its progress as worthy of commendation, and the enterprise is certainly entitled to the continuance of the protection afforded it by the Federal Government. With more horses available for quick transfer to the park in times of emergency and with certain essential changes in its organization the company may be expected to give entirely adequate service through the next season.

TRIANGLE TRIP POPULAR.

As was expected, the triangle trip established near the end of the season of 1918 was exceedingly popular this year. It gives the tourist a saddle-horse trip of three days’ duration, in the course of which three passes are crossed, Swiftcurrent, Logan, and Piegan. The first two mentioned are trail crossings of the Continental Divide. There is great economy in the operation of a “triangle trip” in Glacier Park, both from the standpoint of the tourist and the saddle-horse owners. It gives the visitor three days on the trails at a very reasonable cost, and enables him to cover a comparatively large area of the park without getting too far away from his baggage. Also, it obviates the necessity of deadheading animals over the trails, and this again is in favor of the park administration, because horses without riders when being driven over the trails damage them extensively in the course of a season.

More triangle tours are needed, and the next one to be developed will probably include a section of the beautiful Belly River country north of the Swiftcurrent area, which is soon to be opened. Such a trip will cover a trail from Many Glacier Hotel on Lake McDermott by way of Appelkuny Mountain and Red Gap to the Belly River region, thence to Granite Park Chalets, crossing the Continental Divide through Ahern Pass. The third leg of the tour would be the trail through Swiftcurrent Pass to the point of beginning.

Another trip similar to this can be developed as soon as there are accommodations in the Red Eagle Valley for tourists. A trail from the upper Red Eagle region skirting Almost-a-Dog Mountain, thence via Virginia Falls to St. Mary Lake and Going-to-the-Sun Chalets would complete the triangle, two sides of which, from St. Mary Chalets to Going-to-the-Sun Chalets and to the Red Eagle region, respectively, are already available.

NORTH PARK TRAILS PLANNED.

Naturally, the opportunities for opening triangle tours are quite limited, but there must be continual construction of trails of all kinds and in all directions to keep pace with the growing interest in the remote sections of the park and the unopened beauty spots near the hotels and chalets that have already been established. Tourists are becoming more and more desirous of seeing the northern valleys of the park, which have been only partially opened by trail construction. Particularly is it necessary to open the Belly River region with a shorter trail from Many Glacier Hotel. This can be built through Red Gap, and is now being surveyed, blazed, and roughed out, with a view to early completion of construction work next season. The only trail into this region has skirted Chief Mountain and entered the Belly River region via Table Mountain.

Then, the Belly River country should be connected with Waterton Lake by a trail through Indian Pass. Appropriations for this trail are requested in our estimates for next year, as is another much-needed trail in the northern part of the park, connecting Browns Pass with Upper Kintla Lake via Hole-in-the-Wall Falls; it is now being necessary to go through Canada in order to reach Kintla Lakes from Waterton Lakes or the Belly River region. This trail should be built next year, not only for the benefit of the tourist but as an aid to effective administration of the park.

In fully developing the Belly River district, which now becomes most desirable, if not essential, other trails should be built to Margaret Lake, Sue Lake, Mount Cleveland Basin, and other near-by points of interest.

Other essential trails include a connection between the Sexton Glacier trail and the Piegan Pass trail via Preston Park and a trail to Hidden Lakes from the Logan Pass trail, also a trail via Middale Creek from Glacier Park Hotel to the Two Medicine region.

WALKING TRAILS PROPOSED.

No less important than extension of the horse-trail system is the construction of walking trails in Glacier Park, especially paths leading in various directions from the hotels and chalets to near-by points of interest. Trails of this type that must be constructed at once will lead to the summits of Mount Allen and Mount Alyn from Many Glacier Hotel; to the summits of Mount Brown and Mount Stanton from Glacier Hotel, on Lake McDonald; to Roes Basin and Goat Mountain from Going-to-the-Sun Chalets; and to Mount Jackson from Sperry Chalets. In order to protect the park from poaching, additional border patrol trails are needed along the southern and western park boundaries.

A COMPREHENSIVE ROAD PROGRAM.

I have discussed the trail needs of the park in advance of the roads, because the park is essentially a trail park now and must necessarily continue as such for a few years until our road program can be at least partly executed. Trails, too, are the forerunners of the roads, and it is probable that no complete road program for this park will ever be finally adopted until the trail system is entirely complete.

However, we now have a definite road-construction program ready to be undertaken as soon as money is appropriated for this purpose.
The survey for a transmountain road, undertaken last year, resulted in finding a perfectly practicable route through Logan Pass. The line as located provides for a road a little less than 50 miles in length, starting at the foot of Lake McDonald. The route is along the east side to the head of the lake, then up the beautiful McDonald Creek Valley to Trapper Creek, along Trapper Creek where it flanks the sides of magnificent Mount Cannon, thence over Logan Pass, through the Hanging Gardens, down Reynolds Creek, skirting the base of Going-to-the-Sun Mountain and along the north shore of Upper St. Mary Lake to Going-to-the-Sun Chalet, thence along the north shore and foot of St. Mary Lake to a junction with the Blackfoot Highway at St. Mary Chalet. It is doubtful if any other road in America can in the same distance unfold to the traveler such a grand array of beautiful and inspiring scenery, comprising large lakes, beautiful forests, dashing mountain torrents, wonderful gorges and valleys, towering cirques, a hundred waterfalls, glaciers, and a vista of bold needle-peaked mountains and serrated escarpments which are found only in our most northern Rocky Mountains, as will this road. This project has been completely developed by the engineering division, and it is proposed to begin the construction of the first unit of the highway next year. This will be the section on the east side of Lake McDonald from the Belton Highway to the head of the lake. It is estimated that it will require three to five years to complete this road.

Another road that should be built next season is the new road into the Lower Two Medicine region, which becomes necessary on account of the contemplated raising of the waters of Lower Two Medicine Lake for irrigation purposes. When the lake is raised it will cover the existing road. The new highway will be built on the north side of the river and along the ridge from the main Glacier Park-Many Glacier Highway to a point on the present road above the north shore of the lake.

A third highway included in our plans for next year's improvement will be built in the Belly River district between the international boundary and the junction of the south and middle of the forks of the river below Glenns Lakes.

ROADS OF THE FUTURE.

Other roads of the early future include an extension of the Cutbank Road some 6 miles nearer the head of the valley to the site of a new chalet group; the construction of a road up the Red Eagle Valley; a road along the shore of Lakes Josephine and Grinnell and probably up to Morning Eagle Falls; and a cut-off highway from Babb to the Belly River region by way of Sherburne Peak and Chief Mountain.

All of these roads can be constructed at a relatively low cost per mile as compared with ordinary mountain road costs, but because of the short working season, shortage of funds, and large mileage, it will require several years to carry out the program. Until many of these roads are built large automobile travel can hardly be expected. At the present time there is little for the motorist to do with his car, and when he wishes to go from one side of the park to the other he must ship it by rail or drive several hundred miles to the southward in order to effect a crossing of the Rockies.

Although shipping an automobile across the mountain at a cost of $12.50, which is the rate charged by the railroad, is less than the probable cost of driving even a small car across the Continental Divide, the fact that railway shipment is necessary deters most motorists that contemplate transcontinental or transmountain trips from touring by way of Glacier Park. It is thought that when our transmountain highway is completed the touring automobile travel to Glacier Park will approach if not equal that of Yellowstone.

STATE HIGHWAY CONSTRUCTION.

In my report of last year I mentioned the proposed highway to be built through Marias Pass following the line of the railroad. Lack of funds has delayed this project, and little work was accomplished this year. A contract has been let for the building of the road to the pass from the east side of the mountains, this work to be done under a cooperative agreement between State agencies and the Forest Service. This will leave the larger portion to be finished later. This project is exceedingly meritorious and will be a great convenience to Glacier Park tourists as well as to the National Park Service, aside from its great commercial advantage to the State of Montana. As the road traverses Government lands throughout its entire course it would seem especially worthy of a large measure of Federal assistance in its construction.

The State has continued to give some aid in the maintenance of the road up the North Fork of the Flathead River in the park, but this is a highway that should be greatly improved by us. It makes a very beautiful lake region accessible and if put in good condition for automobiles would greatly extend the motoring advantages of the park.

INDIAN RESERVATION ROADS.

As I have stated in another part of this report, the approach roads to the park across the Blackfoot Indian Reservation are not in proper condition for automobile travel, especially the roads east of the agency headquarters at Browning and north of Babb to the international boundary. The road between Browning and the park highway system has been recently repaired.

These reservation roads in their present condition are a distinct discouragement to motor travelers, and this season have been the cause of much criticism of the park-to-park highway between Yellowstone and Glacier Parks and the Canadian park system. They should be repaired at the earliest opportunity.

While visiting Glacier Park on its interpark tour, members of the Brooklyn Eagle party subscribed over $1,100 for the repair of the road between Babb and the Canadian line in order to give our park system a connection with the excellent highways of Alberta, and thus make travel between Glacier Park and Banff, in the Rocky Mountains Park, Canada, safe and comfortable. In recognition of this generous act, the people of Montana and Alberta have called this particular highway "The Brooklyn Eagle Trail."
The Belly River region is known to but relatively few people, but all who have seen it declare it to be one of the most beautiful mountain areas in the entire national park system. It has been formed by nature on a grander scale than the valleys of the park now accessible by the roads and generally traveled trails, and has a variety of charms that further distinguish it. Robert Sterling Yard, who visited this region two years ago, describes it in his “Book of the National Parks” as follows:

To realize the growing bigness of the land northward one has only to cross the wall from Iceberg Lake into the Belly River Canyon. “Only,” indeed! In 1917 it took us 40 miles of detour outside the park, even under the shadow of Chief Mountain, to cross the wall from Iceberg Lake, the west-side precipice of which is steeper even than the east. The Belly River drainage basin is itself bigger, and its mountains bulk in proportion. Eighteen glaciers contribute to the making of perhaps as many lakes. The yellow mountains of its northern slopes invade Canada. The borders of its principal valley are two monster mountains, Cleveland, the greatest in the park for mass and height, contribute to the making of perhaps as many lakes. The yellow mountains of its northern slopes invade Canada. The borders of its principal valley are two monster mountains, Cleveland, the greatest in the park for mass and height, and descends four giant steps, a lake upon each step, to two greater lakes of in altitude, minaret-like like a medieval fort and hollow as a bowl, its gaping bottom rich in grasses and flowers; the forests heavy and full bodied; there is no open place, even miles beyond its boundaries, which does not offer views of extraordinary nobility. Every man who enters it becomes enthusiastically prophetic of its future.

I dwell upon the Belly valleys because their size, magnificence, and accessibility suggest a future of public use; nothing would be easier, for instance, than a road from Babb to join the road already in France. The name naturally arouses curiosity. Why Belly? Was it not the Anglo-Saxon frontierman's pronunciation of the Frenchman's original Belle? The river, remember, is mainly Canadian. Surely in all its forks and tributaries it was and is the Beautiful River.

The Belly River is to be opened to the public next year. The trail connecting it with Many Glacier Hotel is already under construction. Early next season the Glacier Park Hotel Co. will open a camp in one of its most beautiful spots, and regular trips will be made between this camp and the big hotel. Furthermore, the camp will be made the base for trips all over the great watershed of the Belly River and into the Waterton Lakes region.

This development of the Belly River Valley will be an advance step as momentous as the opening of the St. Mary and Swiftcurrent Valleys, and will bring pleasure to thousands of lovers of Glacier's trails who will go back to use and enjoy the new facilities.

**TELEPHONE LINES AND OTHER IMPROVEMENTS.**

Because roads and trails are the crying need of Glacier National Park, I have laid special emphasis on these features, but next in importance to them is the pressing requirement of a new telephone system. As a fire protection and as an aid to administration of the park and the transaction of the business of the hotels and transportation lines, especially the saddle-horse enterprise, a good telephone system is essential. In Glacier Park our system is exceedingly poor. It should be rebuilt, and it is particularly advisable to build a line along the railroad from Belton to Glacier Park in order that communication may be had between the two sides of the park. Telephone lines should also be built to Waterton Lake and Belly River region.

**ADMINISTRATION SITE SUGGESTIONS.**

Further improvement of the administrative site at Belton is needed. A headquarters building and more quarters for employees are among the important requirements. Likewise the installation of an adequate water system should be undertaken in the early future.

The pending deficiency bill contains an item of $12,000 for a new bridge over the Flathead River at Belton, and this structure will be erected before the beginning of the next season.

**IRRIGATION WORKS IN OPERATION.**

The dam at the lower end of Sherburne Lakes is completed and the level of the lakes was raised considerably this season, backing up the water into the timber and creating a scene of havoc that was expected by all who have watched the progress of this irrigation project. It is almost too late to cut the trees and brush that will be killed by the raising of these lakes, but I reiterate that this work should have been done either as a part of the execution of the project or as a separate proposition under authority of Congress. The scenic beauty of the approach to the Swiftcurrent Valley and Many Glacier Hotel will be seriously impaired, and it is not unlikely that the road will be undermined and destroyed in places on account of this flooding, all to the detriment of the park. The only satisfaction that one can gain from the situation is that it becomes a glaring example of what is to be avoided in all of the national parks having lakes still untouche, and hence may serve some good purpose in national park protection.

It is possible that Lower Two Medicine Lake may be raised next year, thus injuring the approach to the main Two Medicine Valley and the chalet group. As the fire burned over part of the area that will be flooded, this valley is not likely to suffer as much from the water as the Sherburne Lakes region, but the fire devastation, combined with the action of the water, will make a situation just as unsightly to the park visitor.

**WILD ANIMALS FLOURISHING.**

In cooperation with the Biological Survey, during the past year, very satisfactory progress was made in destroying predatory animals. As a result, the deer of the park have become more numerous and other animals are in better condition on this account.

I am much interested in establishing a small herd of buffalo on the east side of the park, which is an old range of this animal. However, funds for this project are not available now, and it cannot be undertaken.
Fishing is becoming better each year, and it is evident that the hatchery established last year at Glacier Park station is successfully performing a great public service.

Desirable Park Extension.

For some years difficulty in protecting the wild life of the park and regulating traffic on the sections of the park road in the Indian Reservation have prompted the raising of the question whether or not the park lines ought to be extended eastward to include the road. This would give the elk and deer winter and early spring range within the park boundary, and would make it possible to regulate the herd limit of the private cars and otherwise protect automobile travel, and at the same time the road improvements.

This land, of course, must be purchased from the Blackfeet Indians, but it is necessary to the proper administration of the park, and will have to be acquired some time. It would be better to acquire it now, before it is allotted or opened to general settlement, than in the future, when much more trouble and expense will be involved in securing it. During the past year the constant trespassing of cattle on the roads has been a source of unending annoyance to tourists.

Connecting Yellowstone and Glacier.

Definitely associating Yellowstone with Glacier National Park in this report is simply following the general trend of events of the summer in the Northwest, and especially in Montana.

Early in the spring Montana entered upon a road improvement campaign that was probably as successful as any similar campaign ever undertaken. Led by Mr. H. W. Child, of the Yellowstone Park Transportation Co., and Mr. G. L. Ramsey, of Helena, a group of citizens toured the State in the yellow cars of the transportation company advocating road development in anticipation of a great influx of motorists during the summer.

So effective was this work that the entire State threw itself into the work of road repair. In some towns all business houses were closed, while their owners worked on the highways. Many road bond issues were passed upon favorably by the voters, and conditions were bettered everywhere.

The prospects of heavy tourist travel that prompted this movement were founded, of course, on the relation of Glacier and Yellowstone Parks to Montana. It was natural, then, that special attention was given to highways connecting or leading to these parks. Such attention was given to these roads in great abundance with the result that the interpark routes via Helena and Choteau and via Missoula and the Flathead Valley were in excellent condition except the portion of the Helena route that crosses the Blackfeet Indian Reservation.

In this connection it should be recorded that the "Geyser to Glaciers Highway" was organized and promoted during the season. It takes its course through Livingston, Bozeman, Three Forks, Helena, and Choteau, and is a very scenic route. The signs of this trail are very striking and effective.

The Yellowstone-Glacier Bee-Line Highway, which goes through Livingston, White Sulphur Springs, Great Falls, and Choteau, traversing the Little Belt Mountains, was not completed for traffic this year, but will be open next season and will be a popular route between the parks, not only because it will be a short route, but because it will be scenic. A convention of the Yellowstone-Glacier Bee-Line Highway Association was held in Livingston on August 15 and 16, 1919.

Interpark Auto Service.

Another exceedingly interesting development of the season was the operation of an automobile passenger service between the parks via the "Geyser to Glaciers" route. Cars of the Yellowstone Park Transportation Co. carried passengers to Helena from Yellowstone Park, where they were transferred to cars of the Glacier Park Transportation Co. and taken northward; likewise service was rendered in the other direction with Helena the transfer point. The line will be operated again next year.

To care for this and the great volume of other tourist travel that it enjoys, Helena is planning the construction of an enormous resort hotel.

Interpark Train Service Advisory.

An immense number of tourists also visited Yellowstone and Glacier, using train service between these parks. In fact, so many people made this trip between the parks that I regard this travel as an established business which warrants the use of a through sleeper between Gardiner and Glacier Park, and I believe the Northern Pacific and Great Northern lines should jointly arrange for this service. It would be a great convenience to the traveling public and would serve to bind together even more closely the common interests and destinies of the two great national parks.

Yosemite National Park.

Throngs of thousands of happy vacationists from late spring to the end of the summer season, Yosemite National Park in the year 1919 has attained a new record of usefulness in the life of the Nation. Vastly more people toured the park this year than ever before, and it is especially worthy of note that the upper reaches of this great scenic playground were more popular with visitors this year than during any past season.

Travel to the park began earlier than usual, and, what is more remarkable, the volume was sustained at a high level long after the falls of the famous valley had spent their flood waters and subsided to their normal summer flow, thus indicating that the scenery of the park aside from the falls and the unsurpassed opportunities for rest and recreation that it offers to the visitor have at last made their appeal felt, bringing a public response that will soon result in the use of every nook and corner of this beautiful mountain region.
THE NEW YOSEMITE.

This broader understanding and appreciation of the park became general even faster than we had dared to hope, although for years we have been looking forward to the time when the people would come to the realization that the Yosemite possesses vastly more charms than those of the great valley and its waterfalls, spires, and towering cliffs. We had anticipated a slower growth of the new conception, and this expectation was shared by the business interests of the park who, in common with our administration, found all facilities for accommodating the travel hardly adequate to render satisfactory service. However, our future course is now definitely marked for all of us, and likewise the time limits within which necessary improvements must be made have been indicated. Funds must be provided by the Federal Government for extensive development of roads and trails and sanitation systems, while the enterprises engaged in furnishing accommodations of various kinds must enlarge their establishments and better prepare to meet the ever-increasing demand for every type of service.

YOSEMITE VALLEY MORE POPULAR THAN EVER.

Travel in the Yosemite Valley this year was astounding, as many as 6,000 people enjoying its attractions at one time. Fully half of these visitors were accommodated in the great public automobile camps which have become one of the most popular features of the park.

Accommodations in the big permanent camps and in the hotel were particularly strained during the period of the convention of the Native Sons of the Golden West, which was responsible for bringing to the park more than 1,500 visitors in addition to the usual general tourist travel. This convention assembled on June 1 and continued for five days. During this time the schoolhouse and other available public buildings had to be utilized for sleeping quarters.

TUOLUMNE MEADOWS CAMPERS' PARADISE.

In the high Sierra, especially in the Tuolumne Meadows on the Tioga Road, camps were maintained throughout the summer. Here, too, the Sierra Club made its headquarters for its summer outing. I also had an opportunity to experience the pleasures of camping in this charming mountain vale. This is a section of the park that John Muir so often referred to in enthusiastic terms, and in my little outing there I came under the same spell that prompted Muir's enthusiasm.

The motorist may be expected to utilize to the fullest extent its natural resort possibilities. In fact, with the fast spreading interest in the upper portions of the park, we may reasonably expect to find it necessary to soon establish regular automobile camps in the Tuolumne Meadows, in order to avoid insanitation and similar evils that might naturally follow too large an influx of tourists in this section.

Thus the automobile camp in the mountain districts of this park becomes a problem demanding immediate solution just as it does in Yellowstone, Rocky Mountain, and other parks where the private camping outfit is becoming the most popular means of enjoying a vacation in the great out of doors.

EMERGENCY IMPROVEMENTS NECESSARY THIS YEAR.

No extensive improvements were made by the business enterprises of the park during the past year, although Camp Yosemite was very much bettered by the practical reconstruction of the dining room and by extensive enlargement of kitchen facilities. These improvements were finished by June 1 and helped the Yosemite National Park Co. very materially in caring for its share of the tourist crowds that thronged the valley. These betterments, however, were necessarily temporary, as the plans for the new camp call for a new location. In fact, the new building program means a radical change in the layout of the entire camp.

Some improvements were made in the Sentinel Hotel, the only hotel on the floor of the valley, and a large number of visitors were accommodated there. If the plans of the Yosemite National Park Co. are carried out during the coming year this old landmark, which has far outgrown its usefulness, will be replaced by a new hotel in the valley to accommodate at least 600 people. The new structure will be located on a site selected three years ago, when the future administrative village was planned.

BIG DEVELOPMENT COMING.

The directors of the Yosemite National Park Co., which, it should be noted, is composed of a group of far-seeing business men of San Francisco and Los Angeles, headed by Mr. A. B. C. Dohrmann, realize that the travel to Yosemite has increased to a point where improvements must be made on a scale which it was expected would not be needed for at least five years. Their preliminary plans, formulated only a short time ago, contemplated improvements to the extent of about $300,000, but Mr. Dohrmann now estimates that to care for the travel which is certain to come to Yosemite National Park next year improvements should be made at an aggregate cost of at least $1,500,000. This contemplates the construction of the new hotel on the floor of the Yosemite Valley; the building of the new Camp Yosemite; further developments in the sanitation system and water supply of the Glacier Point Hotel; and the building of a camp in the Tuolumne Meadows, where the tourist is already clamoring for accommodations and where at present there are no facilities except for the private camper who brings his own equipment and supplies. The establishment of such a camp at Tuolumne Meadows in connection with the camps already maintained at Merced Lake and Tenaya Lake will greatly increase the accommodations for the tourist in the back country.

The establishment of a lunch camp by the same company in the Mariposa Grove of Big Trees has been a considerable help to tourists and will be still more valuable next year. Many of the motorists reaching the park by way of the big grove feel the need for hotel accommodations at that point before passing on to the heart of the park.
The Glacier Point Hotel, which was constructed some three years ago, has been more largely patronized this year than ever before, having been filled to capacity during much of the season. This hotel is necessarily closed in the middle of the winter on account of its inaccessibility, but plans are being considered by us for the possible construction of a shaft from the level of the valley floor to Glacier Point, which would make this spot far more accessible in winter than it is at the present time even in summer. It would have the added advantage of opening up the splendid slopes of the Sentinel Dome behind the hotel for winter sports and could be made one of the most unique winter resorts of the world.

CAMP CURRY PLANS ENLARGEMENT.

At Camp Curry, which is operated under the management of Mrs. D. A. Curry and her son, Foster Curry, improvements begun last year were brought to completion. The new bungalow unit of the camp has been especially popular. Before the opening of next season a number of the central buildings of the establishment will be rebuilt or enlarged, and other steps will be taken to extend the facilities of the camp to meet the demands of its ever-increasing patronage.

NEW TRANSPORTATION ROUTES.

A very interesting service performed by the Yosemite National Park Co. during the past summer was the providing of a combined automobile and rail trip to the Hetch Hetchy Valley. Although this was a new venture it was patronized to a considerable extent and gave many visitors the opportunity of seeing the famous Hetch Hetchy Valley and the extensive work which the city of San Francisco is doing at that point in connection with the development of its water supply.

While visiting the park during the summer Mr. Harry Chandler, editor of the Los Angeles Times, conceived a plan to establish a most unique trip from Southern California to the Yosemite and Lake Tahoe. His idea was that two parties of about equal size should be started simultaneously from Los Angeles several times a week, one for Yosemite National Park and the other for Lake Tahoe; and from these points they should proceed in opposite directions by way of the Tioga Road to Lake Tahoe and Yosemite, respectively, using the same motor equipment and thus affording an opportunity for both groups to see both scenic areas by rail and automobile. The trip, of course, could have been made from many California points, but the plan was to initiate the tours in Los Angeles this year. Mr. Chandler, however, was unable to make arrangements with the railroad authorities for proper excursion rates. If this plan can be perfected next season it will make available in California a most interesting and thrilling combined automobile and railroad trip; one that in a few years will have a nation-wide reputation for varied scenery and recreation possibilities.

Meanwhile private motorists in great numbers have obtained a full measure of enjoyment by driving their cars over the Tioga Road and between Yosemite National Park and Lake Tahoe. In California this trip is already regarded as second to no other mountain tour. Mr. Chandler’s plan would extend to people who are touring the country by train the opportunity to make this extraordinary trip through providing a method of sustaining a regular automobile line with reasonable rates for transportation service between Yosemite Valley and Lake Tahoe.

EL CAMINO SIERRA AND THE TIOGA ROAD.

Another extremely interesting feature of this season’s travel to Yosemite is the general use of the road running north and south along the east base of the Sierra Nevada Range—El Camino Sierra. The road connecting Lake Tahoe and the Tioga Road is part of this route, and, of course, there was unusual travel over this section. But scores of cars came from the East and from Southern California over the lower portion of the highway, traversing Owens Valley and running the entire gamut of the Sierra as they rise sheer 8,000 to 11,000 feet above the automobile road. This and the Tahoe travel naturally made Tioga Pass one of the most important gateways to the park, and the Tioga Road became more popular as a motor thoroughfare than ever before. As automobile tours from the Eastern States increase this gateway will grow more and more useful, and the time is not far distant when it will admit an enormous number of visitors to the park.

Mr. George Horace Lorimer, editor of Saturday Evening Post, on visiting the Yosemite this past summer for the first time remarked, after his trip over the Tioga Road and up the El Camino Sierra to Lake Tahoe, that he considered it the most beautiful and varied run in America.

ALL-YEAR-ROUND ROAD PROJECTED.

Last winter while in the West investigating conditions in several parks with a view to developing winter sports, I induced a group of San Francisco business men, including several members of the Sierra Club, to accompany me to Yosemite Valley. The trip was made between Christmas and New Year’s. A recent fall of snow had made the valley a winter fairyland more beautiful than any words can describe. Every member of the party was entranced by the spectacle, and while each enjoyed every moment of the days spent amid these sublime surroundings there was no one who failed to attempt the conception of a plan to make the valley more accessible in the winter season. At length it was suggested by Mr. Rudolph Spreckels that a drive be conducted in the State to raise a million dollars which, with certain State and Federal funds that were available, would build a road from Mariposa to El Portal on a low grade and below the line of heavy snows, and pave the highway the entire distance between Merced and the park boundary, thus joining the State highway system with the splendid new road that the Gover
ment is building from El Portal to Yosemite Valley. Such a road would make possible a trip by automobile from most California points to the valley at any time of the year and under almost any weather conditions.

Plans for this campaign were immediately developed, and the Yosemite Valley Highway Association with State-wide membership was organized, but investigation disclosed the fact that war-service drives and other public requests for voluntary contributions of money had so taxed the people that the prospects of success of a road-improvement campaign of this kind were not at all bright. Accordingly, authority was granted, with your approval, for the sale of certificates which would be exchangeable at the park gates for automobile season permits, these certificates to be sold at the uniform price of $5. The campaign is now in progress with every prospect of success. Meanwhile the State highway commission has let contracts for the construction of certain portions of the project, and it is hoped that the new road will be completed for summer travel in 1921, and for winter use late the same year or in the early months of 1922.

PAVED ROAD PROGRAM FOR YOSEMITE.

The completion of this paved road to the gates of the park will, of course, make it necessary for the Government to pave the new El Portal Highway and the road system of the valley floor. This paving ought to be done while the State's approach road is building, because the volume of travel that will enter the park the first season after the new highway is open will completely ruin our present graveled roads. Accordingly, I am submitting to you this month an estimate calling for an appropriation of $75,000 to begin the paving of the El Portal Road toward the valley.

This fine highway, 20 feet in width, with a protective parapet of granite along the river, has already met with much praise from the tourists who have traveled over it, but its true value will not be appreciated until the State highway that will tie up with it has been completed from Merced to the park boundary. It must be remembered that at the present time it is impossible for the motorists to reach the valley by existing automobile roads until May because of snow conditions on the high level, but the new road will obviate all this, and there will be no difficulty on the part of the Park Service in keeping the roads in the valley open in ordinary winters, as the fall is light on the valley floor.

THE YOSEMITE VALLEY-NEVADA FALLS-TENAYA ROAD.

In my outline of the year's activities of the engineering division, I mentioned the survey of a highway to connect Yosemite Valley with Tenaya Lake by way of Nevada Falls, Little Yosemite, Forsyth Pass, and the upper portion of Tenaya Canyon. This road is an essential project of the immediate future, and must be built to give quick access to the high Sierra section of the park and afford a means of relieving traffic congestion on the floor of Yosemite Valley. It will cost approximately a half million dollars, and it will take several years to complete the project. The route has been made especially complex and costly due to our successful effort to run a
A. FIRST AEROPLANE TO LAND IN YOSEMITE VALLEY.

B. EL PORTAL ROAD.
Yosemite National Park.

Photographs by National Park Service
Finished grade.
During construction.

A. OLD SENTINEL BRIDGE.

B. NEW SENTINEL BRIDGE
Erected in 1918–1919.

Yosemite National Park.
Photographs by National Park Service.
WINTER SPORTS IN YOSEMITE.

I was most favorably impressed with the availability of Yosemite Valley and its adjacent regions for almost every kind of winter sport—skating, skiing, snowshoeing, sleighing, and related diversions. Unquestionably the park can be made the scene of remarkably successful winter carnivals immediately when the new all-year road is completed, and I believe we should leave no effort unexpended that would bring this fascinating prospect into complete fulfillment. The new hotel will undoubtedly be completed by the time the first large carnival can be held, and should these winter sports in Yosemite Valley prove as popular as we expect them to be, no difficulty will be experienced in financing the construction of some adequate means of reaching Glacier Point. I have already mentioned the possibility of building a shaft in the granite wall below Glacier Point.

The managers of the great winter-resort hotels in southern California and along the coast are watching the Yosemite hotel developments with much interest, realizing that the opportunity to send their patrons there conveniently and comfortably for short trips during the winter would add considerably to their enjoyment of the State.

THE SIERRA CLUB OUTING.

The Sierra Club had a very interesting outing in the park during the summer. It was attended by over 150 of its members. The main camp was in the Tuolumne Meadows, from which trips were made to different parts of the park, the most extensive trips being to Mount Lyell and Mount Ritter and the Devil Postpile, lying to the south of the park in a section which formerly was a part of the reservation. It is a remarkably scenic area which in my belief should be added to the park again in the near future.

HALF DOME SCALABLE NOW.

A very useful contribution to the park was made this year by the donation, through the Sierra Club, of a protection for the trail to the top of Half Dome. A double row of iron posts about waist high were set in holes drilled in the rock. Through "eyes" in the top of these posts, formed by turning the metal back in the form of a loop, a steel cable was stretched and securely anchored at the ends. The cable formed a hand rail on either side of the trail, by which a person could pull himself up the steep rock slope. This double cable took the place of a single rope which was attached to small bolts in the rock face and afforded only one aid by which the climber pulled himself up hand over hand. The old arrangement was dangerous and unsafe. It was placed by an old sailor in the late eighties. The new cable was installed early in July, and it was used by climbers who appreciated keenly the opportunity of seeing the wonderful view from the top of Half Dome, with its sheer drop of practically 5,000 feet to the valley below.
TRAIL DEVELOPMENT IN CONTEMPLATION.

The Sierra Club has continued to take its usual great interest in the park. I have had a number of conferences with the officers of this organization, and they have offered valuable suggestions in regard to the trail development which we expect to make through the outlying sections of the park as soon as the more pressing problems in the Yosemite Valley have been solved.

Anticipating a much greater use of the trails each season, we began this year the development of the Grand Canyon of the Tuolumne River for the hiker and horseback rider. A trail is now being built from Harden Lake to Pate Valley on the floor of the Tuolumne Canyon.

Next year, if funds are available, this trail will be continued up Piute Creek to join the Pleasant Valley Trail on the north side of the canyon. Also it is proposed to continue the trail which now reaches the Upper Water Wheel Falls in the canyon to Pate Valley, thus making the gorge accessible from the north and south rims and from the very popular Tuolumne Meadows region.

In planning this comprehensive trail improvement the advice and assistance of the Sierra Club has been invaluable.

FISH HATCHERY DELAYED.

Fishing has been better than usual during the past season, and the planting of young fish through the park has received an additional impetus this year through the establishment of a temporary hatchery by the State Fish and Game Commission at Happy Isles. While the structure is only a temporary one, the installation of troughs and other apparatus is excellent, and with the relatively low temperature of the water furnished by the National Park Service from the old intake to the power plant the young fry have thrived splendidly. The temperature at no time during the summer was higher than 66 degrees, which I was informed by the office of the Fish Commission made conditions for hatching better than in any other hatchery in that portion of the State.

Unfortunately the building to house this hatchery has not been constructed. A very attractive building has been planned by the State architect and approved by me, but its construction, involving an expenditure of about $17,000, was held up by the State board of control. As an advance agreement had been entered into between the State and the National Park Service in regard to this work, I consider the State's share of the contract should be carried out. I am sure that the misunderstanding will be cleared up, and I have personally brought the matter to the attention of the governor of California. I believe that another year will see this building finished. The fishing in the park is so largely enjoyed by the people of California, while the distribution of the fish to the different lakes and rivers is done by our own rangers, that it seems only proper that this contract as made should be executed by both parties, for what it will mean to the residents of the State, outside of the State's own obligation in the matter. Our landscape engineer has plans for beautification of the grounds of the building when completed, among which is the proposed construction of pools in which will be exhibited the various kinds of trout with which the rivers are being stocked. This will strikingly convey to the eastern tourist, as well as to Californians, the excellence of the work of the State Fish and Game Commission.

ESSENTIAL GAME PRESERVES.

I am continuing to urge on this commission the importance of game preserves adjoining the west boundary in order that the deer may be better protected during the winter season when they are compelled to range outside the park for feed. The deer are very plentiful in the park this year and have been very tame. I personally counted 75 deer in the later part of May this year on the road between Wawona and Inspiration Point. General comment has been made that the regulation keeping dogs out of the park has led to greater fearlessness on the part of deer, and it is a common thing to find them grazing within 50 feet of the road. The destruction of predatory animals, particularly of mountain lion, in the last year or two, has helped to increase the number of deer.

CALIFORNIA CEDES JURISDICTION.

The regulations governing the protection of the fish and wild animals of the park, as well as other rules of equal importance, will be strengthened and made more effective as soon as the Federal Government accepts the exclusive jurisdiction over the park which was tendered by an act of the Legislature of California approved April 15, 1919.

Lack of a Federal tribunal in the park, with power to punish violations of the rules and regulations, has very seriously handicapped the administration of the reservation, and as travel increases the difficulties of protecting the park and the lives and property of its visitors will increase beyond the limits of any control unless almost immediate action is taken to meet the situation. Bills are pending in Congress providing for the acceptance of this tender of exclusive jurisdiction and the appointment of a court commissioner to try cases of violations of the regulations or misdemeanors committed in violation of the Federal or State laws.

The State cession of exclusive jurisdiction and the pending Federal legislation accepting this act also cover control of Sequoia and General Grant National Parks.

SOME PUBLIC UTILITIES INADEQUATE.

The public automobile camps of the Yosemite Valley have been used to a remarkable degree and a more complete system must have to be worked out in allotting space and providing accommodations. It is my hope that the camps in the valley at least can be all lighted by electricity.

The electric-light plant continues to give excellent service, and will be able to take care of the requirements of the park for many years to come.

The telephone lines are now in excellent shape and 24-hour service is furnished. The importance of having good telephone and telegraph

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1 See text of act in Appendix D.
2 See reference to H. R. 7971 and H. R. 8039, on p. 132.
connections in the park can not be overstated. There is an insistent demand on the part of the public for these facilities, and I hope before another year, by conference with the officials of the telegraph companies, to still further improve the wire service. At present the office at Merced, through which all the business has to be handled, is closed at 9 o'clock, although there is a mass of business tendered to us in the way of night letters, etc., which can not be put on the wire. With the many thousands of people in the park at one time, the necessity of a perfect service of this kind becomes apparent.

The post-office facilities are in great need of improvement, and I hope to take this question up this winter with the proper officials and develop some plan for the improvement of the general mail facilities in all the parks. The Post Office Department has been studying the situation, particularly in the Yosemite, where the mail congestion is very great, and where it has frequently been necessary to wait several days before being able to secure a money order. I am sure the Post Office Department desires to have the same efficient service in the post offices in the national parks as in other regularly established offices, and while the business is largely a seasonal one there should be no difficulty in working out proper arrangements, as the revenues accruing to the department during the season are very large. It is my hope to see the best of service in the park, not only by our organization but also by the other Federal departments that are cooperating with us.

THE LE CONTE MEMORIAL LECTURES.

In the general discussion of progress made in advancing the educational use of the park, I mentioned the Le Conte Memorial lectures delivered this year in the Yosemite Valley under the direction of the extension division of the University of California. These lectures were one of the most important features of this exceedingly successful park season, and their establishment as a park institution to continue indefinitely is a source of keener delight and satisfaction to me.

Our thanks are due the University of California for initiating this course, and for other courtesies extended, not the least of which is the undertaking of a comprehensive study of the animal life of the park under the direction of Dr. J. Grinnell, of the department of zoology. The results of Dr. Grinnell’s work will probably appear next year, and will be a distinctly valuable addition to the literature of the parks.

STATE AND FEDERAL COOPERATION.

In the repair of approach roads to the park, and in planning the new El Portal lateral, the State highway commission has rendered effective aid to the National Park Service this year. The State fish and game commission has done all in its power to better the sport of fishing in the park, and is prepared to build the new hatchery as soon as requisite authority is obtained.

Exceedingly important cooperative work was performed by the United States Public Health Service in combating the mosquito evil in Yosemite Valley, and in making a comprehensive survey of the sanitation needs of the park. The result of this survey indicates that the entire sanitation system of the valley must be rebuilt immediately.

To make a detailed survey of the Yosemite Valley, the Geological Survey has detailed a topographic engineer, and the Bureau of Entomology has continued to give extensive assistance in controlling insect pests that are attacking the forests in certain parts of the park.

SEQUOIA NATIONAL PARK.

Sequoia National Park has been much in the public eye this year on account of the consideration of legislation in Congress which proposes to enlarge its boundaries to include the Kern and Kings River gorges, the Great Western Divide, and some 60 miles of the crest of the Sierra Nevada Mountains, including Mount Whitney—an area of approximately 1,300 square miles—and to change the name of the park to Roosevelt National Park.

As far as boundary lines and area are concerned, this is the “Greater Sequoia” project which we have long advocated, but in its new conception as a great national memorial to the late ex-President it possesses an appropriateness and country-wide significance of which even John Muir and his associates of the mountains who planned this big park could not have dreamed.

THE ROOSEVELT NATIONAL PARK SUGGESTED.

It was at a gathering of members of the Boone and Crockett Club in New York, on January 10, 1919, that the idea of setting apart this wondrous region of mighty mountains, tremendous gorges, giant monoliths of granite, thundering waterfalls, the biggest and oldest trees of the world, and other works of nature on her grandest scale as a memorial park to Theodore Roosevelt was suggested by Capt. Frank Lyman. The ex-President had passed away only four days before, and his loss was an overwhelming blow to the Boone and Crockett Club, which he had founded in 1888, after his first years in the great West, and which is an association of men interested in out-of-doors, hunting, and game conservation. It was natural that his fellow club members should have been discussing at their gathering an appropriate memorial to their beloved leader and friend. It was natural that they should have sought to find something in the West that typified the virile body and spirit of Roosevelt in his lifetime.

The Sierra region of the Sequoia Park extension plan presented every element of this idea, and believing that no finer memorial than this vast region as the Roosevelt National Park could be dedicated to the great man’s memory, Capt. Lyman’s suggestion was heartily approved and arrangements were made to present the park plan to Congress.

LEGISLATION IN CONGRESS.

In Congress the plan met with the unanimous approval of the Senate, but in the House of Representatives opposition developed, not to the idea of a national park dedicated in honor of Col. Roosevelt, but
to the extent of territory affected by the pending bill and to the use of this region, and the measure was not brought to a vote before the close of the session. This legislation was Senate bill 2021, introduced by Senator Phelan, of California, providing for the extension of Sequoia National Park when first introduced on April 21, 1917, but containing an amendment changing the name of the enlarged park to the Roosevelt National Park when it was reported from the Senate Committee on Public Lands on January 16, 1919. This bill was passed by the Senate on the day it was reported from the committee, but, as I have stated, was not considered by the House.

In the Public Lands Committee of the House, after a discussion of the arguments of the opponents of the legislation in the light of a report by the Department of Agriculture that it could not approve the measure because of lack of certain information, the bill was changed by striking out all provision for the extension of Sequoia Park. It thus appeared in the House as a proposal simply to change the name of the existing Sequoia National Park.

NEW BILLS INTRODUCED.

Early in the current session of the Sixty-sixth Congress bills identical with the measure that passed the Senate in January were introduced by Senator Phelan and Mr. Elston, of California. These bills are S. 1391 and H. R. 5006, and are awaiting committee action at the present time.

During the past few months much investigation and study have been given to this project by the Sierra Club and by many eastern people who have visited this area for the particular purpose of studying its value as a great recreative park and also as a memorial to Col. Roosevelt. An effort to come to a basis of understanding with the Forest Service, in whose jurisdiction the area now lies, has been rather futile, the two bureaus being so far apart in their point of view as to the territory to be included. Nevertheless sentiment in California and in the Nation at large is so generally favorable to this project that there are good grounds for feeling that it will soon be approved by Congress.

DEVELOPMENT RETARDED.

The future of Sequoia National Park depends so much on the outcome of the enlargement project that we have rather delayed planning any extensive improvements for the area, and have contented ourselves, especially during the past year, with maintaining the existing roads, trails, and other utilities of the park in proper condition for public use.

Nothing of importance has been accomplished in a constructive way within the park either by the Service or by the concessioners. No serious attempt has been made to extend the facilities of the various business interests because of the relation of the extension project to their properties. When the larger development of the existing park is made in connection with the territory to be added to it, the scale of operations of these interests must be so tremendously expanded that a general readjustment of all concessions may be necessary in order to provide adequate service for the touring public.

CRYSTAL CAVE CLOSED.

It has not even seemed advisable to take any steps this year to open the recently discovered Crystal Cave to public inspection. This beautiful cavern was opened for a period last season, but on account of vandalism access to it was barred by closing and blocking its entrance. It could only be maintained in its present condition by the installation and operation of a proper lighting system and by the employment of guides to conduct parties through its various passages and prevent depredations on its formations.

Yosemite Power Plant for Sequoia Park.

For possible use in lighting the Crystal Cave, but particularly for the purpose of lighting the public camps of the Giant Forest, it is proposed to move next year to Sequoia National Park the power plant in Yosemite Valley, which was superseded by the large new plant recently completed to meet the increased demand for electric power in the northern park. The installation of this plant in Sequoia Park will be one of the most effective improvements that could be made in that reservation at this stage of its development.

PUBLIC CAMP SITUATION.

The public camps in Sequoia Park present a very serious problem and need considerable attention as to control, sanitation, and water supply. There has been little done toward the control of the camp sites, with the result that campers have not only overrun the whole Giant Forest but concentrated around the village to such a degree that they have completely destroyed the shrubs and other ground cover. During the past season camps have been located in the Deer Creek Valley and in every other direction that expansion could be made.

The most interesting and the largest of the trees are in the vicinity of the hotel camp and around the meadows, and I am of the opinion that ultimately this area should be reserved for its scenery alone, the hotel being relocated in another part of the forest. New camp sites should be located off the road and between the Wolverton Road and the trail to the Gen. Sherman Tree.

A condition has arisen in Sequoia Park which makes it necessary to bring up clearly and unequivocally our policy as regards locations of public camps. A tendency has been shown toward building semipermanent camps in or near the Giant Forest. Our policy is very distinctly that within national park areas no individual shall have any permanent location for his own use, and it has been necessary to bring this clearly to the attention of some of the people camping in the Giant Forest. Experience in Yosemite and General Grant National Parks has shown that it is perfectly feasible for many thousands of people to camp for a season in a location which becomes theirs for the time being, but on which they have no further claim the following year, those coming in first during the season having the first call on locations.
MAP SHOWING PROPOSED ENLARGEMENT OF THE SEQUOIA NATIONAL PARK TO BE KNOWN AS THE ROOSEVELT NATIONAL PARK.
The road system of the park was maintained in good condition throughout the season, the main highway to and through the Giant Forest being repaired and its upkeep provided for by the National Park Service; the road up the Middle Fork of the Kaweah being cared for by the Mount Whitney Power Co., and the Mineral King Road receiving some repairs as a county charge.

Whether the park is enlarged or not, two new road approaches ought to be undertaken, one not later than next season. These projects contemplate the construction of a road from a point on the Middle Fork of Kaweah River near Hospital Rock to the Giant Forest road system, and the continuation of the road between Sequoia and General Grant National Parks, which was begun two years ago and carried as far as the Marble Fork of the Kaweah. The former project is the more important. It will take approximately two years to construct this essential highway, and an estimate to begin the work is included in the National Park Service budget that has just been prepared. The road will be 10 miles in length and it will be a marvelously scenic route. It will afford an opportunity for tourists to enter the park by the Middle Fork Valley, ascend to the Giant Forest, and leave the park by way of the present main highway. In the bond issue of $40,000,000 recently authorized by the people of California, there is included authority for the expenditure of $900,000 in paving the State road from Three Rivers to the park line. If Congress authorizes the construction of the new highway I have just described, the State will carry its paving to the Middle Fork entrance. In planning this development the members of the State highway commission and Tulare County authorities have been working in harmony with the National Park Service.

The privilege of conducting a transportation service to Sequoia National Park was granted this year to the Sequoia National Park Stage Co., which is owned by Messrs. Orval Overall and E. L. Askin, of Lemon Cove and Visalia, respectively. The plans of these gentlemen originally contemplated service from Visalia as well as from Lemon Cove to the Giant Forest, but the railroad commission declined to sanction the competitive service between Lemon Cove and Visalia. Therefore service is now furnished between these points by the Visalia Electric Railroad, and in consequence the park permittees made Lemon Cove their valley terminus. This transportation question should be reconsidered before the opening of next season. As facilities for caring for the traveler are so much better and the opportunity to supplement the transportation service with out size cars greater in a city of the size of Visalia than in Lemon Cove, it seems to me that passengers should be carried direct from Visalia to the park rather than be compelled to make a change at an intermediate point. There have been a number of instances this year in which parties arriving at Lemon Cove and finding the regular automobile stages gone, were able to obtain cars only with great difficulty, and some of the eastern travelers who had come across the continent particularly to see the wonderful Giant Forest were compelled to leave without visiting it.

As usual, the deer have been of great interest to visitors to the park, their tameness being especially marked. This is believed to be due largely to the fact that the deer have the opportunity to wander in the foothill country within the park area without being compelled to go outside the park boundaries, thus having protection at all times of the year. One of the great problems in other parks like Yosemite and Yellowstone Parks is due to the fact that the wild game are compelled to go outside the boundaries to secure their winter feed when severe weather conditions are encountered.

The Fish and Game Commission of California has established a new fish hatchery on one of the branches of the Kaweah River not far from the park boundary. It is the purpose of the commission to keep the waters of the park well stocked with trout after this hatchery is in full operation, the National Park Service cooperating in the transportation and distribution of the fish.

The destruction of trees all along the Pacific coast and particularly along the highways of the northern part of the State, which traverse forests of big redwoods of the species Sequoia sempervirens, emphasizes more than ever the value of the purchase of the Giant Forest by the combined action of Congress and the National Geographic Society. After all, nothing that has been accomplished since the broader development of the national parks began surpasses the achievement of safeguarding forever this noble forest. It narrowly escaped the awful fate of its related forests of the north.

The State of California began the construction of a road toward the Kings River Canyon, and this highway will be continued under funds made available by the sale of bonds of the $40,000,000 issue recently approved by the people of the State. One hundred
thousand dollars will be set apart for this purpose. To reach this
new State road all travel will have to move through General Grant
Park from south to north. If, on the other hand, the main road to
Roosevelt Park should be constructed along a route running several
miles to the southward, General Grant Park would, without doubt,
become the point of departure for the alternative road, although
this highway would leave the park at a point on its east boundary
instead of from the main north and south highway.

POSSIBLE ADDITION OF SEQUOIA LAKE.

In connection with the establishment and development of the
Roosevelt National Park, it has been suggested that certain private
lands of the Sanger Lumber Co. lying west of Boulder Creek
and on which there are several large stands of giant sequoia trees
should be preserved for the benefit of the park and for the purpose
of safeguarding these big trees. The proposal made by the lumber
company for the transfer of these holdings to the Government in­
cluded the gift to the Government of Sequoia Lake, which adjoins
General Grant National Park. This body of water would make a
splendid addition to the park and would greatly enlarge our oppor­
tunities for the development of the camp grounds and other recrea­
tive features. Even if the plan is not carried out for securing the
entire holdings of the lumber company in the proposed Roosevelt
Park region, I hope that some proposition can be framed by which
this lake can be secured and added to General Grant Park. My visit
to this lake, which I saw for the first time this year, impressed on
me strongly its value as an adjunct to the park.

SUMMER COLONY PLANNED.

Before the establishment of the park 160 acres within its boun­
daries passed from the Federal Government to private hands under
the land laws of the United States. This tract was purchased some
two years ago by Mr. Andy Ferguson, who proposes to develop it
as a summer home settlement. He has cut up part of this tract into
town lots, which he is offering to the public at reasonable prices.
An inspection of Mr. Ferguson's holdings indicates that he is making
his improvements in a manner that will preserve the original beauty
of the section controlled by him as nearly as this may be possible.
He is not allowing any important trees to be cut down and is making
other reservations in his deeds for the protection of the park. A
settlement of this kind within a national park, especially in a small
reservation like General Grant Park, is to be deprecated; but at
the same time we must always recognize fully the rights of property
owners who acquired their holdings before the park was created.
In the case of Mr. Ferguson’s holdings it is to be hoped that some
equitable arrangement may be made by which the Government can
take over this property and develop it in accordance with the policy
of the service, at the same time reimbursing the owner for the value
of the property and the improvements that he has placed upon it.

IMPROVEMENTS OF THE SEASON.

The principal improvements in the park have been accomplished
by the General Grant Park Hotel Co., which maintains and operates
a store and camp. Marked improvements were made in the arrange­
ment of the camp, the dining room being made especially attractive.

We have improved the appearance of the park materially by the
removal of some of the old fences and by the construction of a new
building to house the park headquarters and post office.

Plans for the building of a gateway into the park are now in readi­
ness, and this work may be carried out during the present fiscal year
if the funds will allow. It is likely, however, that this improvement
will have to be postponed until next year.

The treatment of the beautiful meadow and also the removal of
unsightly spots around the General Grant Tree and the other big
trees will also be undertaken next year.

MOUNT RAINIER NATIONAL PARK.

There are many interesting facts to report regarding the 1919
season of Mount Rainier National Park. In the first place,
travel to the park exceeded that of any previous year by a very large
margin, and, what is more important, there was an enormous increase
in the number of tourists traveling from the east.

This resulted in the hotel and camp establishments being filled to capacity practically every day of the week, a pleasing
contrast with former seasons, when midweek travel was relatively
light and each Saturday and Sunday brought congestion of all avail­
able facilities.

Nevertheless the week-end congestion also occurred this year and
presented problems very difficult of solution. Likewise the unusual
midweek crowds caused some embarrassment, due to the fact that it
was entirely unexpected. Arrangements had been made in advance
of the season for several conventions to meet in Paradise Valley
during the middle of certain weeks of July and August. These arrange­
ments could not be changed, and the conventions were held as planned,
but on each occasion there was a state of overcrowding at the estab­
ishments in Paradise Valley that was very annoying, and in isolated
cases individuals suffered discomfort and keen disappointment.

MORE ACCOMMODATIONS NEXT YEAR.

These difficulties could have been largely avoided by a better patron­
age of the National Park Inn and its annex at Longmire Springs, but
tourists preferred Paradise Valley and insisted in most cases on mak­
ing that point their headquarters while in the park.

However, an extension of all housing facilities in Paradise Valley
is about to be undertaken, which it is hoped will meet all demands for
service at that point for several years to come. These improvements
include the construction of permanent buildings of the chalet type
for use as sleeping quarters, thus doing away with tents, which are
hardly satisfactory on account of the weather conditions at the high
altitude of Paradise Valley. These new buildings will be equipped
with ample bath and toilet facilities. New kitchens will also be built
before next season, and a refrigerating plant will be installed.

SUPERIOR GUIDE SERVICE AVAILABLE.

While there were occasional troubles due to lack of facilities for
comfortably housing visitors in Paradise Valley, other service main­
tained for the benefit of the public was never more efficient. The guide service is particularly worthy of complimentary reference. The very intelligent group of men comprising the guide force were exceedingly enthusiastic about their work. They came largely from the faculties of high schools and universities and from college-student bodies.

Every provision was made for the comfort of tramping or riding parties, even to the furnishing of appropriate clothing. Trips to the glaciers and other scenic points of the neighborhood were always appreciated, and the ascent of the mountain was more popular than ever before. During the season more than 300 individuals made this ascent, although among this number were large groups of members of mountaineering clubs camping in the park.

Every precaution was taken to protect the lives and health of the tourists, with excellent results.

LABOR DAY CROWDS.

On Labor Day the largest crowds in the history of the park thronged its hotels and public automobile grounds. Anticipating this holiday visitation, you will recall that we arranged with the Secretary of War for the temporary loan of 500 Army blankets to use in providing adequate sleeping facilities for parties requiring accommodations at the various hotels of the park over and above the maximum equipment available. The blankets were procured from Camp Lewis, and enabled the park administration to meet every demand for bedding.

This, it seems to me, is an excellent example of what can be accomplished in the way of cooperation between Government departments in the interest of the people.

Reverting to the topic of week-end travel, I had occasion to enter the park on two Sunday afternoons in August, and I was astounded to see the number of automobiles on their way out of the reservation. In less than 40 miles I passed over 400 machines.

CONVENTIONS IN THE PARK.

Among the conventions held in the park were the Washington State Bankers' Association, the Knights of Pythias, and Order of the Eastern Star of the State, the West Coast Lumbermen's Association, the Association of Western Confectioners, the Seattle Chamber of Commerce, and the Seattle Rotary Club.

MOUNTAINEERING CLUBS HOLD OUTINGS.

I have already mentioned the outings of the big mountaineering clubs, the Mazamas and the Mountaineers. The former camped on Mazama Ridge, the scene of many happy gatherings of club members in the past. The Mountaineers made a trip around Mount Rainier in the reverse direction of their trip of 1915, which was the first circle tour of the mountain.

Many members of both clubs reached the summit of the mountain and made other trips of unusual interest. The reports of their outings, which will appear later in the year, will be valuable additions to recorded history of the park.
by its owners. It became an eyesore and the object of adverse criticism by hundreds of tourists, who were compelled to observe the place as they raised their eyes to Mount Rainier, towering high above the valley.

Every effort was made to relieve this condition, but to no avail. In 1916 the property was improved by lessees, who built a small hotel plant on the tract, but still insufficient consideration was given to the landscape improvement of the grounds. This year, however, I am pleased to report, the Rainier National Park Co., which owns the other hotels of the park and the transportation lines, purchased the lease of property and is now maintaining it in accordance with the terms of its contract with the department governing its privileges in the park.

This places this private holding in a satisfactory status for the present, but ultimately it should be acquired by the Government, as it is in a part of the park where it will always be an active or prospective source of annoyance and interference in the development of the reservation.

The lease obtained by the Rainier National Park Co. will run for a period of years equal to the unexpired term of the company's lease of Government lands in the park in connection with the operation of its hotels and other enterprises. The officials of the company have promised to cooperate with us in the improvement of the tract, and our landscape engineer has submitted some suggestions for their use.

DEVELOP CARBON RIVER NEXT.

The heavy travel to the southwestern portion of the park, which is the only section fully developed with roads, has convinced both the national park service and the Rainier National Park Co. of the importance of developing other sections of the reservation. Logically the Carbon River region should be opened next. It is the key to the northwestern section of the park, and is in a very beautiful area. Four years ago I had a road surveyed up the Carbon River Valley, and each year since, except one year of the war, we have submitted an estimate for the construction of this highway.

The route of this proposed road is up the Carbon River to the Carbon Glacier, a point which can be made the starting point for walking and saddle-horse trips to Spray Park, Mist Park, and Moraine Park, from which most striking views of the mountain are to be obtained. The total length of the road in the park would be approximately 7 miles, but our plans contemplate building 3½ miles additional through the Rainier National Forest to connect with the State highway.

STATE ROAD TO CARBON REGION.

Pierce County recently approved a bond issue of $2,500,000 for the construction of many miles of paved road. One of the projects comprehended in this bond issue is the completion of a paved automobile road to Fairfax, 5 miles from the park boundary, within two years. This work will be continued to the forest boundary, declare resolutions recently proclaimed by the commissioners of the county.

Thus within two years paved roads will lead almost to the northwestern corner of the park. The time has come when we would have to build up the Carbon River Valley as a measure of cooperation with the county in this big road enterprise if the more pressing need of developing the upper valley in the park as a tourist resort did not exist.

The road from the forest reserve line to the neighborhood of the Carbon Glacier, approximately 11 miles, will cost $100,000.

HOTEL WILL FOLLOW ROAD.

As soon as the Carbon River road is completed the Rainier National Park Co. will be in a position to undertake the establishment of facilities for accommodating the traveling public. A hotel site has already been selected.

A PAVING PROGRAM SUGGESTED.

The bond issue of Pierce County also covered the paving of the Nisqually approach road to the park entrance. About half of this road is paved at the present time. When this splendid improvement is complete travel over the road may be expected to grow to many times its present volume. This prospect invites the question whether we ought not soon to plan the paving of part of the park highway, at least to Nisqually Glacier, and the widening of the road to Narada Falls and Paradise Valley.

AN IDEAL ROAD SYSTEM OF THE FUTURE.

The White River road, in the northeastern section of the park, was closed to traffic this year because of lack of funds to make necessary repairs. It is 10 miles in length and was built by a mining company operating in Glacier Basin. Two years ago approximately three miles of the road was realigned and widened, and the remaining portion of the road must be similarly improved before it will be a good automobile road. This work should be undertaken next year, as the McClellan State highway will be completed to the White River entrance of the park. Ten miles of the road are still to be finished, but the work is in progress and will be finished early next season.

After the White River road is improved and the Carbon River road is completed to the glacier we may properly suggest the construction of the first link in a road around the mountain. This would leave the Nisqually road near Narada Falls and proceed through Stevens Canyon to the Ohanaspecosh River region at the southeastern corner of the park, thence up the river and Chinook Creek to Cayuse Pass—a distance of 28½ miles. Eight miles farther on, such a road would connect with the White River road.

Following the building of this highway, the route connecting the Carbon and Nisqually roads naturally would be adopted for the next project. This would leave, as the last section to be completed, the road between Glacier Basin and the Carbon River district.

Here is a broad scheme of development that should be carried out without the loss of a year's construction work; and, after all, in
these days of enormous road-building projects, this has no unreasonable or impracticable features.

TRAILS TO KLAPACHE RIDGE.

The only trail built during the year afforded a side trip from the west-side trail system. It ascends Klapache Ridge north of St. Andrews Creek and then continues on this eminence to St. Andrews Park.

OHANAPECOH HOT SPRINGS.

I renew here my recommendation of last year, that the lines of the park be extended to take in the Ohanapecosh Hot Springs. This would add only a very narrow strip to the park. The springs have great possibilities of development for the benefit of the public, and it would be our policy to develop them in a way that would give tourists the best and freest use of them consistent with their proper upkeep.

Some other minor adjustments in the south boundary should be made in legislation providing for the inclusion of the hot springs. On April 16, 1919, Supt. D. L. Reburn, who had been in charge of the park since June 1, 1915, was granted, at his request, an indefinite leave of absence, and Mr. Roger W. Toll, of Colorado, was appointed as his successor. Mr. Toll has had many years' experience in mountaineering in the national parks, and his education and training peculiarly fit him for the new work he has undertaken. He has long been a member of the Colorado Mountain Club. His volume entitled, "Mountaineering in the Rocky Mountain National Park," was issued by the National Park Service early in the summer.

CRATER LAKE NATIONAL PARK.

The most important feature in the development and administration of this park this year was the completion, after several years' work, of the road around the rim of the lake. This work was finished and opened to the public on August 2. I made this trip of 38 miles soon after the road was opened and found it a wonderful scenic tour.

ENGINEERING WORK TRANSFERRED.

Prior to this season the engineering work of the park has been under the direction and control of the Corps of Engineers of the Army. The sundry civil act of July 19, 1919, transferred this work to the National Park Service. All property and equipment of the Engineer Corps that was purchased with park funds have been delivered to this bureau and, anticipating this transfer of control, the Engineer Corps placed the direction of the improvement work in the superintendent of the park at the beginning of the season in order that he might organize a force of employees that would serve the park throughout the working period, and might proceed in strict accordance with his plans for the year's development.

With the transfer of jurisdiction over this engineering project, the Interior Department gained complete control of the last national park in which authority was divided between it and the War De-

REPORT OF DIRECTOR OF NATIONAL PARK SERVICE.

While the rim road was somewhat rough in places, especially where construction and heavy maintenance work was still in progress, the general condition of the road system was exceedingly good. By contrast with the approach roads to the park boundaries the state of our highways was especially satisfying.

Improvement work of a permanent nature was continued on the rim drive after the road was opened to travel, and this work will be carried on to the end of the season. This road is one of the finest scenic highways of the world. Not only are the views of the marvelous lake superb and unique, but the glimpses of the surrounding region that falls away from the crater are only slightly less sensational.

TRAILS SUPPLEMENT RIM DRIVE.

In order to give the visitor even more thrilling views of Crater Lake or the adjacent mountain region than that afforded at the points where the Rim road overlooks cliffs of the crater, trails were built this year from the road to Sun Notch and Crater Peak.

A PAVING PROGRAM ESSENTIAL.

Because of the nature of the soil in Crater Lake National Park, which in many places is either a volcanic ash or volcanic sand, in many stretches of the road natural surfaces are impossible to maintain. Where the road surface is a volcanic-ash soil it rapidly breaks up under automobile travel and becomes a finely pulverized and almost impalpable dust, which, when dry, flows much like Portland cement, filling the ruts and chuck holes so that to the eye they appear fairly smooth, yet offering no cushion to absorb the shock of the rut or chuck hole. Much of this dust is puffed into the air by the wheels of the automobile, where it remains in suspension for a long time, filling the eyes and nostrils of the occupants of automobiles, and often obscuring the view.

The sandy soil is of a very friable nature and impossible to pack or consolidate, and as a result many automobiles get stuck when these sandy stretches occur on hills, as is the usual case. That these conditions would exist was known in advance of the construction of the road system, for the roads at Crater Lake were built by the Engineer Corps in accordance with the scheme or project outlined in House Document No. 328, Sixty-second Congress, second session, in which provision was made for surfacing the entire system of roads with macadam, and the construction and maintenance of a sprinkling system to keep the macadam roads in repair and free from dust. During the first season of actual road construction short stretches of experimental road surfaces were laid, and it was developed that an oil-bound macadam, which was about as cheap as water-bound macadam, satisfactorily withstood travel demands, while the water-bound macadam did not.
Much of the 57 miles of road constructed is in material that with a reasonable fund for maintenance can be kept in a fair condition for travel, but perhaps half of this mileage is in need of permanent surfacing, which is the best and only economical method of maintaining it. Certain short sections of the road that are in most need of surfacing should be surfaced each season until all of the bad sections are thus improved, and in line with this idea I have included in the estimate for 1921 an item for surfacing 3 miles most in need of this treatment.

APPROACH-ROAD NOTES.

The State road leading to the park from Medford was in unusually bad condition this season, inside and out of the Crater National Forest. The section around Prospect was the worst part of the highway. The State is now working in this region on an entirely new road, but little was done to keep the present road in anything approaching proper usable condition. With the very heavy travel of this year it became deeply rutted and terribly dusty.

If Crater Lake National Park is to be developed as a resort for motorists, these approach roads must be quickly rebuilt or repaired. The war, of course, has delayed this improvement work, but now that State and Federal aid funds are available, it should be rushed to completion. As we pointed out in previous reports, the counties of Klamath and Jackson have repaired these roads to the limit of their finances, and Jackson County citizens have even made personal subscriptions of considerable sums of money for this work. More can hardly be expected of them.

HOTEL SERVICE SOMewhat IMPROVED.

The service furnished at Crater Lake Lodge was somewhat better than last year, although facilities are not what they should be, and I again emphasize the necessity for the people of Oregon to give to the owners of this property their financial and moral support in bringing the enterprise to an operating basis that will insure proper treatment of tourists visiting this beautiful national park.

There was much demand for boating and fishing on the lake during the season. The Crater Lake Co. bought a large number of boats, but they did not reach the park until late in the season.

NATIONAL EDITORIAL ASSOCIATION AT CRATER LAKE.

On August 11 nearly 400 members of the National Editorial Association visited the park, and I happened to reach Crater Lake the same day. This big party was far larger than the ordinary hotel facilities at the crater rim could accommodate, but the chambers of commerce of Ashland and Medford furnished additional blankets and other equipment, and the superintendent of the park contributed a supply of tents to the emergency camps, thus making it possible to reasonably well care for these excursionists for the one night they spent in the park.

REPORT OF DIRECTOR OF NATIONAL PARK SERVICE.

DIAMOND LAKE ADDITION.

The Diamond Lake country to the north opens out to the view of the traveler around the rim, and the importance of adding this section to the park can be readily seen. The construction of a road from Diamond Lake connecting with this rim road would be a very simple matter, following the route of the present trail, and with the development by the State and county authorities of the road from a point south of Crescent on the Central Oregon highway east of the Cascades, a new entrance into Crater Lake National Park would be developed. This would be very useful to the people of Oregon, and particularly to tourists coming to the park via The Dalles and Bend.

Camping facilities around Diamond Lake are excellent, and the addition of this section would add materially to the park's usefulness. Last year Senator McNary of Oregon introduced a bill providing for this enlargement of the park, but it was not reached in the Sixty-fifth Congress. He reintroduced this legislation on August 15, 1919, as Senate 2797, and I earnestly hope that this bill will be enacted into law this year in order that we may begin the development of the Diamond Lake region next season.

ROCKY MOUNTAIN NATIONAL PARK.

In 1917 and 1918 Rocky Mountain National Park held the record for tourist travel to the big scenic parks of the Western States, but this season it takes the first place of the entire park system as a tourist resort, having passed Hot Springs Reservation by a safe margin. Its travel for the season just closed reached the amazing total of 169,492. While this is necessarily an estimate, it is based on a careful count of visitors entering the Estes Park and Longs Peak gateways, and a reasonable allowance for travel in the early mornings and evenings, before and after checking could begin, and a similar conservative allowance for travel via the western or Grand Lake entrance. Lack of funds for the employment of temporary rangers for traffic control at all the gateways prevented the making of an absolutely accurate count of all visitors such as is made in nearly all of the other parks of the system.

ALL HOTELS CROWDED.

This enormous travel has clearly demonstrated that if Rocky Mountain National Park becomes more popular than it now is its hotel accommodations will be wholly incapable of meeting the public demand for service. There are enough hotels in or adjacent to the park to accommodate more than 200,000 people if they should come and stay only an average period of two or three days; but such is not the use that is made of this splendid reservation. Visitors, generally speaking, want to spend a long time in the park, resting about the comfortable hotels, fishing, mountain climbing, or traversing the trails on foot or horseback. Motoring, of course, is limited on account of the relatively small road mileage. The superintendent reports that most of the accommodations of the hotels in and near the park were reserved for the remainder of the season very shortly after it opened.
MAP SHOWING THE PROPOSED ENLARGEMENT OF THE CRATER LAKE NATIONAL PARK.
Rocky Mountain National Park is, therefore, not only the most popular as well as the most accessible park in the Western States, but it is the greatest all-summer resort park of the system. It holds an envious position from the standpoint of public esteem and national use.

LITTLE CONSIDERATION FROM THE GOVERNMENT.

In spite of this fact, which certainly can not be denied or seriously questioned in the face of the travel figures of this and preceding seasons, this great park has received only slight consideration from the Federal Government since it was created on January 26, 1915. A proviso in the organic act limited the annual appropriations for the new park to $10,000, a sum wholly insufficient from the establishment of the reservation to even properly protect its natural features from fire and other destructive agencies. This limiting provision was kept in force until March 1, 1919, when, by act of Congress, it was repealed. The repealing legislation, however, will not become effective so far as increased appropriations are concerned until the next fiscal year, no additional funds having been made available for the present season. Nevertheless, the future of the park became infinitely brighter by the removal of its chains, and we may now plan its broad development with reasonable assurance that our program will be carried out through the appropriation of adequate funds by Congress.

It is, therefore, proper to state that the repeal of this inhibition on the park appropriations was the most important event of the year so far as the progress of the park is concerned, and that even the very gratifying increase in its travel is hardly on a par with the repealing legislation as a feature of the year's record in park history. The legislation is a landmark that will ever be second in importance only to the establishment of the park itself.

IMPROVEMENTS TO COME.

Now that we are free to begin the larger development of the park, the question arises as to what are the first projects to undertake. Clearly the first thing to do is to provide a larger protective force for the care of the reservation, not only in summer but also in winter, when special attention must be given to the protection of wild life from poaching. Next in importance is the purchase and installation of equipment and materials for general repairs to park improvements and the undertaking of new projects. We have no tools to work with in the park except a limited supply of fire tools and telephone and trail repair equipment. A machine shop, a stable, a storehouse, and a garage must be erected and equipped, and road, trail, and other machinery and tools must be procured.

Next the existing roads must be repaired and improved. These highways are all in a state of serious disrepair, due to lack of available State funds for their upkeep this year and the deteriorating effects of extremely heavy travel in an exceedingly dry season. The State is arranging to relinquish the care of these highways to the

1 See text of repealing law on p. 304.

National Park Service, with the exception, of course, of the Fall River Road, above Horseshoe Park, which it will continue to maintain until the two ends of the road are connected on the summit of the mountains and this transpark highway is ready for delivery to the Federal Government in a finished state, in accordance with the State's agreement.

The roads that will need immediate repair next season will be the Fall River Road to Horseshoe Park, the High Drive, the Moraine Park Road and its extensions to Glacier Basin and Mill Creek Ranger Station, and the Longs Peak Highway, and certain other short stretches of road used by motorists to a considerable extent, about 60 miles in all.

There are also numerous trails and several important links in the telephone system that must be repaired as soon as additional funds are available. However, all of this repair work should be accomplished next year.

ROADS FOR TRAIL RIDGE AND FERN LAKE.

Aside from the new buildings that must be built, work on certain other construction projects should be commenced next year. These projects include a road on Trail Ridge to connect with the Fall River Road and forming a Y with its connecting highway, a road which may ultimately be extended down Windy Gulch from the top of the mountains to Moraine Park. As a Y on Trail Ridge, however, this new highway would be one of the most scenic highways in the park system. The views of the surrounding mountains from this route are superb. With the construction of this one road, the popularity of Rocky Mountain National Park as a resort for motorists should greatly increase.

Other roads that should be constructed in part next year include a continuation of the Moraine Park Road to Fern Lake, and a road along Aspen Brook, west of Giantack and Lily Mountains, to a junction with the present road from Estes Park to Longs Peak Inn. The former would open to the motorist the beautiful Fern Lake region, and would make this section more accessible in winter. The winter carnival is held at Fern Lake each year. The latter road would provide a more scenic highway to the Longs Peak district, and would be an additional advantage in that the road would be entirely in the park.

NEW TRAIL DOWN POUDRE RIVER.

An important new trail projected for early construction would follow the Cache la Poudre down to the northwest corner of the park. Ultimately, of course, a road will follow this trail route, and connect with the Fall River Road probably at the head of Chapin Creek Canyon.

A new telephone line across the park to Grand Lake will be the first step in the development of this communication system.

New gateways and other landscape improvements of a relatively inexpensive nature complete the program for next year's work as it has been approved so far. The total estimates call for an appropriation of $150,000 for the fiscal year ending June 30, 1921.
The transmountain road to connect Estes Park and Grand Lake, which has always been known as the Fall River Road, will be completed about July 20, 1920, if weather conditions permit early resumption of construction work. In accordance with our recommendations the State of Colorado, which is building this road under an agreement made at the time the park was created, changed the route of the highways late last year, and it is now being finished on the survey along Trail Ridge to Poudre Lakes instead of the alternative route down Chapin Creek and up the Cache la Poudre River to the lakes and Milner Pass. The route being followed is far shorter and much more scenic than the Cache la Poudre route.

It was expected that the road would be finished this year, but adverse labor conditions prevented the accomplishment of the work planned by the State Highway Commission, although the chairman of the commission, Hon. E. E. Sommers, gave this project his personal attention in view of the urgent need for this highway as a means of crossing the park by automobile. However, the work actually accomplished during the season is more important than statistics relating to it would make it appear. This is because both ends of the road have been brought nearly to the top of the mountains, thus leaving little more than the light construction along the relatively flat summit to bring the ends together.

Before withdrawing its crews after completing construction work the State will repair and improve the lower part of the Fall River Road on the east side, making some sections and curves wider, reconstructing parapets and retaining walls, and clearing the highway of small rocks.

APPROACH-ROAD IMPROVEMENT.

Outside of the park the State is expending large sums of money in widening and improving the Big Thompson and South St. Vrain approach roads. One hundred and ten thousand dollars is being spent on the Big Thompson Road. I have no advice as to the amount that will be spent on the South St. Vrain Road, but it will be a large sum because the plans of the highway commission contemplate double tracking the road through this granite gorge.

The State has been handicapped in all of this road work by repeated washouts which have necessitated expenditure of funds on temporary bridge and other repairs on all approach roads, including the North St. Vrain approach from Lyons, a road used largely for freight and hurried trips from Denver to Estes Park, which was badly injured by a washout early in August. Taking everything into consideration, the State of Colorado has rendered the National Park Service this year as much cooperation as any western State, and by next season will have accomplished road improvement that will be of enormous importance to Rocky Mountain National Park and hence to the entire country, because of the national travel to the park which will benefit by these achievements. It behooves the Federal Government certainly to do as much for the park hereafter as the State is doing in its behalf.

COLORADO MOUNTAIN CLUB OUTING.

In February, in line with now-established customs, members of the Colorado Mountain Club and their friends held their winter carnival at Fern Lake. Skiing, skating, snowshoeing, and other sports were made especially enjoyable because of very favorable weather conditions.

Rocky Mountain National Park has a great future as an area for winter sports and as more funds become available for the installation of better facilities for these sports I hope to develop them on a large scale, thus definitely bringing this park into the chain of national parks that may be used as effectively in winter as in summer.

BETTER TRANSPORTATION FACILITIES.

In April, 1919, the department entered into a 20-year contract with the Rocky Mountain Parks Transportation Co., covering the operation of transportation and garage service in Rocky Mountain National Park. This company had been giving service to the public, and particularly to the citizens of the village of Estes Park and its surrounding region, for several years without any aid or encouragement from the Federal Government. This service had been rendered both winter and summer without regard to weather conditions or volume of traffic. Except during the tourist season it operated from railroad points to Estes Park and vicinity without competition. During this part of the year the company was unable to make a profit even under the best weather conditions. During the tourist season of the year scores of automobile owners who were subject to none of the hazards of other months of the year brought their cars to the park and operated them in competition with the transportation company, undercutting the company’s rates when cars were plentiful, and charging excessively for all service rendered when cars were scarce, and never making any effort to obey the traffic rules of the park. The results of this unrestricted and irresponsible competition brought the transportation company face to face with the alternative courses of continuing its operations to the point of financial breakdown or withdrawing its equipment and disposing of it in the automobile market.

It naturally chose the latter course, and it was to secure the continued maintenance of its efficient service that we decided to make it the official transportation line, under a contract which required it to
furnish service as prescribed by us and at rates approved here. This agreement was entered into with the mutual understanding that whenever it should fail to furnish enough equipment to meet the demands of the public, or in other manner should not give adequate service during a tourist season, another responsible transportation line, or more than one if necessary, should be admitted to the park to supply the needs of the public.

Under this contract the company furnished excellent service. It gave every class of service to meet the tourist requirements, and at rates approved by us. The service was dependable and was a great benefit to the park and to those who came to enjoy the motor trips that were available within its boundaries. Likewise thoroughly reliable service was rendered from railway points, including Denver, at rates prescribed by this bureau, regardless of the fact that our control of traffic stopped at the park line. In other words, so far as rates were concerned, the company voluntarily placed all of its business outside of the park under our jurisdiction for the protection of the public.

Certain parties have not been satisfied with this arrangement, and have sought to restore the old conditions, but these efforts have been unavailing.

**ADD MOUNT EVANS TO ROCKY MOUNTAIN PARK.**

The next legislation that should be enacted with reference to the park, aside from appropriation measures, should provide for the addition of the Mount Evans region to the park area. A bill providing for this extension was introduced in the last session of Congress but was not brought up by its proponents. It is expected that other legislation to accomplish this purpose will be introduced again in the early future.

Briefly, this project contemplates giving a park status to the remarkable section of the Front Range almost directly west of Denver, which in reality is simply Mount Evans, highest peak in the Front Range, and its great buttresses. Mount Evans rises 14,260 feet above the sea. To describe it adequately would require more space than this limited report will allow, but it is sufficient to say that, with the exception of Mount Rainier, the national park system does not include a mountain that is so well proportioned and so distinctive in all of its features as Mount Evans.

Former Assistant Director Albright made a thorough examination of this proposed park area last October, when he climbed to the summit of Mount Evans and covered most of its valleys. In his comprehensive report he describes Mount Evans as follows:

"Mount Evans is the central pile of a vast cathedral-like structure. From the northeast it is supported by a splendid buttress of peaks whose connecting slopes an automobile highway will ultimately skirt. Squaw Mountain, 11,470 feet; Chief Mountain, 11,710 feet; Warrior Mountain, 11,270 feet; Devil's Nose, 11,100 feet; Goliath Peak, 12,200 feet; Mount Rogers, 13,300 feet; and Mount Warren, 13,900 feet, lead progressively to Mount Evans's supreme summit, whose altitude is 14,260 feet. The northwestern buttress is shorter but nobler in its elevation—Sugar Leaf Peak, 12,513 feet; Mount Gray Wolf, 13,610 feet; and Mount Spalding, 13,800 feet.
Up from the southeast another noble buttress has for its high points Meridian Hill, 11,000 feet; Rosedale Peak, 12,200 feet; Rosalie Peak, 13,575 feet; and Epaulet Mountain, 13,500 feet. Another buttress joins Mount Evans from the south and contains Mount Logan, 12,750 feet, and several other unnamed eminences over 12,000 feet in altitude. Upon the west Evans is supported by Mount Bierstadt, a monster of 14,046 feet.

"It requires no imagination to picture this system in its architectural proportions. And all within a compact area of 160 square miles."

The Mount Evans region abounds in animal life, and its trees, wild flowers, and shrubs represent a wide range of Rocky Mountain plant life. The lakes of its glacial valleys are very beautiful. Commercially the region is worthless, aside from certain grazing lands that are now and always should be preserved as range for game.

**EXTENT OF MOUNT EVANS REGION.**

The total area of the proposed extension is 159.34 square miles, or 101,981.83 acres. The area of the present park is 397.5 square miles, or 254,327 acres. Mount Evans lies within the Pike National Forest, which has an area of 1,256,112 acres; hence only about 8 per cent of this reserve is involved in the extension plan.

**DENVER PLEDGES AID.**

The city of Denver is extending its Mountain Park road system toward Mount Evans, and already a remarkably scenic approach road is built practically to the northeastern corner of the national-park area. It should be continued to the top of Mount Evans, which offers a feasible route along its northeastern buttress, an array of peaks with exquisite lakes in their ice-eaten cirques that will make the suggested road unique among the highways of the world.

Denver has also agreed to acquire all of the private holdings in the park area that are needed for administration or improvement purposes.

There is a great opportunity here to expand Rocky Mountain National Park and its usefulness to the Nation with the cooperation of a city which has already taken a surpassing interest in national-park development.

**MESA VERDE NATIONAL PARK.**

Mesa Verde National Park has moved steadily forward during the past year. Improvements of a permanent nature have been completed and more have been undertaken with the slightly increased appropriations that Congress has been making available for this exceedingly distinctive park. Travel, however, has not materially increased, due to restricted railroad advertising and uncompleted reconstruction work on the main automobile highways. Nevertheless, there has been a sufficient increase in the number of visitors to make this season the best the park has ever had.

**NEW ROAD ASCENDING THE MESA.**

The most important improvement project completed this season was the new road ascending the Mesa Verde from the east side of
Point Lookout, which towers far above the Mancos and Montezuma Valleys, among the fairest and richest of Colorado's farm lands. This road was constructed in order to provide a safer means of access to the mesa park than the old highway, which took its narrow, tortuous course along the north and west slopes of Point Lookout and through a body of constantly sliding rock and dirt. The new road is wide and well graded, with no sharp curves, and with a maximum grade of 8 per cent. The new road is scenic and was built to give the traveler every opportunity to view the mountain landscape that is spread out on all sides. Fortunately, the old road on the opposite side of Point Lookout was also in fair condition for travel this season, and thus afforded visitors the chance to come in one way and go out by the other route, a pleasing variation of the park tour.

It is to be hoped that these diverse routes can be used every year. And I am of the opinion that for this purpose it ought to be our policy to maintain the old Point Lookout road in good repair if funds can be made available for the necessary work of upkeep of the highway and control of the menacing slide.

WONDERFUL SECTIONS OF PARK INACCESSIBLE.

Now that there is convenient and safe access to the Mesa Verde, and other urgent improvements in the highway system have been completed, we are certainly justified in planning further development of the park by road extensions. The topography of the park and the scenic features of the Mesa Verde would suggest two new highway routes if there were no more prehistoric structures worthy of being made accessible to the tourist. However, both of these routes would also open exceedingly worth-while exhibits of ancient architecture. One follows the higher or north rim of the mesa almost to the western boundary, then turns in a southerly direction over the Wetherill Mesa to the Rock Springs group of ruins, a remarkable aggregation of mounds and cliff dwellings. A road built on this route would be about 17 miles in length.

The other route leaves the present road system below Spruce Tree Camp and proceeds almost due south to the south boundary of the park, beyond which it would connect with the Cortez-Shiprock highway. A road following this route would greatly facilitate access to the interesting Indian country to the southwest, and would ultimately become one of the most important links in a park-to-park highway connecting our parks and monuments of the Southwest.

Both of these routes should be built in the very early future, and I am so thoroughly convinced of their importance in the advancement of interest in Mesa Verde Park that I am preparing estimates for fund-cover grading them next year.

A third road that should be built soon is a short lateral to the summit of Point Lookout. It would be about 1 mile in length.

SCENIC TRIP TO MESA VERDE.

With or without these new roads, the trip to and through Mesa Verde Park is one that every American should take. The scenic railroad approaches can not be surpassed in this or any other country, and the automobile highways leading to the park already built or in course of construction are equally impressive. The natural features of the park itself are distinctively scenic, and, of course, it is remarkably unique because of its ancient buildings and relics of a past civilization. Everything about the Mesa Verde combines to make it one of our finest parks, and hence worthy of the best attention of the Federal Government.

ARCHAEOLOGICAL WORK RESUMED.

Since Dr. J. Walter Fewkes, chief of the Bureau of Ethnology, United States National Museum, excavated Far View House in the Mummy Lake group of ruins during the summer of 1916, no further archeological studies have been made in the park because of lack of funds.

This year, however, Congress appropriated sufficient money to enable us to undertake the excavation and repair of Square Tower House, one of the most remarkable cliff dwellings of the park, and which has been in danger of total collapse during the past three or four years. Excavation and exploration of this ruin were earnestly advocated in our annual reports of 1917 and 1918 as the most important archeological work to be undertaken. With the funds now available Dr. Fewkes is engaged in restoring Square Tower House to a state of security that will be comparable with the condition of Cliff Palace, Spruce Tree House, and other famous cliff dwellings which were excavated and repaired soon after the park was established. The results of Dr. Fewkes's investigations are not available for discussion in this report, but they will later be given to the public by the Smithsonian Institution and through special bulletins of the National Park Service.

CONTINUING EXCAVATION PROGRAM ADVISABLE.

The excavation of the ruins of Mesa Verde Park should be continued systematically. A definite program contemplating progressive studies of cliff dwellings and mounds, under which are buried the ruins of ancient pueblos, should be adopted, and each year funds should be made available for carrying out this policy. Not only would this work be distinctly in the interests of the traveling public, but it would result in annually contributing to the science of archaeology and related sciences technical data of incalculable value. It would attract students from all parts of the world. I can not urge too strongly the fact that there can be no better time than the present to enter upon the execution of a policy of this kind, because Dr. Fewkes, who knows more about the Mesa Verde ruins than any living man, is available to personally supervise and direct the field work, and having renewed his close connection with the park's affairs with the excavation this year of Square Tower House he should be given the opportunity to continue his work without further interruption.

PROPOSED YUCCA HOUSE NATIONAL MONUMENT.

Closely related to the archeological work in progress in Mesa Verde National Park is the preservation of the Aztec Springs Ruins, which are located a few miles west of the park on the edge of the
Montezuma Valley. These ruins have long been reported as among the finest in the Southwest and undoubtedly constitute a most valuable field for scientific research. Until recently they were owned by Mr. Henry Van Kleeck, of Denver, Colo. He has, however, deeded them to the Federal Government under the act of June 8, 1906, to be preserved forever as a national monument.

Dr. Fewkes has proposed that the monument be called the Yucca House National Monument. It is located in the foothills of Ute Mountain. The Tewa Pueblo Indians who claim that their ancestors lived in Montezuma Valley, call Ute Mountain by a name meaning Yucca Mountain. They gave it this name on account of the abundance of these plants that grow on its sides. Montezuma Valley is called by them the Valley of the Yucca Mountain. While the name Aztec Springs ruin has the advantage of usage since 1875, the use of Aztec should be avoided, as it leads to confusion with the great ruin near Aztec, N. Mex., and implies the erroneous theory of a relation with the Aztecs of Mexico. Also Aztec Springs House Monument, or Aztec Springs Ruin Monument is a cumbersome title.

As these ruins were not built or used by the Aztecs, the name "Aztec Springs" long applied to them is a misnomer.

HOVENWEEP MONUMENT NOT YET ESTABLISHED.

In my latest report I considered in some detail the advisability of a national monument to include the prehistoric towers and castles of the Hovenweep district northwest of Mesa Verde National Park and approximately on the Colorado-Utah boundary line. Lack of surveys by which definite boundary lines might be described has delayed the establishment of this monument, but it is highly important that these remarkable ruins be preserved by the National Park Service. As soon as possible they will be brought under our jurisdiction in accordance with the provisions of the national monument act.

MESA VERDE RESEARCH HEADQUARTERS.

Situated in proximity to such important ruins as those of Aztec Springs and the Hovenweep district, Mesa Verde, with its own vast number of unexplored structures of antiquity, becomes a center for extensive research work of the future. It is my hope that it may not only be the resort of thousands of tourists but also a field of investigation for all scholars interested in the works and customs of the vanished peoples of the Southwest.

GRAND CANYON NATIONAL PARK.

The Grand Canyon of the Colorado, which has been a national monument since January 11, 1908, and administered by the Forest Service of the Department of Agriculture, has at last been made a national park. The first bill providing for the enlargement of this park was introduced January 5, 1885, by Benjamin Harrison, then a Senator from Indiana, and legislation to accomplish this purpose has been pending almost continuously since that time. The final and successful measure was introduced by Senator Ashurst on April 4, 1917, passed the Senate May 16, 1918, and the House of Representa-

tives on January 20, 1919. It was approved by the President on February 26, 1919, and while this action of Congress has in the minds of many been needlessly delayed I feel that the American people should accord to Congress and to those who so untiringly advocated the creation of the park and assisted in its establishment great credit for preserving for the Nation this gigantic masterpiece of Nature.

The Grand Canyon is so well known in this country and abroad that its description by me would be superfluous. It is sufficient to say that the National Park Service accepts this charge with the thorough resolve that it will administer and improve it in the best interests of the American people.

DEDICATION OF THE NEW PARK.

The new park should be dedicated this year if possible, and I am hopeful that the proper ceremonies can be held soon. From the standpoint of weather conditions it would be most advantageous to conduct these ceremonies in November. Furthermore, at that time there would be more likelihood of our securing the attendance of some of the men who were instrumental in promoting the establishment of the park, especially the Senators and Congressmen who had the creative legislation in charge.

It would also give us an opportunity to secure the attendance of the surviving members of the second Powell expedition, which had such an important part in the early examinations of the Grand Canyon. The presence of these men would be especially significant and important, because it is one of our principal functions to emphasize wherever and whenever possible the historical background of the parks.

The Powell Memorial, constructed several years ago by the Interior Department, commemorates the discovery of the Grand Canyon and is one of the features of great interest in the new park, but it will mean even more in the history of the region if the surviving members of Powell’s party can participate in the celebration of the creation of the park, which would naturally take place in the environment of this monument.

ADMINISTRATION ORGANIZATION FORMED.

Because the National Park Service had no field organization ready to take over the administration of the park, the Forest Service continued at our request to administer its affairs and look after its protection in so far as field matters were concerned until August 15, when Mr. W. H. Peters, an assistant engineer in the Division of Engineering, who had been designated acting superintendent, assumed charge of the park. Since that date much important work has been accomplished. The field organization to control the administration, protection, and improvement of the park is being built up as fast as required and suitable men can be obtained. The task of the present year is difficult, for many things are in need of immediate attention, improvement, and development, and to attend
to these many matters requires much thought and action, not only on the part of the superintendent, but others that have to do with the affairs of the park.

**EXTENSIVE IMPROVEMENTS REQUIRED.**

Grand Canyon National Park is in need of broad development. The most urgent work to be accomplished is perhaps improvement of the present Hermit Rest Rim Road, making it suitable for two-way automobile travel, and the construction of a rim road automobile drive from El Tovar Hotel to Grand View and thence to Desert View; the construction of a comprehensive trail system is equally essential, including a trail to the Colorado River at the confluence of Bright Angel Creek; a trail up Bright Angel Canyon to the north rim; a trail along the north rim from the head of Bright Angel Canyon Trail to Tiyo Point, thence along the rim to the head of Muav Canyon; a trail from Tiyo Point to the Colorado River at the foot of Hermit Trail; a trail down Muav Canyon to the foot of the Bass Trail; and the improvement of the Bass Trail and the Tonto Trail throughout its length, including outlet trails from the Tonto Trail to the South Rim at Grand View and at Desert View. The construction of suspension bridges for horseback travel across the Colorado River at Bright Angel Creek, the foot of Hermit Trail, and at Bass' Cable Crossing, and later on additional trails to develop the South Rim, east to Little Colorado Canyon, and west to Cataract Creek Canyon, are on our program.

A secondary road should be constructed from El Tovar to the floor of Cataract Creek Canyon and the Havasupai Indian Reservation in order to open up to tourist travel the wonderful waterfalls and other beauties of the Cataract region. In many places this would only necessitate small improvements to the existing wagon road, and for a relatively small expenditure many miles of roads suitable for automobile use would be added to the park system of roads, and, at the same time, a section having an entirely different type of scenery of extremely interesting nature would be developed.

The imperative need for the development of the entire area along the north rim is roads. Tourists arriving at Bright Angel Point after traveling long distances find their auto journey ends abruptly. There is no road leading up the river or down from which the most magnificent views of the gorge can be seen. The majority of visitors want to see the river itself and the mile or more of abyss, neither of which is now possible from Bright Angel Point. A large percentage of the visitors are elderly people who can not stand horseback riding over steep, rough trails and for whom the existing horse trails, therefore, hold no allurements. The situation as to roads should be carefully studied without delay, and improvements and construction concentrated on those most urgently needed. These are the roads furnishing the interesting side trips to the most important vantage points from where the inspiring views of the canyon and the odd glimpses of its great beauty en route to Point Sublime and east to the Walhalla Plateau may be obtained.

Later on chalets or camps should be constructed on the north rim at the head of Bright Angel Canyon and Muav Canyon to care for the trail tourists that will use the north side trails when they are
FIG. 1.—MAP OF GRAND CANYON NATIONAL PARK.
built and connected to the South Rim by the horse bridges. It is also quite probable that small tourist camps should be established at the mouth of Bright Angel Creek and at the mouth of Shinumo Creek to assist in caring for this travel. Additional space and facilities should be added to the present Bright Angel Camp to provide an intermediate class of accommodations, which will, in a large measure, relieve any excessive travel demands on the present El Tovar Hotel, so justly termed one of the best tourist hotels in America. Many of the tourists that visit our parks desire hotel accommodations at a lower price than can be furnished at El Tovar, and, on the other hand, want something better than is at present provided by the Bright Angel Camp. It is believed that the demand for this medium class of accommodation is sufficient at the present time to warrant the early action of the concessioners in this respect.

ADMINISTRATIVE VILLAGE BETTERMENTS.

In the vicinity of El Tovar Hotel many betterments should be made to the grounds, and the canyon rim for some distance should be provided with a footpath having a parapet and seats at frequent intervals. The old shacks and débris should be removed from the canceled mining claims, and the buildings that are permitted to remain should be placed in a good state of repair and made to harmonize with the architecture of El Tovar.

Suitable camp sites must be provided and maintained for the automobile tourists that are coming to the park in increasing numbers, and because of the absence of water elsewhere these camps must be in the vicinity of the railroad. Garage and repair-shop facilities must also be arranged for; likewise a general store that will provide tourists and campers with all classes of necessary supplies, such as clothing, food, and general camp and traveling supplies.

Buildings necessary for the administration and protection of the park must be erected and quarters for the construction and maintenance force will be needed. Three buildings of a temporary nature are being constructed this season to serve as a temporary office, storehouse, and mess house, and estimates have been prepared and submitted for the construction of a garage and shop building, a stable, and quarters for a clerk, all at headquarters, and a ranger station for the North Rim, and later on additional ranger stations will be required for both the north and south rims of the canyon. During this fall a thorough study will be made of the surroundings, and plans will be adopted for the best development and arrangement of the administrative site and buildings and the best and most economical type of building for this purpose. It is to be regretted that the stone garage and machine-shop building erected by the hotel management two years ago should be in its present location. The structure is not suitably located for a garage and at the same time it is on or near the site on which the park administration building should be erected. It is believed that it would be to the advantage of both the hotel company and the Government if this garage building might be purchased by the Government and put to park use, and a new garage built near the present horse-transportation buildings of the company or at some other location to be decided on later.
A. IN THE GIANT FOREST.

B. ENTRANCE TO CRYSTAL CAVE.
SEQUOIA NATIONAL PARK.

A. BUBBS CREEK FALLS.

B. BULL FROG LAKE.
PROPOSED ROOSEVELT NATIONAL PARK.
Photographs by H. W. Gleason.
WATER STORAGE A SERIOUS PROBLEM.

Some means of securing a water supply for the park administration buildings and public camps must be devised. Preliminary studies of this very serious problem are now being made, and the assistance of the department's geologists will be sought in deciding upon the most feasible method of obtaining water for domestic purposes for the South Rim other than by having it hauled by train from Del Rio, about 125 miles distant, as is done at present. In the meantime an item has been inserted in next year's estimates for the construction of two catchment areas and reservoirs which will determine the feasibility of this method of securing water for drinking purposes, and will at least provide water for stock and sanitary needs.

Water at Bright Angel Point on the North Rim is at present secured from a few small springs, the supply from which during the months of August and September, the dry months of the year, has never been sufficient. At such times water has to be hauled 2½ miles over bad roadways. As these springs are also used for watering stock, the present supply is not sufficient to keep any camping facilities properly provided. This is a serious problem in developing and expanding the facilities at this point. Just recently, however, a spring with an average flow of 20 gallons per minute has been discovered about 200 feet below the rim of the canyon, and within a mile from Bright Angel Point. This may, upon investigation, prove the solution of the water problem in this area. This supply would be kept sanitary and unpolluted by the very fact of its being inaccessible to cattle, and it could undoubtedly be developed by the installation of a pump and pipe line.

Paradoxical as it may seem, the two things that are hardest to obtain in this gigantic water eroded rock canyon are water and rock; for not only is water lacking but also suitable rock for road surfacing, the top strata of the earth's crust being a soft, friable, and easily slacked limestone which, when broken into rock sizes suitable for road surfacing, rapidly disintegrates by weather and travel action. In the surfacing of the present Hermit Rest Road the constructing engineer found it more practical to haul in his road surfacing material. Investigations of possible quarry sites down in the canyon are being made and samples of the limestone are being tested to see if they would make a suitable bituminous concrete rock.

PRIVATE LANDS AND MINING CLAIMS.

Some of the principal administrative problems connected with the development of the park relate to the private holdings and mining claims. Many of the latter that were of a purely speculative nature have fortunately been canceled, and at the time of this writing many other claims of doubtful character and value are coming up for final review before the secretary.¹ Most of the lands in private holdings are situated along the rim of the canyon and are so located that if a rim road is constructed from El Tovar to Desert View it will have to pass over this private property. One owner of such land has already refused to give or sell a right of way across his

¹See decision of the Commissioner of the General Land Office canceling the Cameron mining locations: Appendix G.
tract. Thus, if it should be decided to build the road condemnation proceedings will have to be instituted. No doubt other similar suits may be necessary.

The Bright Angel trail, which is at present maintained by the county authorities of Coconino, exacts a toll of $1 for every person that rides a horse over it, although pedestrians are permitted to use the trail without charge. The very term toll road or toll trail is abhorrent to the ideals of this Service and contrary to the purpose of national parks, and it is hoped that this toll charge will soon be a thing of the past. Congress has provided in the bill creating the park that a report shall be made as to terms upon which the purchase of the trail and the rights of the county therein can be secured. Such a report will be submitted as soon as negotiations can be had with the county authorities.

**NORTH RIM PROBLEMS.**

The difficulties in the way of making trips from the south rim to the north rim of the Grand Canyon are serious features of the administration and protection of the park, but when some of the essential trail improvements mentioned above are made this situation will be greatly relieved.

From the standpoint of proper protection of the park quick movement between the two rims is essential. Fire control and the work of looking after the wild animals, particularly deer and bighorn sheep, which are most abundant on the north rim, often create emergencies which must be met by rapid marches of the ranger force. Likewise administrative problems constantly demand the movement of the superintendent from one section of the park to the other, and the earlier we can make it possible for him to make rapid journeys to the north rim from headquarters on the south rim the quicker the very highest efficiency of his office can be attained.

**FEATURES OF THE NORTH RIM.**

Aside from the animal life of the north rim, the temples of the broken north wall and the forests of the Kaibab are remarkable features of the north side, and the view of the canyon from this side is as magnificent as the view from the south. The north rim is approximately 1,000 feet higher than the south rim.

Late investigations by Mr. Neil M. Judd, of the National Museum, disclose the fact that some of the most interesting ruins of prehistoric structures are to be found along the north rim of the canyon, and just under the rim where sheltering rocks and hidden canyons afforded opportunities to build villages and individual houses and shrines where the inhabitants would be safe from enemies and the ravages of storms.

In fact, an archaeological reconnaissance of some of that part of Arizona lying north of the Colorado River and partly within the present boundaries of the park opened up the wonderful possibilities of an intensive study of the prehistoric exhibits available in that region. Here is believed to be found the solution of the puzzle of the history of the aborigines of the Southwest. One of the remarkable observations was the distinction in the types of architecture found in ruins at varying localities. As a result of these studies it is believed that, although similar methods and materials were not always used in constructing these ancient abodes, their builders were related, if not identical, peoples and they possessed a marked affinity with the cliff dwellers of California, Colorado, and New Mexico. Many of the ruins are neither large nor specially attractive; they arrest our attention only when we have a thorough understanding of their significance. The problem confronting archaeological investigations, and one of the most interesting encountered in endeavoring to establish some authentic records for these ancient people, is to determine just how definite this relationship actually was. Some existing maps of surrounding areas showing "ancient ruins" are not considered authentic as to location. Knowledge of the definite locations and accessibility of such prehistoric dwellings as are found together with an understanding of their relationship to the great ruins in Navajo National Monument and the Mesa Verde National Park, for example, will add much to the solution of these mysteries of the Southwest. The field for extensive research is unlimited. There are secrets to be divulged for the mere seeking. Every canyon holds possibilities of undiscovered villages.

It must be remembered that not since the days of Maj. Powell has a systematic exploration been undertaken, and Powell did not attempt to unravel the mysteries of the aborigines, where they came from, how they lived, and by what means they solved the problem of daily existence in combat with the elements and enemies. Surely there is no more interesting work than delving into this rich past and wresting from the soil and ashes of the camp fires evidences of former life, and from the earth-covered mounds, piece by piece, those shattered exhibits of bone and pottery that when collected and scientifically studied give us our sole glimpse into the days when that whole area was teeming with life. To find, explore, and attempt to explain these remaining evidences of prehistoric activities should be undertaken by the Smithsonian Institution in cooperation with the National Park Service.

The methods to be adopted in making these explorations depend greatly upon the number of natural difficulties to be overcome. The rugged and semi-arid character of the country handicaps exploration and restricts it to those seasons of the year when water and forage are most apt to be found. Climatic conditions must also be anticipated for the best results, and early spring or fall of the year are the best periods for this work. Working parties must necessarily be small, and the most satisfactory results are to be obtained, it is believed, by one or two trained scientists, assisted by the necessary guides with their equipment. This enables explorations and charting to be done at a minimum of expense, it being estimated that the annual appropriation needed for such work would not need to be much more than $1,000. Furthermore, it is believed that the region north of the Grand Canyon could be completely explored by persistent effort during favorable seasons in about three years. This covers only reconnaissance work and, of course, not desirable restoration or excavation. It is important that the work
should be undertaken as quickly as possible, for aside from the scientific value of new discoveries, they advance the purposes of our national-park work by adding features to arouse the public interest and by enlarging the common understanding of historic and prehistoric facts.

These investigations will be published shortly by the National Museum. There are also some interesting prehistoric buildings and other works of ancient peoples on the south rim of the gorge that will be made accessible to the public.

W. W. Wylie, who was formerly connected with a camping enterprise in Yellowstone National Park and who has operated a camp in Zion National Monument, Utah, for several years, was granted for the season the privilege of maintaining a camp at Bright Angel Point on the north rim. He reports a considerable patronage of his facilities.

Grazing in the Park.

When we assumed charge of the park, the Forest Service policy with respect to the grazing of cattle on park lands was continued for the year 1919 in order that no injustice might be done to permittees. If, upon investigation, it is found that the park is over-grazed, or that the cattle are interfering with the use of the area by tourists, adjustments of these privileges will be necessary.

A Winter and Summer Park.

Heretofore Hot Springs Park in Arkansas has been practically the only winter resort of the national park system. However, the Grand Canyon now gives us an opportunity to expand our appeal to the winter traveler, and with the contemplated facilities for entertaining tourists in Yosemite Park in winter our field will be broad enough and sufficiently varied in its attractions to profoundly influence the winter resort business of the Nation.

The travel to the park since it has been taken over by this service has exceeded all previous records except that of 1915, the Exposition year, and all indications point to the greatest winter travel of its history. The new park has a glorious destiny.

Lafayette National Park.

February 26, 1919, looms large in national park history. That date established the Lafayette National Park in the State of Maine, the first national park east of the Mississippi and I predict the ancestor of others that will enter our splendid family in the coming years. From July 8, 1916, to February 26, 1919, it was administered as the Sieur de Monts National Monument. Its establishment had origin in the keen desire of two men—President Emeritus Charles W. Eliot, of Harvard, and George B. Dorr, of Boston, both for many years visitors in that country and ardent lovers of its scenic qualities and historic atmosphere—to save this fine area of 5,000 acres upon Mount Desert Island as a national park for the benefit and enjoyment of the people. As you know, excellent cooperation also was given them by others in this invaluable undertaking. They formed an incorporated association for the stated object of raising, holding, and appropriating for public use such lands in Hancock County, Me., which by reason of historic interest, scenic beauty, or other causes were suited for their purposes of incorporation.

First National Park in the East.

But it was not until 1908, five years after the Maine Legislature passed the act of incorporation, that the first gift of land was received by this public-spirited body. Other tracts were later added. The reservation grew. In the spring of 1913 it had assumed such proportions that the association felt justified in offering the areas acquired to the Government. The plans matured, and in the spring of 1914 the matter was laid before you for your sanction. You warmly encouraged them to proceed with their work. Two more years were spent on the consolidation of the tract and the removal of imperfections in title by purchase, suits in equity, and other means until finally, May 3, 1916, the tract was offered to you for a national monument. You accepted, and the proclamation was drawn up accordingly. On July 8, 1916, it became a national monument. The bill to create it a national park was passed unanimously by both House and Senate and approved by the President on February 26, 1919, and the first step taken in the development of national parks in the east received the heartiest and warmest acclamation.

Its Varied Natural Attractions.

A refreshing feature of Lafayette National Park is that it is located right on the ocean front and, therefore, the first in this country actually bordering on the sea. The mountainous heights jutting boldly into the ocean are the only monadnocks on the Atlantic seaboard. Upon the cool refreshing waters lapping their base, and dotted here and there with islands, is the opportunity for developing a recreation facility for the tired man and woman of our eastern cities absolutely unique in our national-park aspirations, namely house-boating. Mr. Dorr, the superintendent, has in mind an extensive house-boating system of a simple, inexpensive sort. Camping opportunities are encountered on the broad expanse of the uplands, and along the shores there is place for the establishment of hotels to provide appointments of a higher quality for those who desire them. Bathing, fishing, and canoeing will be other tempting incidents of a visit to this park.

The park, as any other national park, is sanctuary for its wild life. A splendid chance is afforded to restore the natural life under our national-park protection to its former regions and native haunts—affording particularly conspicuous instance of wild-life conservation. Beaver formerly abounded in great numbers, but now are practically extinct; during the year several young beavers were presented to the park and others will be added. Eagles nest in the tops of the trees. Moose have been seen. Deer roam freely through the uplands. Curiously enough, the greatest difficulty in the protection of this wild life comes, not from human beings, but from dogs, who hunt generally in pairs. The park is a natural haunt and nesting...
ground of the ruffed grouse, New England's most valuable game bird. Wild ducks and geese are encountered in the sheltered spots along the shore. The park lies directly on the northward bird migration route, and it will soon abound with the life of our feathered protégés. Mr. Henry Lane Eno, ornithologist of Princeton University, has been placed in charge of the wild-bird life of the park, and you have also appointed Mr. Edward L. Rand, of Boston, secretary of the New England Botanical Society, as botanist. For its natural history study Mr. Charles W. Johnson, curator of the Boston Natural History Museum and an entomologist of note, is studying the varied insect life of the park. These men serve for a nominal compensation. The results of their efforts will be available in concrete form when they have completed their studies and add their generous share to the understanding of the attractions of our first eastern park.

It is interesting to know that, as in our western parks, great care also has to be taken in guarding against forest fires. In the spring the dry leaves on the ground and the dead marsh grasses are ready material for the spread of a fire. A small blaze must be quickly killed or it spreads with rapidity over a large area. Cleaning up dead timber to reduce this hazard to a minimum is one of the tasks of the rangers. Forestry work is urgently needed in the woodland portions of the park. The tracts of primeval forest should be cleared from underbrush. These forests are its richest heritage, forming the only exhibit in our system of the Appalachian forest with its evergreen and deciduous trees and their magnificent autumnal colorings.

PROPOSED DEVELOPMENT.

Now that the war is ended Lafayette Park can enter fully on its destiny and it is my purpose for the next fiscal year to submit to you an estimate for its larger development. The appropriation of $10,000, available for the maintenance and protection of the park area, is devoted to the guardianship of its wild life—bird, animal, and plant—to the maintenance of old trails and the development of new ones, and to carrying on minor improvements and surveying for future development. In the administration of the park, the superintendent has one office assistant and three park rangers who do very effective work.

During the coming year ranger camps will have to be established at various points of the park to make for a more effective protection of wild life, for discovery of forest fires, and the instruction and guidance of visitors. Additional well-built footpaths are needed to lead the wanderer through many delightful vistas to striking vantage points.

ADVANTAGES OF ITS LOCATION.

The park, situated close to Bar Harbor, is favorably located for tourist travel, and the tourists include many persons prominent in affairs. The natural attractions, its unusual topography, and particularly the salubrious climate will tempt as large a number of visitors as western parks enjoy, but this travel will have to be measured according to the development of the potentialities of the entire tract. Sixty-four thousand visitors traveled to the park during the season.

HAWAII NATIONAL PARK.

Although no funds for the administration of this park have been available, the small appropriation made by Congress for purposes of inspection and the continuance of negotiations toward the acquisition of the private lands situated within the proposed park was effectively used during the months of April and May, when I visited the Hawaiian Islands for the purpose of making a preliminary study of the park's needs and particularly its private land problem. Accompanied by Landscape Engineer Punchard, I sailed from San Francisco April 8, on the S. S. _Manoa_ of the Matson Navigation Line, and arrived in Honolulu April 14, 1919.

After a day or two in Honolulu devoted to the final arrangements for the trip to the reservations and consultations with the trustees of the Bishop estate in regard to the exchange of lands, our party, consisting of Mr. Lorin A. Thurston, representing Governor McCarthy who was unable to accompany us on account of pending legislation, Mr. Bailey, land commissioner of the Territory, Mr. George Collins, engineer for the Bishop estate, Mr. C. S. Judell, Territorial forester, Brig. Gen. George Hodges, commanding the Hawaiian Department, Mr. L. W. de vis-Norton, Mr. Punchard, and myself, embarked on the S. S. _Manoa Kea_ for the island of Hawaii and the volcano of Kilauea.

THRILLING LAVA SPECTACLES AT KILAUEA.

Several days were spent at the Volcano House from which we made trail trips up the slope of Mauna Loa and to the south along Crockett's Trail and the crater of Makaopuhi and into the country surrounding the crater of Kilauea.

The volcano of Kilauea is the chief attraction of this section of the reservation, but the tree fern forests, the forests of Koa or Hawaiian mahogany, and the Ohia trees are of no less interest, together with the remarkable lava formations, tubes, blow holes, steam vents, sulphur beds, lava flows, and wild flowers.

For some time the pit of the crater of the volcano had been in a quiescent state. The level of the lake of lava had risen and fallen in a quiet and not unusual manner, until only a few days prior to our visit it assumed an uglier mood and rapidly rose in its pit with a pressure so great that the sides and surroundings of the pit were rapidly distorted, and the single lake of lava, which had existed up to that time, was broken into four distinct lakes, with walls of lava 30 and 40 feet high separating them. We were told that it had been a gradual climb from the terminus of the automobile road to the edge of the pit, but that the pit had been surrounded on that side with a wall of tumbled lava rock 30 or 40 feet high. On one side a great cone 20 feet high stands alone about 50 feet from the edge of the pit, and from its top gas hisses and burns with a blue flame. Occasionally, when the level of the lava in the lake is at a certain height, red-hot molten rock is forced out of the opening in the top of this cone, down the sides of which it flows and away across the floor of the crater.

On the evening of our arrival, as we stood on the porch of Volcano House,
we saw lava flowing from this cone in a great cascade 3 miles away across the crater, and after dinner, when we drove over to the crater, we walked across the crust of this new flow, only an inch or two thick, and through the cracks in which and on the edges of which we could see the red-hot lava flowing beneath our feet. The heat was so great that we could not stand long in one place. Later, on our return, as we left the pit and walked toward the automobiles, we were escorted by Prof. T. A. Jagger, the official in charge of volcanological investigations and measurements under the direction of the United States Weather Bureau, directly beneath this cone which so short a time before had been throwing out tons and tons of red-hot lava.

PERRITTS CONE AND THE CROCKETT TRAIL.

Another afternoon we walked across the crater from the Volcano House to the toe of the flow, which had reached almost to Perritt's Cone, nearly a mile and a half from the pit. This distance had been covered in a day and a half. From Perritts Cone we walked along and across this flow until we reached the edge of the North Lake, so called. As we approached it we found it overflowing its shore line and coming directly toward us. The lake was in a state of great agitation. The surface was continually moving back and forth in great waves and a rapid scession of lava fountains were continually breaking forth. These took the form of red-hot lava, being thrown into the air for a distance of 30 feet. The greatest number were near the edge which we approached, and as they took place the lava was thrown out of the lake onto the shore, thus forming the flow.

A trip through the rough, broken, tumbled lava surrounding the lake gave us an opportunity to inspect all sides of this new formation, but as we approached the windward side of the pit it was necessary to resort to handkerchiefs over our noses and mouths in order not to be overcome by sulphur fumes, great clouds of which were being continually blown off.

All lands on this side of the crater belong to the Government, but are wholly unfit for development as camp or hotel sites on account of the noxious fumes. The lands not affected by these fumes are largely held in private ownership and are the areas that we are seeking to obtain for park purposes.

The trip over Crocketts Trail traversed a country of fern forests, Ohia forests, and extinct craters varying from several hundred feet in diameter and 500 to 600 feet deep to craters over 1,000 feet in diameter and 1,200 and 1,500 feet deep; craters so long extinct that nature has succeeded in clothing their sides with growing trees 100 feet high and 2 feet in diameter. In contrast to the activity of Kilauea, these stand as an object of interest in nature's endeavors to reclaim the desolation she makes in the formation of the earth by volcanic action.

MAUNA LOA PARK AREA.

I did not attempt the climb to the summit of Mauna Loa, as this trip required two days of very strenuous riding and walking. All private holdings in the Mauna Loa Park area have already been acquired. The next step to be taken in planning the development of this park area is the survey of a road to connect the Kilauea area with the summit of Mauna Loa, authority for which is contained in the organic act establishing the park. This work will be undertaken by our engineers at the first opportunity.

THE HALEAKALA PARK AREA ON MAUI.

Our visit to Haleakula, on the summit of which is one of the largest extinct craters in the world, was well worth the long, tedious climb by horseback over a rough trail. After spending the night in a comfortable concrete rest house constructed by the Maui Chamber of Commerce, we arose early to view one of the most wonderful sunrise effects imaginable. Ten thousand feet above the ocean, which we could see far below, we waited, and soon were rewarded by a faint glow; then, as the sun rose higher above the horizon, the glow gradually changed to a beautiful orange red; and the clouds like great white downy rivers flowed and disappeared into the crater on the edge of which we stood. As the sun rose higher the colors in the crater became more and more intense, the shadows deeper and bluer, and then the sunlight began to brighten the sugar-cane fields far below fully 10 or 15 minutes after we had first seen the glow. We watched for almost an hour, and then reluctantly went in to breakfast. It seemed like two worlds, one above the other, one alive and the other coming into life as the sun warmed it.

From Maui we returned direct to Honolulu, and on the morning of May 7, 1919, we sailed for the California coast on the steamship Korea Maru, of the Toyo Kisen Kaisha Line, arriving in San Francisco at noon on May 13.

Particular mention should be made of the courtesies extended to myself and party during this trip. Everywhere we were shown every attention, and great interest was taken in the object of my visit. In many cases business men interested in the project took time from their work in order to help us in gathering the information we sought.

EXCHANGE BILLS PENDING IN CONGRESS.

Before any appropriation for the improvement of the Hawaii National Park can be made private holdings necessary in the administration and operation of the park must be secured, together with rights of way for roads and trails. An inhibition in the organic act establishes this situation. Such holdings can not be acquired in the Kilauea section without prior enactment of legislation authorizing certain exchanges of lands belonging to the Territory for the private lands of the area prior to the proper development of the park. These lands are owned by the Bishop estate, the officers of which have agreed to make the necessary exchange on a reasonable basis. The terms of this exchange were considered in detail in my extended conferences with the officers of the estate in Honolulu, and we can proceed to carry them out as soon as Congress authorizes their execution.

On pages 130 to 132 I have outlined the history of the pending legislation. S. 5833 of the Sixty-fifth Congress passed the Senate on February 25, 1919, but did not receive the attention of the House. Early in the present session, however, Delegate Kalanianaole, of Hawaii, introduced H. R. 3654, which is essentially the same as the
measures introduced in the previous session. This measure was reported favorably to the House by the Committee on the Territories on July 21.

In the recently enacted sundry civil bill Congress appropriated an additional $750 for the continuation of negotiations looking toward the elimination of the private holdings of the park.

With the clearing up of the details relating to the exchanges of land in these reservations, money should be appropriated for maintenance, protection, and administration. A superintendent should be appointed and a ranger or two for protection and guidance to tourists. Automobile camps should be laid out and developed, sites for which were selected at the time of my visit, signs should be made and posted for the guidance of the tourists on trails and roads, and other such undertakings, the nature of which is in keeping with the administrative policies of the park service, should be carried out.

**LASSEN VOLCANIC NATIONAL PARK.**

Another park created by Congress with the evident intention of development as an important national playground is Lassen Volcanic Park in California, and yet no funds have ever been provided to make possible the assumption of control of the area by the National Park Service. It is still administered by the Department of Agriculture as part of the Lassen National Forest.

A certain amount of grazing in the park area has been permitted in accordance with the policies of the National Park Service with respect to the pasturage of cattle. The control of this grazing has been entirely in the hands of the forest rangers.

**NO FUNDS FOR PROTECTION OR IMPROVEMENT.**

So far as I have been advised, no road or trail improvement has been accomplished in the park during the past year. Naturally we have not been in a position to carry out any plans for its administration, protection, or improvement. Considerable interest is being taken by the citizens of northern California in the ultimate development of the reservation, but I am interested chiefly in securing sufficient funds to establish a protective office in the park and maintain existing improvements until such time as Congress is ready to make substantial appropriations for the extension of roads, trails, and other means of reaching the many interesting points that are now more or less remote and inaccessible.

Upon the other hand, if it is now the intention of Congress not to consider this park as a part of the system it ought to be withdrawn and made a national monument.

**INTERPARK ROUTE VIA LASSEN VOLCANIC PARK.**

In connection with the designation of the park-to-park highway and its alternative routes, it has been suggested that a most fascinating tour might be made from Crater Lake National Park to Yosemite National Park by way of Klamath Falls, the famous lava beds. Lassen Volcanic National Park, and Lake Tahoe. I have traveled over a large portion of this route, and I know that it would make one of the most unique and interesting tours that an interpark traveler could take. It is to be hoped that in the further improvement of the highways of California under its recent bond issue special attention will be given to the problem of repairing or rebuilding the various sections of road that would make this trip feasible.

**VOLCANO QUIET.**

During 1918 Lassen Peak has been quiescent, although eruptions were quite frequent in 1917, especially in May and June. The latest eruption of black smoke, indicating the presence of ejected ashes, reported by observers in the vicinity of Lassen Peak, occurred December 3, 1917.

**MOUNT MCKINLEY NATIONAL PARK.**

Although this park was established on February 26, 1917, as an emergency step in the preservation of the great herds of wild animals of that region, which were in danger of extermination through the operation of market hunters, Congress has not yet provided any funds for carrying out the provisions of the organic act. Estimates for appropriations in the amount of $10,000 for the fiscal year ending June 30, 1918, were submitted a few days after the enactment of the bill creating the park, and the annual estimates for the fiscal years 1919 and 1920 also contained this item. It is again being submitted in the budget for the fiscal year 1921.

While it is true that curtailment of work on the Alaska Railroad during the war reduced somewhat the danger that threatened the animal life of the park, nevertheless some measures to protect the reservation should have been taken. It was and is quite impossible for the territorial government to undertake the care of the park under the small appropriation that is made for game protection throughout the immense area of Alaska.

It will not be the policy of the National Park Service to immediately open this park to tourists; in fact, several years may elapse before any program for developing the scenic and recreational features of the park is adopted. We are interested now only in the preservation of the caribou, mountain sheep, and other animals that make this region their home. The park as a game preserve is almost comparable with Yellowstone National Park, and it is in much more danger from the hunter, because it is far distant from civilization and is little known.

**CIVILIZATION BRINGS DANGER TO PARK ANIMALS.**

Work on the Alaska Railroad is being pushed with renewed energy now. Soon the railroad will reach the neighborhood of the park, bringing with it construction camps and then towns, with a considerable population. Thus the menace to the unprotected park ever grows. Unless we are provided with funds to undertake the preservation of its wild life the principal purpose of Congress in creating the park will be completely defeated and another blot will have been spread upon America's unenviable record in the conservation of its wild life.

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1 See the committee report on p. 326.
WIND CAVE NATIONAL PARK.

A remarkable increase in travel was the outstanding feature of the operation of Wind Cave National Park during the past year. Situated on one of the principal trans-State highways and not far distant from popular transcontinental highways, Wind Cave Park has tapped an unusually large volume of tourists, most of whom, of course, were motorists who were traveling in the West in their own cars.

Many of these visitors have taken advantage of the improved transportation facilities to visit not only the cave but also the headquarters of the game preserve for the purpose of seeing the animals. No provision has yet been made for the convenience of such visitors, many of whom would doubtless like to spend a few hours enjoying the beauties of the northern part of the park along Cold Brook and Beaver Creeks. Provision should be made for suitable picnic grounds and for the convenience of persons who wish to visit this part of the park, as well as of those who take the trip through the cave.

NO IMPORTANT IMPROVEMENTS MADE.

There have been insufficient funds available to make any extensive improvements of the park, but it has been well maintained under most careful expenditures of funds by the superintendent in charge. There are many things that ought to be done for this park, however, and I believe that Congress should progressively increase the appropriations for it each year until its essential needs are completely met.

SON SUCCEEDS FATHER.

Mr. Thomas W. Brazell, who was appointed superintendent of the park on August 20, 1914, resigned on March 15, 1919, and his son, Roy, who served in the park as a ranger for several years prior to the war and who had just returned from service in the Army, was appointed to the vacancy.

The superintendent's report, which will be found in Appendix B, gives many interesting facts regarding Wind Cave which have not been published in the reports of previous years. A perusal of this report will be both entertaining and enlightening.

GAME PRESERVE PROSPERS.

The game preserve maintained in the northwestern part of the park under the supervision of the Biological Survey, includes 4,160 acres under fence. This preserve, established in 1912, now contains more than 160 head of big game, including 52 buffalo, 83 elk, and 27 antelope. The total includes 12 buffalo calves and 7 young antelope, born during the present season, but does not include the elk calves, the number of which has not yet been reported.

The buffalo herd has become thoroughly acclimated, very few losses having occurred since its establishment, and during the past year the increase has been about 25 per cent. The elk, most of which were transferred from the Yellowstone National Park, have also done remarkably well, the 46 head originally placed having nearly doubled in number. The antelope have been less successful, and con-

REPORT OF DIRECTOR OF NATIONAL PARK SERVICE.

siderable difficulty was experienced at first on account of depredations of coyotes and other predatory animals. Fortunately, these losses have now been checked. During the past season 13 coyotes and 7 bobcats have been killed in or near the preserve and losses from these sources have practically ceased. The birth of 7 young antelope this season indicates that the herd has become fully acclimated and now gives promise of fairly rapid increase.

CONSERVING THE WATER SUPPLY.

The unusual dry season during the spring and early summer of 1919 has emphasized the necessity of conserving the water supply. The water supply in the park, always scanty, has been put to a severe test by the drought, but the permanent springs and the upper part of Cold Brook Creek have furnished water even during the driest part of the season this year and may be relied on for a regular supply. Future improvements of the park, however, may require not only the development of the present water supply, but the acquisition of several other springs in order to furnish adequate supply for headquarters, for the game preserve, and for the use of visitors.

PLATT NATIONAL PARK.

Lack of funds made it impossible for the National Park Service to do anything more in Platt National Park than maintain existing improvements, and, due to the increased cost of labor and materials it has hardly been able to keep the park from going inactive. The appropriation for its administration, maintenance, and protection should be increased eventually to at least the amount of funds that was made available annually prior to the war.

Among the essential improvements that should be made may be noted the sinking of wells at Antelope and Buffalo Springs, which suddenly became dry in January, 1918, and have not yet resumed their flow. In all likelihood these springs have become permanently inactive.

GAME PRESERVE DEVELOPMENT.

Public-spirited citizens of Oklahoma, particularly of the town of Sulphur, which is situated near Platt National Park, have offered to subscribe funds for the importation of several elk and buffalo for this park, and I have accepted their generous tender of cooperation in this enterprise. The elk will be shipped from Yellowstone National Park during the coming winter and the buffalo will be obtained from the Niobrara Reserve. There are a few white-tail deer in the park, and numerous smaller mammals and birds are quite plentiful. It appears, therefore, that this park has possibilities as a game preserve that are certainly worth developing.

THE CLIFFSIDE TRAIL.

The scenic walk in the hills of the park, known as the Cliffside Trail, is in bad condition and ought to be repaired. However, we have not sufficient funds available to do this work. Likewise it is impossible for us to perform a number of other rather necessary improvements that would give much more enjoyment to the people who use the park.

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Col. Richard A. Sneed, who became superintendent on February 14, 1914, resigned on June 30, 1919, to become commissioner of Confederate pensions of the State of Oklahoma. He was succeeded on July 16, 1919, by Mr. Thomas Ferris, who was formerly superintendent of the Blackfeet Indian Reservation and just prior to entering this service was superintendent of the Pawnee Indian School.

SULLYS HILL NATIONAL PARK.

The development of Sullys Hill National Park as an important game preserve received great impetus when an appropriation of $5,000 was made by Congress for general improvement. The clause from the appropriation act making these funds available follows:

“For the improvement of the game preserves in Sullys Hill National Park, in the State of North Dakota, including the construction of all fences, sheds, buildings, corrals, roads, shelters, and other structures which may be necessary for the protection of game or for the use of visitors, in addition to the amount heretofore appropriated, $5,000, the same to be available until expended.”

This preserve has been maintained by the Biological Survey since 1915. It is now stocked with 6 deer obtained from the Agricultural Experiment Station at Fargo, 7 buffalo procured from the park department of Portland, Oreg., and 22 elk from Yellowstone Park. This constitutes a representative collection of the big game of that territory and affords a large community an opportunity of seeing these animals under natural conditions.

Under the above-mentioned appropriation buildings will be constructed for both visitors and animals, an adequate water supply will be established, sanitary arrangements perfected, and perhaps bathhouses constructed on the shore of Devils Lake. Pavilions for the shelter of visitors have already been built. The proposed Sunset Highway projected along Devils Lake, at the north side of the park and running directly through the entire area, will undoubtedly stimulate travel to this attractive park.

HOT SPRINGS RESERVATION.

In my last report I gave in some detail our plans for a broad development of Hot Springs Reservation, including a description of what appearance the improved front would have when the most important features of the building program and landscape work were completed. I mentioned, too, the fact that Congress had appropriated $140,000 from the Treasury and $50,000 from the park revenue fund for the construction of a new administration building and Government free bathhouse on the site of the present administrative headquarters at the corner of Central and Reserve Avenues. This building was to be the first unit of the comprehensive development.

Shortage of labor and high cost of materials would have prevented the construction of this building during the last fiscal year even had I been entirely satisfied that the location of the proposed new structure was the best that could be found. However, I was not sure that the location was right, and upon my visit to the park in November, 1918, I gave a great deal of attention to the problem of relocating it. I finally concluded that two buildings should be erected, one for administrative purposes on the present office site, and the other a free bathhouse to be built on some other site which would be not far distant from the hot-water supply, and yet accessible directly from the part of the city in which most of the indigent people who would use the free baths would ordinarily dwell while there for treatment. A site on the reservation that would meet those general requirements could not be located. The sites suggested were either located near the reservation front or on the hillsides distant from the quarters of the bathhouse patrons and more or less inaccessible to them, or on the side of the park area near these quarters and yet so far from the water supply that an expensive pumping plant would be required to supply the bathhouse with hot water.

HOT SPRINGS CITIZENS GIVE BATHHOUSE SITE.

At length it was discovered that block 82 in the city of Hot Springs across Reserve Avenue from the Reservation and nearly opposite the eastern end of the Army and Navy Hospital area would meet our requirements very satisfactorily. This the citizens of Hot Springs agreed to buy and present to the Government. The title of the land, however, was found to be in an estate which was being administered by the Alien Property Custodian. The acquisition of the property under the rules and regulations of that office is in progress now, and title to the block will soon be transferred to the United States.

Under the following provision of the sundry civil act of July 19, 1919, the funds made available last year were reappropriated for the current fiscal year, two buildings were authorized, and authority to accept the gift of the city property was granted to the department:

The unexpended balance of the appropriation and authorization contained in the sundry civil appropriation act for the fiscal year 1919 for the construction of a new administration and Government free bathhouse building is reappropriated and made available for the fiscal year 1920. The Secretary of the Interior is authorized, in his discretion, to use such appropriation and authorization in the construction of separate buildings for administration and free bathhouse purposes and to accept sites in the city of Hot Springs which may be donated for said buildings.

The presentation of block 82 to the Government will enable us to carry out the plans of establishing the free bathhouse in that location with much larger facilities than we could have provided on the location chosen last year for the combined bathhouse and administrative building.

BATHHOUSE PLANS APPROVED.

Preliminary plans for the new free bathhouse have been submitted by the firm of Mann & Stern, and have been approved by you and by the Commission of Fine Arts, and it is hoped that before the end of the next season the new building will be completed and ready for use. This will make possible the removal of the old free bathhouse which is now in a dilapidated and rather unsightly condition in addition to being woefully inadequate to meet the demands for baths.

Instead of building a new administration building the present structure will be utilized as far as possible, it being our intention to
so remodel this building as to make it harmonize fully with the new bathhouses on the reservation front, or Bathhouse Row, as it is popularly called. This means that a new front, at least, will have to be placed on the present administration building.

**IMPROVEMENT OF RESERVATION FRONT.**

Three new bathhouses will also be erected on the reservation front. One will occupy part of the sites of the former Horseshoe Bathhouse and the present Magnesia Bathhouse, and the central portion of this new structure will occupy what is now a wide walk to the old free bathhouse, which is located on the hill to the rear. This will be known as the Platt Bathhouse and will be built by Mr. Dan F. Platt, who leases the Magnesia Bathhouse and who also leased the Horseshoe before its demolition a few years ago. On each side of this new structure and between it and the Fordyce Bathhouse on the north and between it and the Ozark Bathhouse on the south it is proposed to erect two comfort stations, which will form a part of the broad development of the park by the Government. It is hoped that these comfort stations can be built next year while construction of other buildings on the park front is in progress.

Another new building will replace the present Ozark Bathhouse and will be built on the same site by the lessees of the existing enterprise. Likewise, between the new Buckstaff Bathhouse, south of the Ozark site, and the Reservation office, a new building will be constructed to take the place of the Lamar Bathhouse. It will be built and operated by the lessees of the present Lamar establishment.

It had been our plan to order the demolition of the Magnesia, Ozark, and Lamar Bathhouses at the end of the season that closed in the early spring of this year, but circumstances conspired to make this course inadvisable. An extension of time in which to undertake this work was granted, with the definite mutual understanding that these old frame buildings were to be removed as soon as the coming season ends. In other words, the lessees were permitted to operate their present plants for one more season. It was very difficult for these lessees during or immediately after the war to secure necessary funds to rebuild, but we have received every assurance that necessary financial arrangements are being made and that the new bathhouses will be constructed next year. This means that within approximately a year from this date our lessees will have completed their part in the improvement of the reservation front in harmony with the general plan of development.

**AN IMPORTANT HOUSING PROBLEM.**

I am still giving much thought to the problem of caring for indigent people who come to Hot Springs to use the facilities of the free bathhouse, and while a completely feasible plan has not yet suggested itself, I expect to develop soon some satisfactory program for meeting this problem. In working on this important matter I am taking every opportunity to interest social-service and related organizations who have had experience in solving similar problems.

The citizens of the city of Hot Springs have already rendered a national service in relieving the suffering of scores of poor people who have visited the park for treatment, and they are still engaging in the work to the extent of their ability, but the need is growing each year and has far passed the capacity of the Hot Springs people to adequately render aid. Furthermore, the call of humanity is not one that the Hot Springs people should answer alone. The Nation should respond, and its contribution should take the form of carrying out some comprehensive housing plan which, of course, it is our duty to develop, in cooperation with any agencies that are qualified to render advice and assistance.

**SPECIAL LANDSCAPE IMPROVEMENT.**

In order to improve the landscape effects of certain sections of the park, prior to the opening of the tourist season, I ordered, on the occasion of my inspection visit, approximately 15,000 bulbs of tulips, red, white, and blue hyacinths, and narcissus, which were planted during the month of December, under the supervision of Mr. Jens Jensen, the Chicago landscape architect, who made a trip to Hot Springs at my request. The beautiful effects of this planting surpassed all expectations and were much appreciated by the winter visitors.

Mr. Jensen, during his visit, gave some very interesting suggestions to the municipal authorities for development of approaches to the Reservation from the railroad terminals, and for other city improvements.

**CHANGE OF NAME DISAPPROVED.**

An effort was made during the consideration of the last sundry civil bill to change the name of this park area from Hot Springs Reservation to Hot Springs National Park, but it was unsuccessful. There is no reason why this change should not be made, and at the first opportunity another effort will be made to present the merits of the proposal to Congress.

**HOT SPRINGS SEASON.**

Hot Springs is continuing to grow in popular favor with great rapidity. The past season was the best in the history of the reservation, over 150,000 people having visited it in the course of the year.

The number of paid baths was 729,997, while the corresponding figure for 1918 was 704,975. The gain of the past season was 25,022. The total receipts for 1919 were $346,974.46, as against $332,791.12 for 1918; an increase of 15,183.34. On the other hand, the net profits decreased somewhat, due to the greatly increased cost of operation. The 1919 season profits were $127,475.64, while the profits of last year were $127,911.74.

Baths to the number of 87,040 were given to indigents at the Government free bathhouse. The total number of baths given during the year, including the paid baths, complimentary baths at pay bathhouses, and 5,445 at the Leo N. Levi Memorial Hospital bathhouse, a charitable institution, was 824,326, an increase of 21,501 over last year.
REPORT OF DIRECTOR OF NATIONAL PARK SERVICE.

ZION NATIONAL MONUMENT, UTAH.

Zion National Monument is about to become a national park. S. 425, introduced by Senator Smoot on May 20, 1919, was passed by the Senate on June 20 and is now pending in the House of Representatives. There appears to be no opposition to the measure and we may reasonably expect it to be enacted into law very soon.

On account of the reduction in the appropriation for the national monuments, very little money has been available for the improvement of Zion Monument during the past season. A small sum was allotted for the improvement of the automobile road, and some work on the trail to the rim of Zion Canyon may be undertaken. As soon as this great scenic monument is made a park certain extensive improvements should be made immediately. Among these is the construction of a first-class trail from the floor of Zion Canyon to the west rim—a trail that can be used by pedestrians and horses. Such a trail ought to compare favorably with the ledge trails of Yosemite Valley. The automobile highway should be extended to the Narrows and should be protected in several places from the ravages of spring torrents. Other trails should be built about the floor of the valley, and as many side trips as possible made available for visiting tourists.

TRAVEL AND ACCOMMODATIONS.

During the year Mr. W. W. Wylie maintained the camp at Zion Canyon which he established early in the season of 1917. He is maintaining this camp enterprise with difficulty on account of the fact that visitors are not disposed to stay in the monument because there are so few side trips to make. However, when the improvements referred to have been brought about it is anticipated that there will be so much of genuine novelty and extraordinary interest for the visitor to enjoy that he will spend a week, or even weeks, there.

An attractive publication on Zion National Monument which was issued by the Bureau of Service, National Parks and Monuments, of the Railroad Administration, has undoubtedly been responsible for increasing travel to the monument this year, but, strange to say, it has been the means of inducing more motorists to make the trip than people who were utilizing train service to tour the country.

STATE ROADS IMPROVED.

The State of Utah has continued its work of improving the highways leading to the monument, most of its work consisting of the construction of permanent betterments. There is some talk of opening the Arrowhead Trail from Salt Lake City to St. George, and if this work is carried out travel to Zion National Monument will increase by leaps and bounds.

1 On October 6, 1919, S. 425 was passed by the House of Representatives with several minor amendments. The bill is now in conference and it is not anticipated that any delay will be encountered in reaching an agreement on same. It is reasonable to expect, therefore, that an additional national park will be added to the present system in the very near future.

2 See committee report in Appendix D.
a good road system leading to the park’s entrance, and developed within its borders, travel will grow rapidly.

**MUIR WOODS NATIONAL MONUMENT, CALIFORNIA.**

This monument was established in 1908, after it had been donated to the Federal Government by William Kent, of California, and each succeeding year it has been visited by many thousands of people.

**STEEP RAVINE GIFT TO NATION.**

Mr. Kent is now arranging to convey to the Government another tract of beautiful forest land for the purpose of enlarging this monument. This tract will include Steep Ravine, a particularly beautiful wooded gorge not far distant from the Pacific Ocean.

**AUTOMOBILES MAY BE EXCLUDED.**

A question has arisen as to whether or not automobiles ought not to be excluded from Muir Woods. I am inclined to take the view that automobiles ought to be parked south of the monument and that the present road in the woods ought to be maintained hereafter as a foot and bridle path. In the event that it is decided to exclude automobiles, it will be necessary to construct an adequate parking space immediately below the reservation. The owner of these lands has tendered to us the privilege of utilizing them as a parking area.

With machines excluded the monument will offer far more advantages as a camping and picnic ground, and visitors will undoubtedly gain more pleasure from their contemplation of the beauty and majesty of the immense Sequoia trees, as the short walk from the proposed parking area will not be a hardship to the motorist.

**A WATER SYSTEM INSTALLED.**

During the year 5,040 feet of water pipe were installed in the Muir Woods, together with 10 hydrants, thus making good water conveniently available for drinking purposes. A small dam was installed in a remote ravine beyond the boundaries of the monument, thus providing a reservoir protected from any ordinary means of pollution. The right to use this water was conveyed to the Government by Mr. Kent. Better toilet facilities will also be provided this season.

Many other improvements, however, are required, including the rebuilding of most of the trails of the monument and the construction of new trails, both for the use of visitors and to serve as fire-patrol routes.

A cottage for the custodian must also be built in the early future.

**CASA GRANDE NATIONAL MONUMENT, ARIZONA.**

Under direction of Custodian Frank Pinkley a very considerable amount of important yet inexpensive improvement work was accomplished in the Casa Grande National Monument during the past year. The work was largely confined to clearing débris from the reservation, and particularly the recent growth of brush that has sprung up dur-
A. A PORTION OF THE FIRST FOREST.
The profusion of petrified wood is clearly shown.

B. ROOT OF PETRIFIED TREE, 7 FEET IN DIAMETER.
The profile resembles a dog's or lion's head.

PETRIFIED FOREST, NATIONAL MONUMENT, ARIZONA.
Photographs by Wm. Nelson.

A. HAVASUPAI INDIAN RESERVATION IN THE CATARACT CANYON.
The walls are deep red sandstone. The older Indians regard the two upstanding rocks as sacred.

B. HAVASUPAI INDIAN WOMAN GRINDING CORN IN A METATE.
These Indians are extremely primitive in their methods and manner of life.

GRAND CANYON NATIONAL PARK.
Here was Gen. Don Diego de Vargas, general and conqueror for the Holy Faith and the royal crown of all New Mexico at his own expense in the year 1692.

The archaeological work undertaken included the sinking of test pits in a number of large mounds, together with the digging of trenches preparatory to conducting investigations in these completely covered ruins. An important study was made in an elliptical mound, producing results that led to the conclusion that the building within it was used as a great stadium by the ancient inhabitants of the village. Mr. Pinkley believes that this building was used at least twice a year, once for the purpose of offering prayers for rain and good crops and later for the purpose of offering thanks for the results of the season’s harvest.

Custodian Pinkley also acted as custodian of the Tumacacori National Monument and devoted considerable time to the interests of the Petrified Forest National Monument, and after the creation of the Grand Canyon National Park he made a study of certain conditions in that reservation for my personal information.

This monument was set apart for the purpose of safeguarding the ruins of an old Spanish mission called San José de Tumacacori, which belonged to a chain of missions in Arizona, dating from about the year 1730.

Tumacacori Mission was especially well constructed, and although it has been abandoned for many years, its walls are still in a fair state of preservation.

The monument was established on September 15, 1908. At that time it was evident that if certain work was not performed in the way of repairing the walls and the other parts of the mission building it would soon become a tumbled heap of brick and mortar. However, until this year, no funds were available to undertake this work.

In December, 1918, I assigned Custodian Pinkley, of the Casa Grande National Monument, to undertake an inspection of the mission to determine what ought to be done to protect the walls and towers from further decay. On December 9, 1918, Mr. Pinkley was made custodian without additional compensation. During the year he made several trips to the old mission, and under his direction numerous important repairs were made. A heavy concrete foundation was placed under the bell tower, and the east wall of the sacristy was strengthened by liberal use of cement and rock. This wall supported a well-preserved brick roof. A new foundation was put under the east wall of the church, the debris was removed from the floor of the building, and considerable improvement work was performed on the walls and gates of the cemetery which immediately adjoins the mission.

In this work Mr. Pinkley had the hearty support of the chambers of commerce of Nogales and Tucson, Ariz., and of the archaeological department of the University of Arizona, which is headed by Prof. Byron S. Cummings, who has taken such an important part in the preservation of prehistoric cliff dwellings and other records of by-
gone civilizations of the Southwest. A considerable portion of the work on the Tumacacori Mission was performed with funds subscribed by these chambers of commerce or allotted by Prof. Cummings from moneys placed in his hands for archaeological work.

Much work remains to be done at the Tumacacori Mission, the most important requirement being the construction of a roof over the nave of the church. We shall proceed with this work of essential restoration as fast as funds become available.

GRAN QUIVIRA NATIONAL MONUMENT, NEW MEXICO.

On July 22, 1919, a permit was granted to Dr. Edgar L. Hewett, director of the School of American Research, to excavate in the ruins of the early Spanish mission, which the Gran Quivira Monument was created to preserve. At this writing the report on Dr. Hewett's investigations has not been received.

It should be recalled that the School of American Research purchased private holdings immediately adjoining the monument to protect for scientific study and for the inspection of the interested public several important ruins of the ancient mission group. It is now proposed to extend the monument to include this adjoining tract in order that a fence may be placed around all of the ruins and thus make them secure from acts of vandalism. This extension should by all means be made.

CHACO CANYON NATIONAL MONUMENT, NEW MEXICO.

The proposal to excavate a considerable number of the ruins of the Chaco Canyon National Monument and to restore in whole or in part the very comprehensive irrigation system which the ancient occupants of this region maintained has been revived since the close of the war. Plans now in the course of formulation contemplate that this work shall be undertaken by the Smithsonian Institution, the American School of Research, and the Royal Ontario Museum of the University of Toronto, and that the dam and other works necessary to store water for the irrigation system shall be built by the National Park Service, which will also protect the monument while this work is in progress and afterwards promote it as a tourist resort.

On June 16 a permit was granted to Dr. Clark Wissler, of the American Museum of Natural History, to conduct archeological investigations at the Pueblo Bonito site in the monument. The Pueblo Bonito contained originally about 1,200 rooms, and is one of the biggest prehistoric ruins yet discovered. The permit covers the removal of short sections from some of the timbers in the ruin in order that a special study of the tree rings may be made with a view to determining their relative ages; also the making of a few minor excavations in some of the rooms to check up data secured by the Hyde expedition, on which a publication is about to be issued by the American Museum of Natural History.

DINOSAUR NATIONAL MONUMENT, UTAH.

On February 7, 1919, Dr. W. J. Holland, of the Carnegie Institute, of Pittsburgh, was granted authority to continue excavations in the Dinosaur National Monument, as a renewal of the authority under which this Institute has been conducting investigations and excavations for several years.

VERENDRYE NATIONAL MONUMENT, NORTH DAKOTA.

A question has arisen as to whether the Indians of the Fort Berthold Reservation ought to be paid by the United States Government for the lands included in the Verendrye National Monument, which embraces Crowhigh Butte and other lands on the Missouri River near Sanish, N. Dak. If the lands are not purchased, and it is proved that they would be valuable for commercial purposes, the national monument should probably be canceled.

It appears, however, that the lands have no commercial value but that they possess unusual historic interest and for this reason are worthy of maintenance as a national monument. Pending a further classification of the lands from the standpoint of commercial development the Office of Indian Affairs has relinquished control of the reservation to our custodian, Mr. W. F. Thompson, of Sanish.

PETRIFIED FOREST NATIONAL MONUMENT, ARIZONA.

This monument is situated near both a transcontinental railroad and an automobile highway, and it has been visited this year by a large number of travelers. Early in the year a fund of $1,000 was expended in the improvement of the section of the highway through one of the principal petrified forests. This work has been a great boon to travel, but it is only a very small part of the work that ought to be done on the highways of the monument.

Other prospective improvement work includes the construction of a bridge over the Río Puerco, which flows between Adamana, the railroad station, and the north line of the reservation. Road and trail signs for the purpose of directing visitors about the petrified forests are badly needed.

The custodian reports that there is a general disposition on the part of visitors to refrain from taking away specimens of the petrified wood, but that a sufficient number of depredations occur each year to make it advisable to arrange for better supervision of the monument as soon as funds are available to employ a ranger.

NAVAJO NATIONAL MONUMENT, ARIZONA.

In my report of 1917 I enlarged upon the necessity of restoring in full the prehistoric pueblo ruins and cliff dwellings comprising the Navajo National Monument. The Indian appropriation act for May, 1916, made $8,000 available but the amount was so small as to permit excavation of only one ruin. Work, therefore, was concentrated on the restoration of Betatakin (Hillside House), a remarkable cliff dwelling, which was rapidly disintegrating. Unfortunately, however, because of the extremely unseasonable weather and the difficulty of securing competent help and supplies for even the small force engaged, the complete repair of this ruin could not be accomplished before the expiration of that fiscal year. The work was carried on by the Smithsonian Institution, under the capable management of Neil M. Judd, of the National Museum, as field officer in charge.
It is highly desirable that the restoration of other important ruins be commenced without further delay because the ravages of time and the elements are playing havoc with their condition. Keet Seel, an important ruin which is said to be surpassed in size only by the Cliff Palace of the Mesa Verde, should perhaps be attended to first. It is the most instructive prehistoric ruin within the monument and is deserving of speedy restoration. Its masonry is probably more stable than was that of Betatakin in 1917, and with such a favorable existing condition considerable money could be saved by an early start. Inscription House is another ruin of importance. It takes its name from an inscribed record of an early Spanish priest. Photographs show that many of the house walls have already fallen, but with the fallen material in place it would not be difficult to undertake the task of restoration.

The above-cited instances call attention to the importance of the exhibits on this monument. They are to Arizona what the ancient villages of Mesa Verde are to Colorado, and like the latter, will draw an increasing number of visitors from year to year as convenient lines of approach are developed. Five thousand dollars, it is estimated, will afford ample funds to satisfactorily conclude the exploration already begun by the excavation of Betatakin—a small sum indeed compared with the educational and historical value of the structures and the material evidences of their former inhabitants whose only history is constituted by these very structures and the traces of pottery and bone and basketry that are found among them.

In such restoration work operations are commenced by removing from the entire rooms the accumulation of débris, wind-blown sand, and perhaps large masses of rock which have fallen from cave roofs under which the former habitations are sheltered. The talus on slopes below each cave is carefully worked over in search both of discarded artifacts and possible indications of additional dwelling. Then comes the main task of strengthening insecure walls, replacing crumbling foundations, repairing broken roofs or providing new roofs, and building ladders to reach the more inaccessible sections, and the like. In the work of restoration all evidences of white man's handiwork is eliminated as far as practicable; the aboriginal atmosphere of the place is kept by carefully assimilating and adhering to the construction methods employed by the early builders. Binders for the stone blocks in the walls after considerable experimentation have been prepared, which, when placed, can not be distinguished from the old mortar used. In spreading this all traces of tool marks are erased so as not to get away from the evidences of aboriginal handiwork; in fact especial care is taken to leave frequent imprints of the fingers. When stone is to be used in the work of repair, it is roughly shaped with steel hammers and in laying it joints are always broken. The general results are eminently satisfactory, and the most careful inspection, after sufficient time has elapsed to permit weathering, does not disclose the difference between the ancient handiwork and our modern imitation.

The task of rebuilding is not a difficult one, and in the forthcoming estimates for the fiscal year 1921 it is my purpose to submit to you an estimate for the excavation and restoration of all of these prehistoric ruins found on the Navajo National Monument.
dwellings are in good condition and are well bolted. Particular attention was given to this feature since a preceding inspection by another party had indicated the insufficiency of the fastenings of the ladder; this was found to be unwarranted.

A resident custodian is much needed and an effort will be made during the coming year to locate some one who would be willing to undertake the charge for the nominal sum that has been set aside for this purpose.

The need of repairs of roads and trails to the Castle is evident, and should be undertaken in the near future. Public interest in the monument is evinced by the continuous run of dates after the names inscribed on the visitors' register. A small sum for this repair work will achieve most satisfactory results.

LEWIS AND CLARK CAVERN NATIONAL MONUMENT, MONTANA.

Oscar Rolin, the custodian of this monument, resigned on June 10, 1918, and since that time the caver has been placed under the general supervision of the superintendent of Yellowstone National Park. It was opened in June and extensively photographed by a representative of the Pathé Exchange (Inc.).

This cavern contains many extraordinary features that would make it very attractive to the traveling public. It is, however, inaccessible at the present time, and we have thought it best not to open the cave to general inspection until such time as it is made easier of approach, and we have the funds available to adequately compensate a resident custodian.

SHOSHONE CAVERN NATIONAL MONUMENT, WyOMING.

The uncompleted trail to Frost's Cave in the Shoshone Cavern National Monument near Cody, Wyo., was finished during the past summer and offered numerous tourists on their way to Yellowstone National Park an opportunity to visit it. As soon as funds are available additional improvements should be made on this trail and such steps as may be practicable should be taken to invite public attention to this side trip from the Cody or eastern approach road to Yellowstone Park.

DEVILS TOWER NATIONAL MONUMENT, WYOMING.

Improvements in the Devils Tower National Monument during the past year were confined to the repair of the road through the monument to the base of the tower and the development of a spring to provide drinking water for tourists. The improvement of this spring will probably encourage a greater use of the monument by campers than has been the case in the past.

SITKA NATIONAL MONUMENT, ALASKA.

This extremely interesting and decidedly unique monument is situated about 1 mile from Sitka, Alaska. There are 18 totem poles on the monument, the highest of which is 60 feet. These poles are carved from red cedar, and when unprotected by paint the wood cracks badly. No repairs or painting had been put on them for several years, but recently under an allotment of $800 Mr. E. W. Merrill, of Sitka, attended to their partial repair and repainting. They are painted in six colors and require two coats of paint. Where the carvings were broken or decayed they were chiseled out and new cedar wood set in to give the original character to the carving. The rainy weather handicapped the work considerably, but it was completed to the limit of the allotment by the end of the fiscal year. In other parts of the monument dead limbs and trees were removed and burned and other work done. One particularly important improvement was the placing of seats at places where they give the visitor a good view of the Indian River, Sitka Harbor, the islands, the extinct volcano, Mount Edgecomb, and the ocean.

KATMAI NATIONAL MONUMENT, ALASKA.

In my last year's report I dwelt at length upon the creation by the President's proclamation of September 24, 1918, of the Katmai National Monument situated on the southern shore of Alaska about midway of the volcanic belt which has been extraordinarily active for a number of years. The stupendous scenic qualities, awe-inspiring and fearful, of that wonderful region were detailed at some length. I informed you at that time that four expeditions of the National Geographic Society had been sent to this region for exploration and the gathering of scientific and other data. However, during the summer of 1919 the largest exploring party yet sent by the Society to the region of Mount Katmai and the neighboring Valley of Ten Thousand Smokes justified beyond happiest anticipations the setting aside by presidential proclamation of this natural wonder area as a national monument.

The strictly scientific harvest of the 1919 expedition has been unexpectedly large, including not only many specimens of incrustations and gases for analysis and a collection of lavas for petrographic study, but the party is bringing back rare zoological and botanical specimens.

Moreover, members of the expedition, again working under Robert F. Griggs, who made the original explorations for the National Geographic Society, found a series of craters, many of them active, in a previously unexplored arm of the valley, mapped 100 miles of uncharted or incorrectly charted coast line, and found a feasible route, not previously known, from a fine harbor into the midst of the vast area of steaming vents and flowing volcanoes.

For the first time this expedition, which included nearly a score of scientific experts in various fields, also had along motion picture cameras, so that thousands of feet of film are being brought back to make available to the public the scenic wonders of the unique region. Already assured of the first rank among national parks of the future the appeal of this region is further enhanced by the discovery that the territory to the north of the present national monument area abounds in fish and game. This discovery also may have an important economic bearing upon the development of that portion of Alaska.

OTHER NATIONAL MONUMENTS.

Conditions in several national monuments have remained unchanged during the past year. It is worth noting, however, that each year more people visit them and enjoy their unusual scenic features.

REPORT OF DIRECTOR OF NATIONAL PARK SERVICE.
These national monuments either do not require improvement or are not susceptible of development except at an enormous expense covering the cost of constructing many miles of roads and trails.

These are the Pinnacles National Monument, California; Natural Bridges and Rainbow Bridge National Monuments, Utah; Colorado National Monument, Colorado; Papago Saguar National Monument, Arizona; and Capulin Mountain National Monument, New Mexico.

PERSONNEL NOTES.

The war drew heavily on the field forces of the National Park Service, but with the demobilization of the Army and the Navy most of our former employees are returning to resume their duties, with even keener interest in the preservation of America's scenic resources than they possessed when they withdrew from the civil service. We are glad when these young enthusiasts come back. The parks are safer and better in every way when they are in the hands of such men.

I hope that we may take back every former employee who desires to return and who is qualified for permanent service in the bureau.

WASHINGTON OFFICE UNDERMANNED.

There is a most pressing need for more employees in the Washington office of the Service. The bureau was organized in accordance with legislation framed in 1915 before the great development of the national parks began and while there was comparatively little business to transact. The work of the Service has grown by leaps and bounds in the past two years, and now our Washington force has reached the point where constant overtime duty is not sufficient to enable it to keep abreast of the never-ending flood of important official matters. Certainly there can be no similar group of men and women anywhere in the Federal service that is required to expend continually so much mental and physical energy under high pressure as our people have been expending during the past two years in loyal, faithful efforts to successfully operate the central governing organization of the national parks. Most of them deserve higher salaries and nearly all should have more assistance. In my opinion, a lump-sum appropriation should be granted each year to the National Park Service for payment of the salaries of its experts and clerks in Washington. Under such a fund exact justice could be accorded every member of the force. However, more employees and higher salaries even on a statutory roll would go far toward relieving the very serious problem that is confronting the Service.

CHANGES IN PERSONNEL.

On June 10, 1919, Arno B. Cammerer, for several years assistant secretary of the Fine Arts Commission, was appointed assistant director of the National Park Service, to succeed Horace M. Albright, who was appointed superintendent of Yellowstone National Park on that date.

Robert Sterling Yard, chief of the Educational Division of the Service, resigned on June 30, 1919, to become executive secretary of the newly organized National Parks Association.

D. L. Reaburn, superintendent of Mount Rainier National Park, was granted indefinite leave of absence on April 16, 1919, and on May 10 Maj. Roger W. Toll was appointed to fill the vacancy.

Thomas W. Brazell, superintendent of Wind Cave National Park, resigned on March 15, 1919, and his son, Roy, was appointed to succeed him. Prior to entering the Army, the new superintendent had served at a park ranger.

Col. Richard A. Sneed, superintendent of Platt National Park, left the service on June 30, 1919, to become commissioner of Confederate pensions of Oklahoma. He was succeeded on July 16 by Thomas Ferris, formerly superintendent of the Pawnee Indian School.

George B. Dorr, custodian of the Sieur de Monts National Monument, became superintendent of Lafayette National Park shortly after the date the monument was made into the park.

Chester A. Lindsley, chief clerk of Yellowstone National Park, was appointed assistant superintendent of the park, effective July 1, 1919.

A. H. Lynam, chief ranger of Lafayette National Park, was appointed assistant superintendent on May 22, 1919.

William H. Peters, assistant engineer, was designated as acting superintendent of Grand Canyon National Park on August 2, 1919.

The position of examiner of accounts in the field, formerly held by C. G. Smith, was discontinued on March 5, 1919.

Frank Pinkley, custodian of Casa Grande National Monument, was placed in charge of the Tumacacori National Monument on December 9, 1918. He will administer both custodialships.

Oscar Rohn, custodian of Lewis and Clark Cavern National Monument, resigned on June 10, 1919.

LEGISLATION.

I have already discussed in more or less detail the legislation relating to the national-park system that has been enacted by Congress and by the States since the preparation of the last report, and some attention has been given to important pending bills. The text of the new laws will be found in Appendix D of this volume, together with important reports of committees of Congress relating to these laws or pending bills.

For convenient reference the following is a brief summary of the national-park measures enacted into law during the past year or pending in Congress at the present time:

PARK BILLS ENACTED INTO LAW.

SIXTY-FIFTH CONGRESS.

The act of February 25, 1919, entitled “An act to authorize the sale of certain lands at or near Yellowstone, Mont., for hotel and other purposes,”2 authorizes the Oregon Short Line Railroad Co. to
purchase a tract of land near the western entrance to Yellowstone Park and adjacent to the grounds upon which the company's station and other terminal buildings are located. The tract is to be used as a site for a new hotel which is planned for the early future. The operation of the hotel will be subject to the regulations of the Secretary of the Interior under the following provision of the law:

Provided, however, That any hotel erected on said lands shall be operated by the said Oregon Short Line Railroad Co., or its successors in interest, under such rules and regulations as the Secretary of the Interior may prescribe for the conduct and operation of hotels within the Yellowstone National Park.

The act of February 26, 1919, entitled "An act to establish the Grand Canyon National Park," changed the Grand Canyon of the Colorado region in Arizona from the status of a national monument to that of a national park. This was S. 390 of the Sixty-fifth Congress, introduced by Senator Ashurst, of Arizona, and mentioned on pages 95 and 236 of my 1918 report. It passed the Senate on May 16, 1918, was reported from the Public Lands Committee of the House on October 18, 1918, and passed the House on January 20, 1919.

The act of February 26, 1919, entitled "An act to establish the Lafayette National Park in the State of Maine," added the Sieur de Monts National Monument to the national park system and changed the name of the area. This measure was S. 405 of the Sixty-fifth Congress, introduced by Senator Hale, of Maine. It passed the Senate on October 3, 1918, was reported from the Committee on Public Lands of the House on January 15, 1919, and passed the House on February 17, 1919. This legislation was covered in last year's report on pages 95, 238, 239, and 240.

The act of March 1, 1919, entitled "An act to repeal the last proviso of section 4 of the act to establish the Rocky Mountain National Park in the State of Colorado, and for other purposes," approved January 26, 1913, withdrew the inhibition on the appropriation of more than $10,000 annually for Rocky Mountain National Park, thus opening the way for the development of this important reservation. This legislation was H. R. 171 of the Sixty-fifth Congress, introduced by Mr. Timberlake, of Colorado. It was described on pages 95 and 241 of last year's report. It was passed by the House of Representatives on February 3, 1919, and by the Senate on February 21, 1919. It superseded S. 1555, by Senator Shafroth, which was passed by the Senate on February 5, 1919.

Sixty-sixth Congress.

The sundry civil appropriation act of July 19, 1919, carried appropriations of $754,155 for the National Park Service in Washington and for the administration, protection, maintenance, and improvement of the various national parks and monuments. It also reappropriated $140,000, contained in the sundry civil act of July 1, 1918, for the construction of a new administrative building and free bathhouse at Hot Springs, Ark. This act also transferred control of road improvement in Crater Lake National Park from the War Department, Corps of Engineers, to the Interior Department.

State Legislation.

The Legislature of California passed a law ceding to the United States exclusive jurisdiction over Yosemite, Sequoia, and General Grant National Parks. The act was approved by Gov. William D. Stephens on April 15, 1919.

The Legislature of Montana enacted legislation which had for its purpose the better protection of the national parks of Montana from poaching. If all national park States would enact similar measures there would be opportunities for better cooperation in game protection than now exist.

Bills Not Approved by Last Congress.

Among the important national-park measures before the Sixty-fifth Congress the following were passed by one House but failed of enactment in the other:

H. R. 13350. A bill to add certain lands to Yellowstone National Park, introduced by Mr. Mondell on December 12, 1918, provided for the enlargement of Yellowstone Park to include the Teton Mountains and other lands south of the present park. This bill superseded H. R. 11861, introduced on April 24, 1918, and mentioned in last year's report on pages 95 and 96. It was reported from the Public Lands Committee of the House of Representatives on January 16, 1919, and was passed by the House on February 17. On February 18 it was reported from the Senate Committee on Public Lands. Objection was made to the bill when it was brought up for passage in the Senate, and the end of the session came before it was again reached on the calendar. H. R. 1412, a bill identical with this measure, is now pending in the Sixty-sixth Congress.

S. 2021. A bill to add certain lands to Sequoia National Park, introduced by Senator Phelan, of California, on April 21, 1917, was reported by the Senate Committee on Public Lands on January 16, 1919, with an amendment changing the name of the proposed enlarged park to Roosevelt National Park. On the same day the bill was passed by the Senate. In the House Committee on the Public Lands hearings were held on the bill on January 21, and on February 12 the measure was reported with the recommendation that the name of the existing Sequoia National Park be changed to Roosevelt National Park. The provisions of the bill relating to the extension of the park were stricken out. The bill in this emasculated form was not considered by the House before the end of the session.

Meanwhile H. R. 14624, "A bill to add certain lands to the Sequoia National Park," introduced by Senator Shafroth, of California, and to change the name of said park to Roosevelt National Park, was introduced by Mr. Elston, of Cali-
Among the national park legislation now pending are the following bills:

H. R. 3185, a general water power bill identical so far as it relates to the national parks with S. 1419 of the Sixty-fifth Congress, passed the House of Representatives on July 1, 1919. It grants authority to a Federal Power Commission composed of the Secretaries of the Interior, War, and Agriculture, to issue power permits in national parks and monuments "only after a finding by the commission that the license will not interfere or be inconsistent with the purpose for which such reservation was created or acquired, and shall be subject to and contain such conditions as the secretary of the department under whose supervision such reservation falls, shall deem necessary for the adequate protection and utilization of such reservation." The term "reservation" is defined as "lands and interest in lands owned by the United States and withdrawn, reserved, or withheld from private appropriation and disposal under the public-land laws, and land and interest in lands acquired and held for any public purpose."

Under section 17 of the act 50 per cent of the charges arising from licenses for the development of power in the national parks is reserved and appropriated as a special fund to be expended in the improvement and development of the parks.

As stated on page 94 of my last report, if the provisions of this bill are administered wisely, no harm should come to the parks, because wherever it appears that a project may result in injury to a park the permit can be denied. In Yosemite, Sequoia, General Grant, Rocky Mountain, Hawaii, Mount McKinley, and Grand Canyon Parks power permits may be issued under provisions of law similar to those in the pending bill. Some of these parks have been subject to these special provisions for many years, and in Yosemite and Sequoia Parks power plants have been installed without injuring them or interfering with their use.

S. 425, "A bill to establish the Zion National Park in the State of Utah," introduced by Senator Smoot on May 20, 1919, is identical with S. 9099 of the previous session, mentioned above. On June 20 the bill was favorably reported by the Committee on Public Lands and was passed by the Senate the same day. It was reported favorably by the House Committee on the Public Lands on August 26. It was passed by the House with two minor amendments and is now in conference. Its early passage is expected.

S. 38, introduced by Senator King on May 20, also provides for the establishment of Zion National Park.

H. R. 6644, introduced by Mr. Welling, of Utah, on June 25, likewise proposes to establish the Zion National Park.

H. R. 1412, "A bill to add certain lands to Yellowstone National Park," was introduced on May 21 by Mr. Mondell. This bill is identical with H. R. 13330 of the Sixty-fifth Congress, considered above. It proposes to add the Teton Mountains and other scenic territory to Yellowstone Park.

S. 1391, "A bill to add certain lands to Sequoia National Park and to change the name of said park to Roosevelt National Park," was introduced on June 3, 1919, by Senator Phelan. This measure is identical with S. 2021 of the Sixty-fifth Congress as it was passed by the Senate on January 16, 1919.

H. R. 5006, identical with S. 1391, was introduced on June 5 by Mr. Elston.

H. R. 3654, "A bill to authorize the governor of the Territory of Hawaii to acquire privately owned lands and rights of way within the boundaries of the Hawaii National Park," was introduced on May 28, 1919, by Mr. Kalanianaole. This measure is identical with H. R. 13699 and substantially the same as S. 5321 of the Sixty-fifth Congress, already mentioned as having been passed by the Senate on February 25. The pending bill was reported favorably by the Committee on the Territories on July 21. 

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1 See Senate committee report on p. 326.
2 See House committee report on p. 325.
H. R. 7971, "A bill to accept the cession by the State of California of exclusive jurisdiction over the lands embraced within the Yosemite National Park, Sequoia National Park, and General Grant National Park, respectively, and for other purposes," was introduced on July 29 by Mr. Raker, of California.

H. R. 8089, similar to H. R. 7971, was introduced on July 30 by Mr. Elston.

Both of these bills propose to accept the jurisdiction tendered by the California legislation already mentioned.

S. 666, "A bill creating the National Park of the Cliff Cities," introduced by Senator Jones, of New Mexico, on May 23, 1919, proposes to make the Bandelier National Monument and adjacent country a national park.

S. 2374, "A bill to establish the Pajarito National Park," introduced by Senator Jones, of New Mexico, on July 1, is a measure proposed as an alternative for the Cliff Cities Park bill.

H. Res. 159, introduced on July 8, 1919, by Mr. Lea, of California, proposes to call upon the Secretary of the Interior to study the question of acquiring some of the coast redwoods of California for a national park.

S. 2707, "A bill to add certain lands to Crater Lake National Park," was introduced by Senator McNary, of Oregon, on August 15, 1919. The bill is identical with S. 4283 of the Sixty-fifth Congress.

Other bills pending provide for the creation of the Mississippi Valley National Park in Iowa and Wisconsin, the Mammoth Cave National Park in Kentucky, the Mount Baker, Yakima, and Grand Coulee National Parks in the State of Washington, the Killdeer National Park in North Dakota, and the Mount Katahdin National Park in Maine.

PRESIDENTIAL PROCLAMATIONS.

No proclamations affecting the national-park system have been issued by the President during the period covered by this report, but by Executive order of February 28, 1919, the land lying north of Yellowstone National Park, in the watershed of the Yellowstone River and between the Gallatin and Absaroka National Forests, was again withdrawn in aid of plans to establish better facilities for caring for elk and other animals when they drift out of the park in winter. This land was originally withdrawn by the President on April 16, 1917. The text of the latest Executive order will be found on page 306.

As stated earlier in the report, there are monument projects pending which include, first, the group of ancient ruins known as Aztec Springs in the Montezuma Valley, Colorado; second, the towers and castles of the Hovenweep district, near the boundary line between Colorado and Utah; third, Scotts Bluff, the peculiar natural landmark in Nebraska; and, fourth, a tract of land in California on which the rather rare species of palm, Washingtonia filamentos, is still to be found.

NEEDS OF THE NATIONAL-PARK SERVICE.

Last year I listed in this section of the report a number of urgent needs of the Service. Several of these have since been met by legis-
lions yet to use them. It has participated extensively in the con-
servation of the wild life of the country. It has more than fulfilled
the obligations imposed upon it by law, more than performed the
duties required of it by the policies of the department, and all in the
interest of America of to-day and of the future. It has not been
easy to accomplish conspicuous results in this year of high costs
and human unrest, and without the loyal, earnest, self-sacrificing
endeavor of the employees of the Service nothing worth while could
have been done in the face of the emergencies and difficult problems
that confronted us.

Very respectfully,

Stephen T. Mather,
Director.

THE SECRETARY OF THE INTERIOR.
APPENDIX A.

THE NATIONAL PARKS AND MONUMENTS.

Map showing location of all national parks and monuments administered by National Park Service, Department of the Interior. See opposite page.

The national parks administered by the National Park Service, Department of the Interior.

The national military and other parks administered by the War Department.

The national monuments administered by the National Park Service, Department of the Interior.

The national monuments administered by the Department of Agriculture.

The national monuments administered by the War Department.

Organization of the National Park Service.
EIGHTEEN NATIONAL PARKS, CONTAINING 10,739 SQUARE MILES OR 6,872,960 ACRES, AND TWENTY-THREE NATIONAL MONUMENTS, CONTAINING 1,931 SQUARE MILES OR 1,235,840 ACRES, ADMINISTERED BY THE NATIONAL PARK SERVICE, DEPARTMENT OF THE INTERIOR.
THE NATIONAL PARKS.
ADMINISTERED BY THE NATIONAL PARK SERVICE, DEPARTMENT OF THE INTERIOR.

(Number, 18; total area, 10,739 square miles; chronologically in order of creation.)

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Established (Year)</th>
<th>Statute Reference</th>
<th>Area (acres)</th>
<th>Private Lands (acres)</th>
<th>Visitors, 1919</th>
<th>Special Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crater Lake</td>
<td>Southern Oregon</td>
<td>May 22, 1902</td>
<td>32 Stat., 765</td>
<td>10,899</td>
<td>None</td>
<td>26,312</td>
<td>Largest accessible single peak glacier system—Fine trout fishing.</td>
</tr>
<tr>
<td>Yellowstone</td>
<td>Wyoming, Montana, and Idaho</td>
<td>Mar. 1, 1872</td>
<td>17 Stat., 333</td>
<td>2,145,720</td>
<td>None</td>
<td>62,201</td>
<td>More geysers than in all rest of world together—Boiling springs, acid volcanoes, lnked lakes, Waterfalls—Vast wilderness inhabited by deer, elk, bison, moose, antelope, bear, mountain sheep, etc.</td>
</tr>
<tr>
<td>Sequoia</td>
<td>Middle eastern California</td>
<td>Sept. 23, 1890</td>
<td>26 Stat., 475,000</td>
<td>3,049,81</td>
<td>3,046,84</td>
<td>30,443</td>
<td>Largest single tree in world—The Big Tree National Park.</td>
</tr>
<tr>
<td>General Grant</td>
<td>South central Washington</td>
<td>Mar. 2, 1899</td>
<td>30 Stat., 993</td>
<td>207,360</td>
<td>18.2</td>
<td>55,232</td>
<td>Created to preserve the celebrated General Grant Grove, 55 feet in diameter—6 miles from Sequoia National Park.</td>
</tr>
<tr>
<td>Mount Rainier</td>
<td>West central Washington</td>
<td>May 22, 1902</td>
<td>32 Stat., 202</td>
<td>180,360</td>
<td>18.2</td>
<td>55,232</td>
<td>Largest accessible single peak glacier system—29 glaciers, some of large size—Big lakes of glacier, 90 to 300 feet thick—Wunderful subalpine wildflower fields.</td>
</tr>
<tr>
<td>Crater Lake</td>
<td>Southern California</td>
<td>July 1, 1902</td>
<td>32 Stat., 641,655</td>
<td>488,22</td>
<td>None</td>
<td>250,000</td>
<td>Cavern having many miles of galleries and numerous chambers of considerable size containing many peculiar formations.</td>
</tr>
<tr>
<td>Hot Springs Reservation</td>
<td>Middle Arkansas</td>
<td>Apr. 20, 1892</td>
<td>32 Stat., 368</td>
<td>13,911.63</td>
<td>None</td>
<td>160,490</td>
<td>66 hot springs possessing curative properties—Many hotels and boarding houses—20 bathhouses under public control.</td>
</tr>
<tr>
<td>General Grant</td>
<td>Southern Oklahoma</td>
<td>July 1, 1902</td>
<td>32 Stat., 220</td>
<td>488,22</td>
<td>None</td>
<td>250,000</td>
<td>Many sulphur and other springs possessing medicinal value.</td>
</tr>
<tr>
<td>Sullys Hill</td>
<td>North Dakota</td>
<td>Apr. 27, 1904</td>
<td>32 Stat., 322,323</td>
<td>780</td>
<td>None</td>
<td>4,006</td>
<td>Small park with woods, streams, and a lake—Is an important wild-animal preserve.</td>
</tr>
<tr>
<td>Grand Canyon</td>
<td>Arizona</td>
<td>Jan. 11, 1908</td>
<td>35 Stat., 1175</td>
<td>958</td>
<td>613,120</td>
<td>37,745</td>
<td>The group of granite mountains upon Mount Desert Island.</td>
</tr>
</tbody>
</table>

1. Estimated.
2. No record kept.
3. By recent transaction, not yet formally completed, the private holdings have been reduced to approximately 10,800 acres.
5. Formerly Siur de Monte National Monument; donated to the United States.
THE NATIONAL MILITARY AND OTHER PARKS.
ADMINISTERED BY THE WAR DEPARTMENT.

[Number, 7; total area, 22 square miles; chronologically in order of creation.]

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>When established</th>
<th>Statute reference</th>
<th>Area (acres)</th>
<th>Special characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chickamauga and Chattanooga</td>
<td>Georgia and Tennessee</td>
<td>Aug. 30, 1890</td>
<td>26 Stat., 333, 978</td>
<td>5,563</td>
<td>Beautiful natural park—Embraces battle fields of Chickamauga and Missionary Ridge and scenes of other conflicts of the Civil War fought in the vicinity of Chattanooga during 1863. Scene of one of the greatest battles of the Civil War.</td>
</tr>
<tr>
<td>Antietam Battle Field</td>
<td>Maryland</td>
<td>Aug. 19, 1890</td>
<td>26 Stat., 333, 978</td>
<td>50</td>
<td>Scene of one of the greatest battles of the Civil War.</td>
</tr>
<tr>
<td>Gettysburg</td>
<td>Pennsylvania</td>
<td>Feb. 1, 1890</td>
<td>26 Stat., 333, 978</td>
<td>2,451</td>
<td>Beautiful natural park—Scene of Civil War combat—Probably better marked than any other battle field in the world.</td>
</tr>
<tr>
<td>Vicksburg</td>
<td>Mississippi</td>
<td>Feb. 17, 1890</td>
<td>26 Stat., 333, 978</td>
<td>1,323</td>
<td>Beautiful natural park—Scene of the siege and surrender of Vicksburg in 1863 during the Civil War. Contains the log cabin and part of the farm where Abraham Lincoln was born.</td>
</tr>
<tr>
<td>Lincoln's Birthplace</td>
<td>Kentucky</td>
<td>Mar. 2, 1897</td>
<td>26 Stat., 333, 978</td>
<td>125</td>
<td>Near Greensboro—Scene of one of the great battles of the Revolution; fought in 1781.</td>
</tr>
<tr>
<td>Gulfport Courthouse</td>
<td>North Carolina</td>
<td>Mar. 2, 1897</td>
<td>26 Stat., 333, 978</td>
<td>300</td>
<td></td>
</tr>
</tbody>
</table>

1 Donated in whole or in part to the United States.

THE NATIONAL MONUMENTS.
ADMINISTERED BY THE NATIONAL PARK SERVICE, DEPARTMENT OF THE INTERIOR.

[Number, 23; total area, 1,601 square miles; chronologically in order of creation.]

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Date of creation</th>
<th>Statute reference</th>
<th>Area (acres)</th>
<th>Special characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Devils Tower</td>
<td>Wyoming</td>
<td>Sept. 24, 1900</td>
<td>34 Stat., 3295</td>
<td>1,152</td>
<td>Remarkable natural rock tower, of volcanic origin, 1,200 feet in height.</td>
</tr>
<tr>
<td>Montezuma Castle</td>
<td>Arizona</td>
<td>Dec. 16, 1909</td>
<td>34 Stat., 3295</td>
<td>1,100</td>
<td>Miscellaneous cliff-dwelling ruins of unusual size situated in a niche in a vertical cliff. Ormunic and ethnological interest.</td>
</tr>
<tr>
<td>El Morro</td>
<td>New Mexico</td>
<td>Dec. 16, 1909</td>
<td>34 Stat., 3295</td>
<td>1,100</td>
<td>Enormous cliff-dwelling ruin, in form of a castle, upon which inscriptions have been placed by early Spanish explorers. Contains cliff-dweller ruins.</td>
</tr>
<tr>
<td>Petrified Forest</td>
<td>Arizona</td>
<td>July 21, 1909</td>
<td>34 Stat., 3295</td>
<td>1,100</td>
<td>Of great historic, scenic, and ethnological interest.</td>
</tr>
<tr>
<td>Chaco Canyon (ch'ko)</td>
<td>New Mexico</td>
<td>Mar. 11, 1907</td>
<td>35 Stat., 2119</td>
<td>15,840</td>
<td>Magnificent gorge (Zion Canyon), depth from 800 to 2,000 feet, with precipitous beauty and interest.</td>
</tr>
<tr>
<td>Lewis and Clark Cavern</td>
<td>Montana</td>
<td>Mar. 2, 1899</td>
<td>30 Stat., 841</td>
<td>1,323</td>
<td>Unique natural bridge of great scientific interest and symmetry. Height 309 feet above water, and span is 278 feet, in shape of rainbow.</td>
</tr>
<tr>
<td>Mammoth Cave (mam-light)</td>
<td>Kentucky</td>
<td>July 31, 1909</td>
<td>36 Stat., 2503</td>
<td>1,250</td>
<td>Magnificent gorge (Zion Canyon), depth from 800 to 2,000 feet, with precipitous beauty and interest.</td>
</tr>
<tr>
<td>Donated in whole or in part to the United States.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 Estimated. 2 Donated to the United States. 3 From Mar. 2, 1899, until Aug. 3, 1919, classified as a National Park.
### THE NATIONAL MONUMENTS.

**ADMINISTERED BY THE DEPARTMENT OF AGRICULTURE.**

(Number, 10; total area, 509 square miles; chronologically in order of creation.)

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Date of creation</th>
<th>Statute reference of proclamation</th>
<th>Area (acres)</th>
<th>Special characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gila Cliff Dwellings</td>
<td>New Mexico</td>
<td>Nov. 16, 1907</td>
<td>35 Stat., 2162</td>
<td>160</td>
<td>Numerous cliff-dweller ruins of much interest and in good preservation.</td>
</tr>
<tr>
<td>Tonto</td>
<td>Arizona</td>
<td>Dec. 19, 1907</td>
<td>35 Stat., 2168</td>
<td>1,640</td>
<td>Do.</td>
</tr>
<tr>
<td>Jewel Cave</td>
<td>South Dakota</td>
<td>Feb. 7, 1908</td>
<td>35 Stat., 2180</td>
<td>1,128</td>
<td>Limestone cavern of much beauty and considerable extent, limits of which are as yet unknown.</td>
</tr>
<tr>
<td>Wheeler</td>
<td>Colorado</td>
<td>Dec. 7, 1908</td>
<td>35 Stat., 2214</td>
<td>300</td>
<td>Of much interest from geological standpoint as example of eccentric erosion and extinct volcanic action. Of much scenic beauty.</td>
</tr>
<tr>
<td>Mount Olympus</td>
<td>Washington</td>
<td>Mar. 2, 1909</td>
<td>35 Stat., 2247</td>
<td>608,610</td>
<td>Contains many objects of great and unusual scientific interest, including many glaciers. Is summer range and breeding ground of the Olympic elk.</td>
</tr>
<tr>
<td>Oregon Caves</td>
<td>Oregon</td>
<td>Apr. 17, 1912</td>
<td>37 Stat., 1731</td>
<td>480</td>
<td>Extensive caves in limestone formation of much beauty; magnitude not entirely ascertained.</td>
</tr>
<tr>
<td>Devil Postpile</td>
<td>California</td>
<td>July 6, 1911</td>
<td>37 Stat., 1715</td>
<td>800</td>
<td>Spectacular mass of hexagonal basaltic columns, like an immense pile of posts. Said to rank with famous Giant's Causeway in Ireland.</td>
</tr>
<tr>
<td>Walnut Canyon</td>
<td>Arizona</td>
<td>Nov. 30, 1915</td>
<td>39 Stat., 1761</td>
<td>22,075</td>
<td>Contains cliff dwellings of much scientific and popular interest.</td>
</tr>
<tr>
<td>Bandelier (Bān-dē-lēr')</td>
<td>New Mexico</td>
<td>Feb. 11, 1916</td>
<td>39 Stat., 1764</td>
<td>38.3</td>
<td>Vast number of cliff-dweller ruins, with artificial caves, stone sculpture, and other relics of prehistoric life.</td>
</tr>
<tr>
<td>Old Kassan (kā-sān')</td>
<td>Alaska</td>
<td>Oct. 25, 1916</td>
<td>39 Stat., 1812</td>
<td></td>
<td>Abandoned Indian village in which there are numerous remarkable totem poles and other objects of historical interest.</td>
</tr>
</tbody>
</table>

1 Estimated.

### THE NATIONAL MONUMENTS.

**ADMINISTERED BY THE WAR DEPARTMENT.**

(Number, 2; total area, 6 acres; chronologically in order of creation.)

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Date of creation</th>
<th>Statute reference of proclamation</th>
<th>Area (acres)</th>
<th>Special characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Big Hole Battle Field 1</td>
<td>Montana</td>
<td>June 23, 1910</td>
<td></td>
<td>5</td>
<td>Site of battlefield on which battle was fought Aug. 9, 1877, between a small force of United States troops and a much larger force of Nez Perce Indians, resulting in rout for the Indians.</td>
</tr>
<tr>
<td>Cabrillo (kā-brēl'yō)</td>
<td>California</td>
<td>Oct. 14, 1913</td>
<td>38 Stat., 1955</td>
<td>1</td>
<td>Of historic interest because of discovery of the territory now partly embraced in the State of California by Juan Rodriguez Cabrillo, who at this point first sighted land on Sept. 28, 1542.</td>
</tr>
</tbody>
</table>

1 Set aside by Executive order.
ORGANIZATION OF THE NATIONAL PARK SERVICE.

Stephen T. Mather, director.
Arno B. Cammerer, assistant director.

FIELD SERVICE.

ENGINEERING DIVISION.

George E. Goodwin, civil engineer.
William H. Peters, assistant engineer.
Charles P. Punchard, jr., landscape engineer.

THE NATIONAL PARKS.

Crater Lake, Alex Sparrow, superintendent.
Glacier, W. W. Payne, superintendent.
Grand Canyon, William H. Peters, acting superintendent.
Hot Springs, Dr. Wm. P. Parks, superintendent.
Lafayette, Geo. B. Dorr, superintendent.
Mesa Verde, Thomas Rickner, superintendent.
Mount Rainier, Roger W. Toll, superintendent.
Platt, Thomas Ferris, superintendent.
Rocky Mountain, L. C. Way, superintendent.
Sequoia, Walter Fry, superintendent.
General Grant, Walter Fry, acting superintendent.
Sucrets Hill, Samuel A. M. Young, acting superintendent.
Wind Cave, Roy Brazell, superintendent.
Yellowstone, Horace M. Albright, superintendent.
Yosemite, W. B. Lewis, superintendent.

THE NATIONAL MONUMENTS.

Capulin Mountain, Mrs. W. H. Jack, custodian.
Casa Grande, Frank Pinkley, custodian.
Colorado, John Otto, custodian.
Muir Woods, Andrew Lind, custodian.
Navajo, John Wetherill, custodian.
Papago Saguaro, J. E. McClain, custodian.
Petrified Forest, Wm. Nelson, custodian.
Tumacacori, Frank Pinkley, acting custodian.
Verendrye, W. F. Thompson, custodian.
Zion, Walter Ruesch, custodian.

No superintendents or custodians have been appointed for the Hawaii, Lassen Volcanic, or Mount McKinley National Parks, or for the Chaco Canyon, Devils Tower, Dinosaur, Gran Quivira, Katmai, Lewis and Clark Cavern, Montezuma Castle, Natural Bridges, Pinnacles, Rainbow Bridge, or Shoshone Cavern National Monuments.
APPENDIX B.

REPORTS OF OFFICERS IN CHARGE OF THE NATIONAL PARKS AND MONUMENTS.

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HOT SPINGS RESERVATION.

Dr. W. M. PARKS, superintendent, Hot Springs, Ark.

GENERAL STATEMENT.

In making my fifth annual report since my incumbency as superintendent of the Hot Springs Reservation, it is a great pleasure to be able to commend the entire staff of the National Park Service for the excellent service rendered in the business of the bathhouses as well as the number of visitors to this resort as compared with the preceding year.

During the present fiscal year the total number of baths sold in the different pay bathhouses was 729,997 as compared with 694,701 last year. The total receipts of these bathhouses this year were $364,974.46 as compared with the total receipts of $362,701.12 last year, showing a net gain of $4,673.34. The net profits reported by these bathhouses for the year were $172,476.49, while the net revenues last year were $127,611.14, making a slight decrease as compared with the net profits of last year, occasioned by the great increase in the cost of maintaining and operating the bathhouses. In addition to the total number of paid baths, 1,534 complimentary baths were given at the pay bathhouses, $7,040 baths were given at the government free bathhouse, and 5,445 baths were given at the Leo N. Levi Memorial Hospital Bathhouse, a charitable institution, making a grand total of 284,156 baths given during the fiscal year, including paid baths, an increase of 21,501 over last year.

It is conservatively estimated that 169,401 persons visited Hot Springs during the present fiscal year. A large number of those visitors were persons of high standing in business and financial affairs of the country, and some writers of national reputation; quite a number of them by branches of Congress with whom this health-pleasure resort is extremely popular. All seem to be of one accord in the firm belief that the future holds great things in store for Hot Springs.

LEGENDARY HISTORY.

There is no positively authentic historical information available at this late date concerning the discovery of these hot springs, but it is reasonable to presume that traditions handed down that the world-famous hot springs were discovered by nomadic, primitive races, and their sanitary waters used for generations by the early Spanish historians as being the "fountain of youth," sought by the questors of ages to be visible still in the ground strata of tufa rock formation on the mountain sides, rustic with evidence of hoary antiquity.

These hot springs have been known since the commencement of American history, for they were mentioned by the early Spanish historians as being the "fountain of youth," sought by the questors of ages to be visible still in the ground strata of tufa rock formation on the mountain sides, rustic with evidence of hoary antiquity.

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Radioactivity of the Waters.

In 1904 the Secretary of the Interior authorized Dr. Bertram B. Boltwood, of Yale University, to report on the radioactivity of the waters. The following résumé of Dr. Boltwood's conclusions and report is an abstract of the annual report of the National Park Service for 1904:

**The results of the electroscopic tests of the gases obtained by boiling the waters were very satisfactory, as they showed that the waters at Hot Springs are radioactive to a marked degree; and from these tests, taken to determine the properties of the emanations from the waters, it was found that the properties of these radioactive gases were identical with those of the radium emanation.**

On the other hand, when the water from which the gas had once been taken was boiled a second time after being allowed to stand in the gas obtained from the second boiling, and it was therefore concluded that little or no radium salts existed in the waters. This conclusion was strengthened by the fact that...
a test of the residue of the waters which had been left by evaporation also failed to disclose any sign of radioactivity of this solid substance. A sample from the tufa deposit, formed by some of the springs issuing from the ground, was also tested, and it was found that the amount of radium contained in 100 grams of tufa was less than two millicuries, that of radium C, associated with an equal weight of material in pitchblende. Samples of the gas which arose from the springs were also tested, and it was found that the amount of radon gas in the atmosphere was less than one part in 1000,000 of the atmosphere, associated with an equal weight of radon gas in pitchblende.

The waters of the springs on the Hot Springs Reservation are all radioactive to a marked degree. 1. The radioactive character of the waters is due to dissolved radium emanation (gas), and not to the presence of salts of radium or other radioactive solids. This report has, in a great measure, lifted the veil of mystery heretofore surrounding the healing agencies which have long proved their efficacy in the restoration to health of suffering humanity.

RESERVATION.

The Hot Springs Reservation at present contains 915.62 acres. The original reservation was established by act of Congress approved April 20, 1832, which is provided that 'the hot springs in Arkansas Territory, together with four sections of land, including said springs, shall be reserved to the future use of the people of the United States, and shall not be entered, located, or appropriated for any other purpose.' The boundaries of this act are the same as the survey of 400 acres obtained in 1875, by which the west boundary is the line of secs. 32 and 33, T. 2 S., R. 19 W., of the fifth principal meridian, and the N. 1/2 of secs. 4 and 5, T. 3 S., R. 19 W., are set aside and designated as the original Hot Springs Reservation, and contained 2,456.92 acres.

Of this tract of land, which was laid off in blocks, lots, streets, alleys, etc., by the city of Hot Springs, there are left off reserves of land from the city of Hot Springs, the present city commission is composed of five representative and progressive citizens, one of whom is mayor, who, together with the city manager, has at all times evidenced a willingness to cooperate with this office in matters looking to the advancement of this resort.

The city of Hot Springs was incorporated April 5, 1876, and became a city of the first class March 13, 1879. The city now realizes that it is to the best interests of all concerned to adhere to the rules laid down by the Government.

The city of Hot Springs is fortunate in having all the public utilities and modern features of a city many times its size. The city is well supplied with water, gas, electric light, and telephones. The city has a fine water supply, which is furnished by the city of Hot Springs, and is subject only to the minimum of regulation and control.

The practical elimination of the drumming evil is highly appreciated by the visiting public and is the subject of much favorable comment, which fully demonstrates the appreciation of the work heretofore done toward stamping it out.

The administration of the Hot Springs Reservation is performed by the Superintendent of the Reservation. The Superintendent of the Reservation is appointed by the Secretary of the Interior, and he is responsible to the Secretary of the Interior for the proper management of the Reservation.

The Superintendent of the Reservation has charge of all general matters pertaining to the Government's interest in the Reservation, and enforces the rules and regulations of the department, has charge of sanitation, hydrotherapy, and bathing of patients at the Government free bathhouse for the indigent, and supervision of all Government lots and their fitness for employment.

CITY OF HOT SPRINGS.

This charmingly novel and quaint city of more than 16,000 population, which derives its name from the thermal springs, is located in the geographical center of the State of Arkansas. It is nestled away in the beautiful and rolling hills of a rural section, but is located within an easy drive of the beautiful Ozark Mountains. The city of Hot Springs is situated in the geographical center of the State of Arkansas. It is nestled away in the beautiful and rolling hills of a rural section, but is located within an easy drive of the beautiful Ozark Mountains. The city was laid out in 1831, and was incorporated in 1876. The city is situated on the south side of the Hot Springs Reservation, and is located on the Hot Springs branch of the St. Louis, Arkansas, and Texas Railway.

The city of Hot Springs is the center of a large and prosperous farming district, and is well supplied with water, gas, electric light, and telephones. The city is well supplied with water, gas, electric light, and telephones. The city has a fine water supply, which is furnished by the city of Hot Springs, and is subject only to the minimum of regulation and control.

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LEGEND. The numbers in this list refer to the numbers on the map:
1. Superintendent's office.
2. Lamar bathhouse.
4. Ozark bathhouse.
5. Magness bathhouse.
7. Fordyce bathhouse.
8. Main entrance to reservation.
9. Maurice bathhouse.
11. Superior bathhouse.
13. Superintendent's residence (old).
14. Rockafellow Hotel and baths.
15. Majestic Hotel and baths.
17. Whittington Lake Park.
18. Keeper's residence.
19. First Presbyterian Church.
20. Catholic Church.
21. Rector bathhouse and Waukesha Hotel.
22. Milwaukee Hotel.
23. Fullman Hotel.
26. First Baptist Church.
27. Leo N. Levi Memorial Hospital and bathhouse.
29. Alhambra bathhouse.
30. Moody Hotel and baths.
31. Court House.
32. Como Hotel.
33. Central Methodist Church.
34. High School Building.
35. Ozark Sanitorium bathhouse.
36. Missouri-Pacific Depot.
37. Rock Island Depot.
38. City Hall and Auditorium Theatre.
40. Post Office.
41. Great Northern Hotel.
42. Citizens' National Bank.
43. Marquette Hotel.
44. Arkansas Trust Company.
46. Eastman Hotel and bathhouse.
47. Elks' Club.
48. Episcopal Church.
49. Superintendent's residence (new).
50. Imperial bathhouse.
51. Pump house (pumps water to drinking fountains at summit of Hot Springs Mountain).
52. Tower.
53. Iron Spring (cold).
54. Dugan-Stuart Building.
55. Thompson Building.

North, West, and Hot Springs Mountains and Whittington Lake Park form the permanent Hot Springs Reservation, owned and operated by the Government.
Elisha W. Baziel (colored) do 660
William F. Jennings do 792
Montgomery Prichard Policeman 924
Jonathan A. Jordan Foreman 1,386
Mary Clark (colored) do 528
Mattie Fielding (colored) Female attendant 528
Van Cannon (colored) do 660
Rufus M. Afoore (colored) do 660
James Daniels (colored) do 660
Jap George, do 792
Richard L. Gaffney, Policeman (detailed as train inspector) 1,188
Oliver H. Hoskins (colored) do 660
Thomas J. Turner do 660
Hugh A. Collum do 792
Peter Nelson Laborer 792
Harry J. Tully do 1,188
George W. Withrow do 924

Protection, and improvement Hot Springs Reservation, indefinite (revenue
man (detailed as train inspector), have been appointed. At the end of the fiscal year
ended June 30 were as follows:
All employees who were eligible under act of Congress approved June 3, 1918, received
increased compensation at the rate of $120 per annum.

Since my last annual report, Adelbert N. Byers, attendant at the government free
bathhouse; Elram A. Anderson, policeman (detailed as train inspector); and William H.
Turner, policeman, have resigned, and the services of Bruno Hoffman, laborer, were
continued without prejudice. George W. Withrow, policeman, and Harry J. Tully, police­
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1918, there remained four vacant positions, all filled.

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man (detailed as train inspector), have been appointed. At the end of the fiscal year
1918, there remained four vacant positions, all filled.

Without the aid of the public at large, the Government free bathhouse would have
been closed. The Government has been supported by the public through the use of the
bathhouse, which has paid its way to the last dime, and the funds received have been
reinvested in the bathhouse, thereby keeping it in a better condition than it has been
in the past.

The Government free bathhouse has been operated during the past year for the indigent
whites and colored men who have been unable to pay. The Government has also been
operating a Government free bathhouse for the indigent white and colored women who
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have been unable to pay.
The work accomplished at the free clinic this year is commendable and has served to facilitate the progress of a large number of patrons of the government free bathhouse who otherwise would have been unable to secure any treatment or medical advice on account of lack of funds to pay for such services. The physicians who have given their time to this work may be assured their services have been appreciated.

In the plans for the new free bathhouse, which is now being completed, provision has been made for a modern and up-to-date clinic, the arrangement of which has been given over to the same commission of several physicians who are deeply interested in this work. The plans have been arranged in such manner as to detail that when completed the clinic should be satisfactory in every respect. It is in the hands of an engineer in charge of the laboratory, records, etc., whose services will greatly facilitate the work of the clinic's staff of physicians.

### PAY BATHHOUSES.

There are at the present time 19 pay bathhouses receiving hot water from the Hot Springs Reservation, with the following rates for baths, fixed in each instance by the Secretary of the Interior, in effect thereon:

<table>
<thead>
<tr>
<th>Bathhouse</th>
<th>Single bath</th>
<th>Course of 21 baths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vermont</td>
<td>$0.30</td>
<td>$7.80</td>
</tr>
<tr>
<td>Missouri</td>
<td>$0.45</td>
<td>$11.20</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>$0.25</td>
<td>$6.00</td>
</tr>
<tr>
<td>Washington</td>
<td>$0.35</td>
<td>$8.55</td>
</tr>
<tr>
<td>New York</td>
<td>$0.20</td>
<td>$5.00</td>
</tr>
<tr>
<td>New Jersey</td>
<td>$0.30</td>
<td>$7.50</td>
</tr>
<tr>
<td>New Mexico</td>
<td>$0.30</td>
<td>$7.50</td>
</tr>
<tr>
<td>California</td>
<td>$0.25</td>
<td>$7.00</td>
</tr>
<tr>
<td>Oregon</td>
<td>$0.30</td>
<td>$7.80</td>
</tr>
<tr>
<td>Nevada</td>
<td>$0.40</td>
<td>$9.00</td>
</tr>
<tr>
<td>Idaho</td>
<td>$0.35</td>
<td>$8.55</td>
</tr>
</tbody>
</table>

In addition to the above, there is a uniform attendant's fee, also fixed by the Secretary of the Interior, of 20 cents for a single bath, or $4 per course of 21 baths, which is collected by the bathhouse manager and properly accounted for to the attendant. All bathhouses sell half-rate tickets for 10 baths and some of the bathhouses sell quarter tickets for 5 baths at one-half and one-quarter, respectively, of the rates shown above for a full course of 21 baths.
There are at present 23 hot water and ground leases in force, as shown by the following table:

### Hot water and ground leases.

<table>
<thead>
<tr>
<th>Name of bathhouse, etc.</th>
<th>Leasee</th>
<th>Tub.</th>
<th>Date of lease</th>
<th>Expiration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alhambra</td>
<td>Alhambra Bathhouse Co.</td>
<td>18</td>
<td>Mar. 1, 1919</td>
<td>Feb. 26, 1922</td>
</tr>
<tr>
<td>Arlington</td>
<td>Arlington Hotel Co.</td>
<td>22</td>
<td>Mar. 21, 1914</td>
<td>Mar. 3, 1922</td>
</tr>
<tr>
<td>Rockfellow</td>
<td>Rockfellow Bathhouse Co.</td>
<td>29</td>
<td>Jan. 12, 1912</td>
<td>Dec. 31, 1913</td>
</tr>
<tr>
<td>Eastman</td>
<td>W. V. Fordyce, Jr., trustee</td>
<td>19</td>
<td>May 12, 1912</td>
<td>May 12, 1913</td>
</tr>
<tr>
<td>Lamar</td>
<td>M. C. Tantul and G. H. B. Hale</td>
<td>25</td>
<td>do</td>
<td>do</td>
</tr>
<tr>
<td>Horseshoe</td>
<td>L. H. Patog, trustee</td>
<td>27</td>
<td>Jan. 1, 1912</td>
<td>Dec. 31, 1931</td>
</tr>
<tr>
<td>Imperial</td>
<td>Chas. E. Rix</td>
<td>31</td>
<td>Nov. 1, 1914</td>
<td>Oct. 31, 1924</td>
</tr>
<tr>
<td>Ozark Sanitorium</td>
<td>L. N. E. Ozark Sanitorium Co.</td>
<td>5</td>
<td>Nov. 1, 1914</td>
<td>Oct. 31, 1924</td>
</tr>
<tr>
<td>Magnolia</td>
<td>B. L. Fordyce, Jr.</td>
<td>30</td>
<td>Jan. 1, 1912</td>
<td>Dec. 31, 1931</td>
</tr>
<tr>
<td>Jepseptide</td>
<td>Jepseptide Co.</td>
<td>23</td>
<td>Jan. 1, 1913</td>
<td>Dec. 31, 1920</td>
</tr>
<tr>
<td>Missouri</td>
<td>Missouri Bath Co.</td>
<td>29</td>
<td>Jan. 1, 1912</td>
<td>Dec. 31, 1931</td>
</tr>
<tr>
<td>Missouri</td>
<td>Missouri Bath Co.</td>
<td>29</td>
<td>Jan. 1, 1912</td>
<td>Dec. 31, 1931</td>
</tr>
<tr>
<td>Missouri</td>
<td>Missouri Bath Co.</td>
<td>29</td>
<td>Jan. 1, 1912</td>
<td>Dec. 31, 1931</td>
</tr>
<tr>
<td>Missouri</td>
<td>Missouri Bath Co.</td>
<td>29</td>
<td>Jan. 1, 1912</td>
<td>Dec. 31, 1931</td>
</tr>
<tr>
<td>Ozark</td>
<td>W. S. Sorrels and F. L. Lea</td>
<td>10</td>
<td>July 1, 1910</td>
<td>June 30, 1920</td>
</tr>
<tr>
<td>Ozark Sanitorium</td>
<td>Ozark Sanitorium Co.</td>
<td>10</td>
<td>Sept. 17, 1912</td>
<td>Sept. 16, 1922</td>
</tr>
<tr>
<td>Pythian (colored)</td>
<td>Rights of Pythians (colored)</td>
<td>15</td>
<td>Apr. 26, 1914</td>
<td>Apr. 15, 1925</td>
</tr>
<tr>
<td>Rector</td>
<td>Eliza W. Rector estate</td>
<td>18</td>
<td>July 15, 1912</td>
<td>June 30, 1925</td>
</tr>
<tr>
<td>Rockafellow</td>
<td>Rockafellow Co.</td>
<td>18</td>
<td>Sept. 17, 1912</td>
<td>Sept. 16, 1922</td>
</tr>
<tr>
<td>St. Joseph's Infirmary</td>
<td>Sister Superior</td>
<td>10</td>
<td>Feb. 1, 1912</td>
<td>Mar. 31, 1924</td>
</tr>
<tr>
<td>Superior</td>
<td>Superior Bath Co.</td>
<td>20</td>
<td>Feb. 1, 1912</td>
<td>Dec. 31, 1924</td>
</tr>
<tr>
<td>Arlington Hotel ground</td>
<td>Arlington Hotel Co.</td>
<td>18</td>
<td>Feb. 1, 1912</td>
<td>Dec. 31, 1924</td>
</tr>
<tr>
<td>Hot Springs Mountain</td>
<td>Hot Springs Mountain Observatory Co.</td>
<td>19</td>
<td>Sept. 1, 1912</td>
<td>Dec. 31, 1925</td>
</tr>
</tbody>
</table>

1 Water used in private bathroom in portion of tub leased.
2 Closed Dec. 31, 1915.

There is no doubt that the finest bathhouses in the world are located in Hot Springs, as this has been stated by a number of persons who have visited all the first-class bathing resorts in Europe. Most of these bathhouses have been constructed within the past few years and contain all modern equipment and practical appliances. A high standard of service is maintained at all times. Frequently as many as 200 guests will be boarded to the efforts of the managers in obtaining such good results.

The business of the bathhouses has shown a substantial increase over last year, which is satisfactory to the lessees. However, on account of the great increase in cost of maintenance and operation, a slight decrease in net profits is shown. This is not unexpected, since there has been no increase in the price of labor since January 1916, and the increase in cost of maintaining these bathhouses since that date has been great.

The figures for the year 1919 give the number of patients taken in, the sites of the Horshoe, Ozark, Lamar, and Magnesia Bathhouses has been extended to June 1, 1919, at which time the hot-water supply will be cut off from these houses and they will be torn down, and it is probable construction of new and modern bathhouses on these sites will be begun. When these are completed the reservation front will present a magnificent row of beautifully designed, modern, and up-to-date bathhouses.

### Table: Total receipts, less redemptions, of bathhouses, by months, for fiscal year ended June 30, 1919.

<table>
<thead>
<tr>
<th>Bathhouse</th>
<th>July</th>
<th>August</th>
<th>September</th>
<th>October</th>
<th>November</th>
<th>December</th>
<th>January</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alhambra</td>
<td>$922.00</td>
<td>$850.40</td>
<td>$844.20</td>
<td>$355.00</td>
<td>$414.45</td>
<td>$683.40</td>
<td>$1,306.50</td>
</tr>
<tr>
<td>Arlington</td>
<td>$1,247.45</td>
<td>$1,333.30</td>
<td>$1,260.30</td>
<td>$1,179.72</td>
<td>$1,070.80</td>
<td>$925.15</td>
<td>$3,069.45</td>
</tr>
<tr>
<td>Rockfellow</td>
<td>$1,885.80</td>
<td>$2,260.80</td>
<td>$1,386.41</td>
<td>$900.65</td>
<td>$1,169.20</td>
<td>$1,111.90</td>
<td>$2,971.05</td>
</tr>
<tr>
<td>Eastman</td>
<td>$618.64</td>
<td></td>
<td>$588.95</td>
<td></td>
<td>$627.75</td>
<td></td>
<td>$331.35</td>
</tr>
<tr>
<td>Fordyce</td>
<td>$2,964.12</td>
<td>$3,328.08</td>
<td>$1,597.18</td>
<td>$1,313.48</td>
<td>$1,051.02</td>
<td>$1,666.83</td>
<td>$5,826.18</td>
</tr>
<tr>
<td>Hale</td>
<td>$1,587.00</td>
<td>$1,665.46</td>
<td>$1,221.36</td>
<td>$793.75</td>
<td>$909.39</td>
<td>$1,227.05</td>
<td>$2,459.09</td>
</tr>
<tr>
<td>Imperial</td>
<td>$1,179.35</td>
<td>$1,229.05</td>
<td>$933.25</td>
<td>$749.10</td>
<td>$679.50</td>
<td>$603.10</td>
<td>$1,488.85</td>
</tr>
<tr>
<td>Lamar</td>
<td>$1,056.80</td>
<td>$1,030.81</td>
<td>$858.90</td>
<td>$739.50</td>
<td>$785.50</td>
<td>$1,553.40</td>
<td>$3,479.80</td>
</tr>
<tr>
<td>Magnesia</td>
<td>$2,556.40</td>
<td>$2,584.60</td>
<td>$2,154.40</td>
<td>$1,745.55</td>
<td>$1,633.35</td>
<td>$2,098.15</td>
<td>$6,578.15</td>
</tr>
<tr>
<td>Maurice</td>
<td>$1,943.95</td>
<td>$1,748.90</td>
<td>$1,569.70</td>
<td>$1,387.60</td>
<td>$1,313.45</td>
<td>$1,197.20</td>
<td>$2,142.70</td>
</tr>
<tr>
<td>Ozark</td>
<td>$1,943.95</td>
<td>$1,684.30</td>
<td>$1,400.70</td>
<td>$1,070.50</td>
<td>$1,067.35</td>
<td>$1,067.35</td>
<td>$1,124.70</td>
</tr>
<tr>
<td>Ozark Sanitorium</td>
<td>$421.49</td>
<td>$562.20</td>
<td>$516.05</td>
<td>$372.69</td>
<td>$317.60</td>
<td>$305.90</td>
<td>$1,156.80</td>
</tr>
<tr>
<td>Pythian (col)</td>
<td>$804.77</td>
<td></td>
<td>$796.70</td>
<td>$370.40</td>
<td>$370.40</td>
<td>$370.40</td>
<td>$1,413.50</td>
</tr>
<tr>
<td>Rector</td>
<td>$559.69</td>
<td>$601.60</td>
<td>$256.35</td>
<td>$322.59</td>
<td>$291.55</td>
<td>$370.40</td>
<td>$1,043.85</td>
</tr>
<tr>
<td>Rockafellow</td>
<td>$1,525.82</td>
<td>$1,236.04</td>
<td>$776.88</td>
<td>$400.80</td>
<td>$305.10</td>
<td>$315.90</td>
<td>$1,423.95</td>
</tr>
<tr>
<td>Superior</td>
<td>$1,061.00</td>
<td>$1,060.05</td>
<td>$1,067.30</td>
<td>$1,262.00</td>
<td>$788.45</td>
<td>$1,048.45</td>
<td>$2,153.45</td>
</tr>
<tr>
<td>St. Joseph's</td>
<td>$226.80</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total | $24,950.23 | $24,730.60 | $16,074.72 | $17,417.47 | $18,447.14 | $16,717.29 | $38,137.31 |
SUMMARY OF COSTS.

**Strengthening impounding reservoirs**

<table>
<thead>
<tr>
<th>Description</th>
<th>Gross amount</th>
<th>Redeemed amount</th>
<th>Net amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two comfort stations at Bathhouse Row, at $12,544 each</td>
<td>$3,100</td>
<td>$3,100</td>
<td>$0</td>
</tr>
<tr>
<td>Whittington Lake Park, at $2,763 each</td>
<td>$5,526</td>
<td>$5,526</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Main entrance and conservatory**

<table>
<thead>
<tr>
<th>Description</th>
<th>Gross amount</th>
<th>Redeemed amount</th>
<th>Net amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper garden</td>
<td>$12,285</td>
<td>$12,285</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Bathhouse Row**

<table>
<thead>
<tr>
<th>Description</th>
<th>Gross amount</th>
<th>Redeemed amount</th>
<th>Net amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main entrance and conservatory</td>
<td>$10,300</td>
<td>$10,300</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Two gateways near Government building**

<table>
<thead>
<tr>
<th>Description</th>
<th>Gross amount</th>
<th>Redeemed amount</th>
<th>Net amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>New gorge road and bridges</td>
<td>$10,300</td>
<td>$10,300</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Surfacing connecting roads**

<table>
<thead>
<tr>
<th>Description</th>
<th>Gross amount</th>
<th>Redeemed amount</th>
<th>Net amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surfacing connecting roads</td>
<td>$7,265</td>
<td>$7,265</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Water purification plant**

<table>
<thead>
<tr>
<th>Description</th>
<th>Gross amount</th>
<th>Redeemed amount</th>
<th>Net amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drainage system as originally suggested in J. W. Barnett's report</td>
<td>$4,500</td>
<td>$4,500</td>
<td>$0</td>
</tr>
</tbody>
</table>

**New impounding reservoirs**

<table>
<thead>
<tr>
<th>Description</th>
<th>Gross amount</th>
<th>Redeemed amount</th>
<th>Net amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>New impounding reservoirs</td>
<td>$4,000</td>
<td>$4,000</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Cleansing system for reservoirs**

<table>
<thead>
<tr>
<th>Description</th>
<th>Gross amount</th>
<th>Redeemed amount</th>
<th>Net amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>New impounding reservoirs</td>
<td>$1,170</td>
<td>$1,170</td>
<td>$0</td>
</tr>
</tbody>
</table>

Referring to the recommendation contained in my annual report last year relative to means of securing a substantial increase in the revenues of the reservation and the plan to develop the result by the adoption of a new rule, a draft of which has been heretofore submitted to the Service for consideration; and to Service letter of December 21, 1918, with reference thereto, the Service was not able to recommend the adoption of the rule. In view of the conditions prevailing the agencies of the hot water, I recommend that the necessary steps be taken to secure the revision of this rule. In order to accomplish this purpose, it is suggested that the next best to prepare an amendment to the act of April 20, 1904, to cover the deficiencies in the act. In my letter, including a chapter with severances from such purpose, therefore be merged with the revenues collected from hot water and ground rent, to be credited toward the development of the Hot Springs Reservation.

In this connection, under authority of an act of the State legislature giving this authority, the Mammoth Hot Springs Hotel, owned by the State, was put into an occupation and privilege tax which becomes effective from and after October 1, 1919.

**Conclusions.**

If there has ever existed to the slightest degree any pessimistic views as to the future of Hot Springs Reservation, they must have been fully dispelled during the past few years. Year after year substantial increases have been noted in the number of visitors departing and visitors arriving, which exhibition has resulted from the strenuous work that has been done toward eliminating evil conditions.

The system of exploiting all the national parks by means of descriptive literature sent broadcast throughout the country has resulted in materially increasing the patronage here.

The next few years will undoubtedly mark the accomplishment of all the improvements and beautification of the reservation heretofore proposed by this Service, which begins with the construction of the new administration building, free bathhouse, and clinic. With all these improvements shall be accomplished and taken in connection with the natural scenic beauty with which the resort is surrounded, it will be the pride of all the Nation, as it will have no equal as a health-pleasure resort.

**Recommendations.**

The past few years have demonstrated the necessity of the Government improving and beautifying the Hot Springs Reservation along permanent, substantial, and appropriate lines, the plans for which were prepared as a result of the appropriation of $10,000 from the revenues of the reservation contained in the sundry civil act approved June 13, 1917. These plans, which are now in Washington, have been made to include the numerous improvement schemes hereunto recommended by the superintendent, and have been further approved of by the Secretary of the Interior. The recommendation of last year that all the improvements provided for in these plans be carried to completion is hereby renewed, and it is recommended that the same be submitted to Congress for appropriation of $500,000 to continue such portions of the work as may be determined to be most important, and which it is not possible to provide for by an appropriation less than that of the construction of the administration building, free bathhouse, and clinic.

The Government Office has cooperated with the architects in order that they would be worked out in such manner as to attain the very best possible advantage from the available funds. It is established that the estimates made by the architects were in accordance with the architects' estimate of cost at the time the plans were prepared, which will, under present building conditions, exceed these estimates:

**Summary of costs.**

<table>
<thead>
<tr>
<th>Description</th>
<th>Gross amount</th>
<th>Redeemed amount</th>
<th>Net amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strengthening impounding reservoirs</td>
<td>$3,500</td>
<td>$3,500</td>
<td>$0</td>
</tr>
<tr>
<td>Two comfort stations at Bathhouse Row, at $12,544 each</td>
<td>$27,068</td>
<td>$27,068</td>
<td>$0</td>
</tr>
<tr>
<td>Whittington Lake Park, at $2,763 each</td>
<td>$50,037</td>
<td>$50,037</td>
<td>$0</td>
</tr>
<tr>
<td>Surfacing connecting roads</td>
<td>$52,150</td>
<td>$52,150</td>
<td>$0</td>
</tr>
<tr>
<td>Drainage system as originally suggested in J. W. Barnett's report</td>
<td>$4,500</td>
<td>$4,500</td>
<td>$0</td>
</tr>
<tr>
<td>New impounding reservoirs</td>
<td>$4,000</td>
<td>$4,000</td>
<td>$0</td>
</tr>
<tr>
<td>Cleansing system for reservoirs</td>
<td>$4,000</td>
<td>$4,000</td>
<td>$0</td>
</tr>
</tbody>
</table>

The Yellowstone National Park was reserved from the public domain by act of Congress approved March 1, 1872, and dedicated as a "pleasuring ground for the benefit and enjoyment of the people." When established the park was 11,000 square miles in area, of which 3,114 square miles, or 1,902,966 acres, are in the State of Wyoming, 198 square miles, or 126,718 acres, are in the State of Montana, and 635 acres, or 41 acres, are in the State of Idaho. It is the biggest park in the United States and next to the largest park in the world, being exceeded in area only by Jasper National Park, of the Dominion of Canada.

The boundaries of the park have never been changed since they were first established. In 1911 it was extended to include the Park City National Forest, the headwaters of the Yellowstone River, and the canyon north of the Buffalo Fork of the Snake, taking in an area of approximately 1,265 square miles, most of which now lies in a forest reserve and two State game preserves. All of this land was withdrawn from settlement on July 8, 1919, in all of pending legislation.

**Administration of the park.**

For 14 years after its establishment Yellowstone National Park was administered by civilian superintendents appointed by the Secretary of the Interior. With the exception of the first superintendent, N. P. Langford, one of the earliest officers who served five years without salary or any other emoluments and without assistance, these officers were tended by a few employees.

In the early eighties some very unsatisfactory conditions connected with the administration of the park were aired in Congress, and the result of these findings was the enactment of a law approved March 3, 1883, authorizing the Secretary of the Interior to call upon the Secretary of War for details of troops to guard the park. Nevertheless, as long as these details were held, the troops were able to manage the park, and the park was served by the military force of the United States Army. At length Congress refused to appropriate any funds for the protection of the park, and on August 20, 1886, the civilian force was finally removed and a detachment of Federal troops assumed control of the park, Capt. Moses Harris becoming the first military acting superintendent.
It was 32 years later, on October 31, 1918, when complete civilian control of the park was finally restored. Meanwhile Fort Yellowstone, capable of accommodating four troops of Cavalry, was built and used by the military force, but rarely ever to its full capacity. The fort was abandoned with the withdrawal of the troops last year. 

During the military rule in the park not less than a dozen officers of the United States Cavalry were in charge as acting superintendent, several of them making valuable records. No attempt was ever made to control traffic on the highways, to protect the geyser, hot spring, and other formations, or to fight fires, or to perform any other service required.

The ranger force is uniformed during the tourist season and presents a very striking appearance. In the fall, winter, and spring, they patrol the trails in plain clothes, and are very effective in protecting the park from poachers and other trespassers.

The protection of Yellowstone Park is now under the direct control of the superintendent, who exercises his authority through a very efficient ranger force, composed of 32 men. 

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There are four principal gateways to Yellowstone National Park, and three are accessible by both train and automobile. The fourth has no train service.

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Northwestern gateway.—The northwestern or Gallatin entrance is reached by a road which leads from the driving city of Bozeman through the superbly colored and beautifully carved gorge of the Gallatin River. This road is now being rebuilt with State, county, and Federal aid funds, and when completed will doubtless become one of the most popular approaches to the park.

Northeastern Gateway.—The northeastern or Cooke City entrance will be reached by a road which is being constructed from Leed Lodge and is complete. This new road will traverse the Beartooth Mountain Range, and will be a very scenic approach. It is expected that when this road will probably be completed, but in all probability it will be several years before it reaches the park boundary. In the meantime the work that was performed on the roads leading from the northern entrance above the Lamar River Canyon and the canyon of Soda Butte Creek, on the park highway system.

There are 278.8 miles comprising the main highway system of the park and there are 24.75 miles of secondary road within its boundaries. These roads, with the distance between junction points, are shown clearly on the attached map.

In the Shoshone National Forest, east of the park, we are charged with maintaining 26 miles of the main Cody approach road, and in that part of the Teton National Forest which is comprehended in the plan to extend the park boundaries we are required by law to maintain approximately 30 miles of the main highway leading to the southern entrance of the park. Should the park be enlarged, this obligation will extend to the upkeep of considerable additional mileage along the north side of the Buffalo Fork of the Snake River and the larger part of the road from Ashton, Idaho, toward the present southern entrance.

The work that was performed on all of the roads under our control is outlined in another portion of this report.

TRAIL SYSTEM.

There are between 400 and 500 miles of trails in the park, over 400 of which are particularly good tourist trails. All of the trails are used by the rangers for fire patrols.

The work accomplished in preparing this trail system is discussed in another part of this report, as are also the extensions of the trail system that ought to be undertaken in the early future.

TRAVEL OF THE 1919 SEASON.

All travel records of Yellowstone National Park were broken during the 1919 season. Never in the history of the park have so many people enjoyed its opportunities for recreation and sight-seeing as came here for that purpose this year. Furthermore, the tourists this season saw more of the park than usual; there was a general tendency to cover all of the main roads and make as many side trips as possible. The spring conditions for travel were good. Snow left the roads earlier than usual, and on the opening day of the season, June 20, the main belt line and all of the entrance roads were open for public use. The first day of the season saw the hotels and permanent camps filled to their capacity, and this condition continued until practically the close of the season on September 20.

On August 5, 1919, 1,255 tourists entered the park, the greatest number entering in any one day in the history of the Yellowstone. The greatest number of private automobiles entering in one day was 202, on August 4, 1919.

Tourists reached the park via the eastern, northern, western, and southern entrances. Of the total number of people entering the park, 202 came via the eastern entrance; 36 via the northeastern; 36 motocycles carrying 56 passengers via the northeastern gateway; 66 people entering via the northeastern gateway.

The following tables are given for the purpose of comparing the travel of this season with the number of visitors entering the park in 1918, the season of average travel since the admission of automobiles to the park; and 1915, the Panama-Pacific Exposition season. These tables give in the first column the number of automobiles and in the case of the 1919 statistics the number of motor cycles entering the park; in the second column the number of visitors to the park is shown by reference to entrances, those entering via Soda Butte ranger station, the northeast gateway, being listed with the eastern-entrance visitors; the next column shows the number of visitors reaching the north, west, and east entrances by rail; and the last column gives the total number of visitors by entrances.

<table>
<thead>
<tr>
<th>Destination</th>
<th>1915</th>
<th>1918</th>
<th>1919</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>7,083</td>
<td>23,123</td>
<td>35,400</td>
</tr>
<tr>
<td>North</td>
<td>2,860</td>
<td>10,430</td>
<td>13,455</td>
</tr>
<tr>
<td>West</td>
<td>3,792</td>
<td>14,661</td>
<td>23,558</td>
</tr>
<tr>
<td>South</td>
<td>662</td>
<td>2,452</td>
<td>2,462</td>
</tr>
</tbody>
</table>

The report of Director of the National Park Service shows the total number of private automobiles entering the park from different directions. The following tables show some very interesting analyses of this travel figure:

**Travel by different entrances.**

<table>
<thead>
<tr>
<th>Entrance</th>
<th>1915</th>
<th>1918</th>
<th>1919</th>
</tr>
</thead>
<tbody>
<tr>
<td>By rail</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>5,703</td>
<td>22,117</td>
<td>21,275</td>
</tr>
<tr>
<td>By road</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North</td>
<td>1,534</td>
<td>6,071</td>
<td>3,026</td>
</tr>
<tr>
<td>West</td>
<td>1,845</td>
<td>7,206</td>
<td>1,874</td>
</tr>
<tr>
<td>South</td>
<td>623</td>
<td>2,462</td>
<td>1,100</td>
</tr>
<tr>
<td>Total</td>
<td>4,160</td>
<td>14,543</td>
<td>44,477</td>
</tr>
</tbody>
</table>

**Making trips with private transportation.**

<table>
<thead>
<tr>
<th>Category</th>
<th>1915</th>
<th>1918</th>
<th>1919</th>
</tr>
</thead>
<tbody>
<tr>
<td>With automobiles, paid and complimentary</td>
<td>37,724</td>
<td>14,960</td>
<td>17,465</td>
</tr>
<tr>
<td>With automobiles, second trip</td>
<td>1,432</td>
<td>37,886</td>
<td>51,985</td>
</tr>
<tr>
<td>With motor cycles</td>
<td>60</td>
<td>1,099</td>
<td>1,100</td>
</tr>
<tr>
<td>With licensed saddle and pack trains</td>
<td>128</td>
<td>623</td>
<td>2,415</td>
</tr>
<tr>
<td>With miscellaneous facilities, including out-of-season visitors to the park</td>
<td>515</td>
<td>815</td>
<td>815</td>
</tr>
<tr>
<td>Grand total</td>
<td>62,261</td>
<td>62,261</td>
<td>62,261</td>
</tr>
</tbody>
</table>
NATIONAL PARK SERVICE

THIRD ANNUAL REPORT PLATE XXIV

MAP OF YELLOWSTONE NATIONAL PARK

©Denotes Ranger Station • Direction of Travel
Distances given are between main points by road.

SCALE

1919 — Trails
Snow shoe or Shelter Cabins

10 MILES
improving the water and sanitation facilities. The popularity of these camps fully warrants their development on a large scale.

Of the 18,876 tourists who came to the park by rail and utilized the facilities of the Yellowstone Park Transportation Co., making the complete park tour, 10,442 were accommodated at the hotels and 8,437 at the permanent camps. A considerable number of accommodations furnished to people who made short trips in the park or toured only a part of the park. The transportation facilities of the Yellowstone Park Transportation Co. is such that no one can make an excursion to the park without a trip to the open range and to Yellowstone Lake. The visitors numbered 2,508. Likewise, we have not been able to compile statistics of the number of private motorists who secured accommodations at the hotels and permanent camps, but, as I have stated, it is estimated that about 60 per cent of these visitors brought their own camp equipment with them. This is the first year that an average of not more than fifteen or sixteen thousand individual automobiles purchased meals or lodging warrants their development on a large scale.

At times during the season the hotels and camps were filled to overflowing, and there were occasions when people had to be turned away from the establishments at the Grand Canyon of the Yellowstone, despite the fact that both the hotel and camp at this point are much larger than the plants at Mammoth Hot Springs, Upper Geyser Basin, and Lake Yellowstone. This was due to congestion at the canyon owing to lack of adequate facilities for processing the crowds. Nevertheless, remarkably good service was furnished by both the hotel and company, and few complaints regarding unsatisfactory service or accommodations were made by friends of these companies and officers of the Service, so far as I have been advised.

A fee of $7.50 was charged for automobile tickets of passage and $2.50 for motor-cycle tickets of passage. A general increase in the fees paid for these permits was expected, and the amount paid for the same reason. The above tables disclose the most interesting fact that of the grand total of 62,261 visitors to the park approximately two-thirds came here in their private automobiles. For these comparatively modern camp equipment and were used by all who came to the park. Accommodations at Lake Hotel and Permanent Camp. At the Lake Hotel the improvements that will be the most noteworthy will include a new kitchen, new comfort stations with flush toilets, and a general rearrangement of the tower and a general rearrangement of the tower. Work is in progress now on the rebuilding of the Lake Camp, and the hotel is under construction. This discussion leads naturally to the situation at Lake Yellowstone, where the hotel and permanent camp were closed during the season. In the first place, they were not in proper condition to open. Many necessary repairs had to be made to the hotel, and the permanent camp was in reality out of existence. The latter was torn down because both the hotels and camps had great difficulty in securing and keeping sufficient competent help to operate their several plants. Time and again during the summer they were almost brought to the point of closing the doors of one or more resorts, due to lack of efficient assistance to keep them in operation. Laundry help was particularly hard to secure.

LAKE HOTEL AND PERMANENT CAMP. This discussion leads naturally to the situation at Lake Yellowstone, where the hotel and permanent camp were closed during the season. In the first place, they were not in proper condition to open. Many necessary repairs had to be made to the hotel, and the permanent camp was in reality out of existence. The latter was torn down because both the hotels and camps had great difficulty in securing and keeping sufficient competent help to operate their several plants. Time and again during the summer they were almost brought to the point of closing the doors of one or more resorts, due to lack of efficient assistance to keep them in operation. Laundry help was particularly hard to secure.

The Yellowstone Park Transportation Co. operated its Camp Roosevelt near Lost Creek in the Tower Falls region during July and August and accommodated a considerable
number of people who sought service in that scenic section of the park. This camp is destined to become a popular as a fishing and riding resort. It is in the neighborhood of some of the finest fishing waters of the park, and is a point of departure for numerous very interesting trails.

During the summer it likewise furnished emergency service to tourists at the temporary camp it maintained at Yellowstone Lake in connection with the construction of its new camp buildings.

TRANSPORTATION SERVICE.

The Yellowstone Park Transportation Co. maintained first-class service to and from all park gateways, connecting with regular trains at Cody, Wyo. Upper Geyser Basin, Yellowstone Lake, and Grand Canyon. In addition, special cars were furnished for runs to Mammoth Hot Springs, Upper Geyser Basin, Lake, and Grand Canyon. The company also experienced during the early part of the season in controlling the operation of the cars on the park roads. Many of these drivers were careless and irresponsible, and with their cars carelessly operated rendered the park roads dangerous to travelers. It is in great demand, and its publication and free distribution to all park gateways, connecting with regular trains at Cody, Wyo., and Gardiner, and in addition operated cars regularly twice a week in both directions.

The steel span over the Gardiner River, the arch over Tower Creek, and the steel bridge over the Madison River were constructed. Bix concrete culverts were lengthened about 13 feet to carry the water. Four fills were made over culverts. Two concrete culverts, each 4 by 6 by 42 feet long, were constructed. Six concrete culverts were lengthened about 13 feet to carry the water. One fill was made over a 6-foot culvert. Three miles of the Dunraven Pass Road were widened and the bad turns improved. Forty-five concrete culverts were used.

The large steel bridge over Cascade Creek at the canyon was painted and redecked. The following is a brief summary of the work accomplished along these lines, together with an estimate of the cost of work performed since the date of the last report:

**ROAD MAINTENANCE AND IMPROVEMENT.**

The Yellowstone Park Transportation Co. maintained first-class service to and from all park gateways, connecting with regular trains at Cody, Wyo. Upper Geyser Basin, Yellowstone Lake, and Grand Canyon. In addition, special cars were furnished for runs to Mammoth Hot Springs, Upper Geyser Basin, Lake, and Grand Canyon. The company also experienced during the early part of the season in controlling the operation of the cars on the park roads. Many of these drivers were careless and irresponsible, and with their cars carelessly operated rendered the park roads dangerous to travelers. It is in great demand, and its publication and free distribution to all park gateways, connecting with regular trains at Cody, Wyo., and Gardiner, and in addition operated cars regularly twice a week in both directions.

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**ROAD MAINTENANCE AND IMPROVEMENT.**

The Yellowstone Park Transportation Co. maintained first-class service to and from all park gateways, connecting with regular trains at Cody, Wyo. Upper Geyser Basin, Yellowstone Lake, and Grand Canyon. In addition, special cars were furnished for runs to Mammoth Hot Springs, Upper Geyser Basin, Lake, and Grand Canyon. The company also experienced during the early part of the season in controlling the operation of the cars on the park roads. Many of these drivers were careless and irresponsible, and with their cars carelessly operated rendered the park roads dangerous to travelers. It is in great demand, and its publication and free distribution to all park gateways, connecting with regular trains at Cody, Wyo., and Gardiner, and in addition operated cars regularly twice a week in both directions.

The steel span over the Gardiner River, the arch over Tower Creek, and the steel bridge over the Madison River were constructed. Bix concrete culverts were lengthened about 13 feet to carry the water. Four fills were made over culverts. Two concrete culverts, each 4 by 6 by 42 feet long, were constructed. Six concrete culverts were lengthened about 13 feet to carry the water. One fill was made over a 6-foot culvert. Three miles of the Dunraven Pass Road were widened and the bad turns improved. Forty-five concrete culverts were used.

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Bridge over the Yellowstone River at the Lake Outlet was repaired. All damaged and missing piles were replaced, and an ice break of piling was constructed upstream from each bent of the bridge.

East approach (in the Shoshone National Forest).—The 28 miles of the Cody approach road in the Shoshone National Forest was maintained in excellent repair. General bridge and road upkeep was continued throughout the season. Unfinished repairs to road bridges by the washout during the spring of 1918 were completed. One king post bridge, with 30-foot span, was erected of logs to replace the old wooden bridge over Guineau Creek. Approaches to the Grinnell Creek Bridge were made, and the road was four miles eastward widened and the alignment improved.

South approach (in the park).—Light bridge and road repairs were made in July. Two small crews made light bridge and road repairs from the south boundary of the park to the neighborhood of Moran. The poorest sections of road were improved, and the necessary culverts installed. Ten feet of concrete decking on the north end of the Snake River Bridge was replaced. At Moran 4,700 linear feet of road were placed 10 feet wide and 6 inches deep.

Cook City Road.—The large steel bridge over the Yellowstone River was painted. Light repairs to the bridge, with a few minor grade improvements from the Tower Falls Junction to Pebble Creek. We also made a survey for a new bridge site over the Lamar River.

Two small crews with pack transportation were employed most of the summer, except when the work was interrupted by weather or snow slides. Approaches to the roads were made, and making slight repairs to bridges and corduroys on trails so as to render them passable for saddle horses. The total number of miles gone over was as follows:

**Telephone and Telegraph Lines.**

Of the 269 miles of grounded telephone and telegraph lines maintained by this office in the park, 207 miles underwent quite extensive repairs during the past season, as follows:

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headquartrds</td>
<td>Gardiner</td>
<td>5</td>
</tr>
<tr>
<td>Do.</td>
<td>Upper Basin</td>
<td>48</td>
</tr>
<tr>
<td>Cody</td>
<td>Do.</td>
<td>48</td>
</tr>
<tr>
<td>Lake Junction</td>
<td>Sylvan Pass</td>
<td>31</td>
</tr>
<tr>
<td>Sylvan Pass</td>
<td>Do.</td>
<td>28</td>
</tr>
<tr>
<td>Do.</td>
<td>South entrance</td>
<td>7</td>
</tr>
<tr>
<td>Do.</td>
<td>Firehole Cascades</td>
<td>23</td>
</tr>
<tr>
<td>Do.</td>
<td>East entrance</td>
<td>23</td>
</tr>
<tr>
<td>Do.</td>
<td>Butte Station</td>
<td>16</td>
</tr>
<tr>
<td>Do.</td>
<td>Gunnison</td>
<td>15</td>
</tr>
</tbody>
</table>

Telephone character of repairs:

- Pole rest; wire tightened.
- Heavy repairs for 18 miles; 3 miles new line relocated.
- Mow孔雀der through the Sylvan Pass.
- Light repairs.
- Do. rest; wire tightened.
- Wire, balance 6 miles light repairs.
- Do. rest; wire tightened.

Connection was made with the Western Union Telegraph lines in April, 1919, by attaching the wire to the pole mast leased by the Yellowstone Park Hotel Co. This gives us the capacity of sending our official messages, 2500 feet, between the hotel and any point in the park. We can deliver the messages at the hotel, if desired, and have them at the office in time to be delivered at the hotel in the hotel in the summer and telephone them to Gardiner in the winter.

The whole telephone and telegraph system in the park ought to be reorganized on a sound basis. Our present system is owned and operated by the Government for the benefit of all concessioners and the public. The maintenance of a telephone line in the park is one of the most expensive. At least one-half of our 269 miles of line runs through timber, mostly which is lodge-pole pine, which is easily uprooted by winds, and much damage occurs from this. The telephone available in the park for public use is almost worn out and in the ground but a few years, necessitating rebuilding frequently. If all the lines in the park can be consolidated under Park Service control, their use by all interests will warrant the expense of more substantial construction, with consequent improved and cheaper service. At present the Government line serves the camping company and connects our headquarters with ranger stations, road camps in summer, and with the railroad stations and business houses in Gardiner.

A separate wire connects at the north entrance with the Telegraph Co.'s long distance line. Our lines are connected through a 60-drop switchboard, with power ringer, to 48 telephones at headquarters, 20 on park lines, and 8 in the village of Gardiner, and the line reaches all hotels in the park, the railroad station, phone booths, and garage. At one time we had 260,000 pounds of this explosive stored in these buildings. Three miles of car line, north of the Bridger-Teton National Park, were closed and sealed up, making a temporary automobile checking station.

Two new approaches were erected about 1 mile south from Gardiner, for use as temporary power sheds near Mammoth Hot Springs. Here open fireplaces were built for cooking, trash torches were installed, and the roads were graded and lined, and the grounds lighted. The lake was sent water pumped in the. The second was developed later under the hill in the edge of the timber by the lower house, where the ground was cleared of fallen timber and debris, running water was piped to the grounds, and earth works provided.

The Bechler River ranger station in the southwestern corner of the park was painted, and a new roof cellar was built, all by labor of the regular ranger force.

A new main storage was built on Maple Creek by the rangers at Riverside Station late in the fall of 1918.

About 33 miles of fence enclosing the fields at the Buffalo Farm, on the Lamar River, were rebuilt with new posts, and the corrals, sheds, and squeeze necessary in handling the large herd of tame buffalo were also rebuilt.

**LANDSCAPE WORK.**

A vista was cut through the woods from the Tower Falls-Mammoth Hot Springs Road in order that beautiful Wraith Falls might be opened to the view of tourists traveling over this road.

Another vista was cut below the Upper Basin-Thumb Road in order that Deer Creek and Rock Creek might be better observed by passing visitors. This lake is a perfect gem in a setting of dense forest, and the view that opened it to public gaze was much appreciated.

At one time we had 200,000 pounds of this explosive stored in these buildings. Three miles of car line, north of the Bridger-Teton National Park, were closed and sealed up, making a temporary automobile checking station.

Two camps were developed for use of private camping parties traveling in automobiles at Mammoth Hot Springs district. One was located immediately adjoining and above the main one, and the other 34 miles eastward was located in the Mammoth Hot Springs district. All of this work was done under the supervision of Landscape Engineer Punchard, who also directed some landscape work at the Mammoth Camp and at other resorts in the park.

**Water Supply and Power Plant.**

**Water system.**—The water supply furnishing power and water is from the Yellowstone National Park, including all concessioners, park employees, Mammoth Hot Springs, and Mammoth Camp. Water is used for the water supply in the park with the exception of some used for the water supply for the Mammoth Hot Springs district. All of this work was done under the supervision of Landscape Engineer Punchard, who also directed some landscape work at the Mammoth Camp and at other resorts in the park.

**Power plant.**—Water is conducted from the Yellowstone National Park, including all concessioners, park employees, Mammoth Hot Springs, and Mammoth Camp, with the exception of some used for the water supply for the Mammoth Hot Springs district. The water supply furnishing power and water is from the Yellowstone National Park, including all concessioners, park employees, Mammoth Hot Springs, and Mammoth Camp, with the exception of some used for the water supply for the Mammoth Hot Springs district.

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FISHING BY HOTELS AND CAMPS.

For many years it has been the practice of the hatchery to ship the young fish hatched in the park to the waters of other streams. This practice, however, has been discontinued.

FISHING BY TOURISTS.

The operation of this hatchery is comparatively new, and the methods by which the fish are bred and stocked are still being developed. The hatchery is located on the south side of Yellowstone Lake, near the town of Mammoth Hot Springs. It is operated by the National Park Service.

The hatchery is equipped with a complete plant, including generators, transformers, and motors, and has a capacity of 2,300 kilowatts. The electrical power is supplied by a central station located on the north side of Yellowstone Lake.

The hatchery is manned by experienced hatcherymen, and the fish are cared for in a carefully controlled environment. The water in the hatchery ponds is kept at a constant temperature of 8 degrees Fahrenheit, and the fish are fed a specially prepared diet.

The hatchery is open to the public, and visitors are welcome to observe the fish being raised and stocked. Tours of the hatchery are conducted on a regular basis, and visitors are encouraged to ask questions and learn more about the hatchery's operations.

The hatchery is an important part of the park's effort to conserve and protect its natural resources, and it is a valuable resource for visitors who are interested in learning more about the park's wildlife and vegetation.

In conclusion, the hatchery is a key component of the park's ecosystem, and its operations are closely monitored to ensure that they are sustainable and beneficial to the environment. The hatchery is an excellent example of how the park is working to balance its natural resources and provide for the enjoyment of visitors.

I am pleased to report that the hatchery is making good progress, and I look forward to seeing its continued success in the future.

Yours truly,

[Signature]

Director of National Park Service
August 15, 1919, the further catching of fish for table use in the hotels and camps, except by tourists in strict accordance with the rules and regulations, was prohibited.

The weather conditions for the wild animals were ideal during the past year. Forage grasses were abundant last fall, as there had been plenty of rain all summer; the winter over snow was excellent, enabling the animals to get food easily. Consequently there was scarcely any loss whatever among the elk, deer, antelope, and moose. It is probable that these legitimate hunters of the wild animals had a better season than they usually have, as the weather was not at all, as pleasant weather lasted through most of the hunting season. The elk and deer did not go out of the park for the purpose of obtaining hay, and the problem of feeding the elk when complete destruction of the elk will come. The Biological Survey showed that the 1917 right lasted when it acquired its elk farm near Jackson, Wyo., in the Flat Creek district of the Jackson Hole.

The range condition for the wild animals in the Wyoming game parks and preserves of the Teton and Yellowstone Valley which can be purchased if needed. Alfalfa hay that cost $18 per ton in the stack last year is worth $25 a ton now.

Deer.

—The antelope wintered, as usual, near the northern entrance, but were so much scattered that a careful count of them could not be made. During the summer they have ranged well back in the hills of the northern section of the park. Three antelope were seen in the Madison River Valley, and several were seen by tourists on the trails that wind through the park. In the town of Jackson, Wyo., as the antelope was not as plentiful as usual, and the hunters were not as plentiful as usual, and the antelope did not become a pet of the family of the buffalo keeper and attracts much attention at the big farm where she makes her home.

Antelope.

—Buffalo—Reports received during the winter indicate that the wild herd of buffalo is on the increase. During January the rangers from Lake Station saw 67 in the Madison River Valley, as against about 60 the previous winter. The herd was taken up at his advice and fed hay during the winter, which, should, with careful handling, do toward keeping the number of animals in the park. We also have a herd of 355 animals, including all of the calves, which is more than have been known for several years back. One member of this herd was found dead at Turbid Lake. The winter was so open and forage so plentiful that up to the end of January it had not become necessary to feed hay to the herd. It is feared that the disease which has been dreaded since it first appeared, in the fall of 1911. The herd was taken up at his advice and fed hay during the winter, which, should, with careful handling, do toward keeping the number of animals in the park. We also have a herd of 355 animals, including all of the calves, which is more than have been known for several years back. One member of this herd was found dead at Turbid Lake.

Moose.

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Elk.

—The elk, by far the most numerous of any of our wild animals, wintered in splendid condition. Regardless of the fact that a herd of elk that was not well handled and on which the Forest Service had been for some time was injured severely, leaving but a few animals, the elk herd in the park was estimated to be about 500, of which 355 animals, including all of the calves, have just been vaccinated for hemorrhagic septicemia. The disease which has been dreaded since it first appeared, in the fall of 1911. The herd was taken up at his advice and fed hay during the winter, which, should, with careful handling, do toward keeping the number of animals in the park. We also have a herd of 355 animals, including all of the calves, which is more than have been known for several years back. One member of this herd was found dead at Turbid Lake.

A herd of 300 fenced moose, totaling 10, and the second time on November 20 and 21, when .60 per cent of the male calves (16 in number) were castrated. One 3-year-old bull was donated to the city of Mexico, Mo., shipped January 19; one yearling bull was shipped to the city of San Francisco, Calif., on February 12, and one 3-year-old bull was shipped to the State game warden of Wyoming on May 24.

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REPORT OF DIRECTOR OF NATIONAL PARK SERVICE.

through the balance of the winter. All carcasses of those that died were destroyed by burning. At least 36 buffalo died during this epidemic, and the weather was so severe that most of the carcasses were rotted away before they could be removed. A show herd of 18 buffalo bulls was kept in the pasture at headquarters throughout the winter and were driven up twice daily where tourists could see them. Visitors to see this herd averaged about 100 per day.

idge, long-haired, and of good quality. There is not enough hay available for winter forage for this herd. This is a pity, but the work of cleaning and feeding is done in an economical manner. The buffalo are kept in the pasture at headquarters throughout the tourist season and are driven up twice daily where tourists can see them. Visitors to see this herd averaged 100 per day.

The buffalo are kept in the pasture at headquarters throughout the tourist season and are driven up twice daily where tourists can see them. Visitors to see this herd averaged 100 per day. Approximately 300 tons of hay are available for winter forage for this herd. This is none too much, but will probably be sufficient. The average yield of hay on the range is about 3 tons per acre.

Bears.—The grizzly, black, and brown bears were plentiful and much in evidence throughout the park and attracted so much attention and were so much talked about that we are likely to see them disappo...
The geysers mentioned above follow:

Date | Giant | Giantess | Oblong | Grand | Swimm. | Beehive | Castle |  
--- | --- | --- | --- | --- | --- | --- | --- |  
June 20 | 12.00 m. | | | | | | |  
21 | 9.00 a.m. | | | | | | |  
22 | 9.00 a.m. | | | | | | |  
23 | | 8.25 p. m. | 9.00 a.m. | | | | |  
24 | | | 4.00 p. m. | | | | |  
25 | | | | 2.30 p. m. | | | |  
26 | | | | | 2.00 a.m. | | |  
27 | 6.00 a.m. | | | | | | |  
28 | | | | | 2.30 p. m. | | |  
29 | | | | | | 2.00 a.m. | |  
30 | | | | | | | 12.00 m. |  
July 1 | 3.15 p. m. | | | | | | |  
2 | | | 6.00 a.m. | | | | |  
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11 | 4.15 p.m. | | | | | | |  
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4 | 2.15 p.m. | | | | | | |  
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The season was the driest in the history of the park, and consequently the danger of forest fires was great. This danger was apparent at the beginning of the tourist season when the high temperature and low humidity were prevalent. The record of fires shows that about 80 per cent of the fires were started by cigarettes and curious butts were among the most dangerous fire-risk we had to contend with. In addition to this list, about 225 camp fires and small fires that had been abandoned were extinguished by ranger patrols, park employees, and others traveling in the park. Many of these fires were caused by camp fires and were extinguished by the ranger patrols. The forests of the park are in good condition. There are no tree diseases epidemic here, nor do there seem to be any insect pests attacking the forests. They are surrounded by grass and forest fires are causing more wood than usual to burn. The forest fires of the past summer prompted further mention of the efficiency of the Yellowstone Park ranger force. The report of the Director of National Park Service shows that the parks are in good condition. There are no tree diseases or insect pests attacking the forests.
probably, than in any other part of this region) the ranger force of the Yellowstone Park prevented absolutely any fire damage to this park during June and July. It was only when fires started in the most remote sections of the park or when several fires were spreading at once that the situation became serious. Even in these trying times it took the ranger force, aided by the road crews, only a relatively short time to quench the flames.

Fire patrols were maintained throughout the summer by permanent rangers traversing the trails on horseback, while temporary rangers on motor cycles patrolled the roads for the purpose of extinguishing abandoned camp fires and preventing violations of the Auto-mobile rules and regulations. From every standpoint I feel sure that the use of one or two aeroplanes for fire patrol would be a most desirable aid to our system of protecting this park, and I hope that some arrangement may be perfected before the opening of next season by which aeroplanes may be used to assign machine forces to the various points during the time of greatest danger from fires. It is also desirable that a fire lookout station be established on Mount Washburn. This mountain commands a vast expanse of the best forests of the park.

The use of motor cycles for making road patrols was very successful. Six machines were placed at the ranger force's disposal and with them the rangers covered the road side of the park twice daily, except when rains interfered or we were short of riders or mechanics. A few machine guns are necessary to keep a most desirable aid to our system of protecting this park, and those which will be placed under the charge of the ranger force should be kept up in a proper condition for the next season.

Eleven snowshoe cabins were repaired by the ranger force last fall, and supplied with bedding and other necessities for use of rangers making patrols on skis or snow-shoes in winter. A night watchman has been employed to protect property at headquarters since January 14.

ARRESTS.

The arrest of a man involved in the desertion of his place of employment was made on the 14th. He was charged with desertion and fined $50.

The use of motor cycles for making road patrols was very successful. Six machines were placed at the ranger force's disposal and with them the rangers covered the road side of the park twice daily, except when rains interfered or we were short of riders or mechanics. A few machine guns are necessary to keep a most desirable aid to our system of protecting this park, and those which will be placed under the charge of the ranger force should be kept up in a proper condition for the next season.

STORM GAUGING.

The work of conducting water resources investigations in the park during the season of 1919 was done under the supervision of Mr. Carl G. Paulsen, district engineer, United States Geological Survey, Boise, Boise, Idaho, who visited the park August 6 and 7. Readings were taken on the hot springs and the Big Horn River at Cheyenne, Wyoming, and at Jackson, Wyoming, at the headwaters of the Snake River during the summer months. A recording gauge was installed on Madison River 4 miles from the western park boundary in October. Summaries of current meteor measurements and discharge data are now not available, but will be published in the Annual Water-supply Papers of the United States Geological Survey for the Missouri and Snake River drainage area.

FRANCHISES AND PERMITS.

The following is a brief statement of the utilities and other enterprises operated in Yellowstone National Park in 1919 for the accommodation and entertainment of the traveling public. They are all operated under contracts with the department or under temporary permits from the National Park Service, under the strict regulation of this bureau as to service and rates. The statement also mentions improvement work in the park and met all trains at Gardiner, Mont., Yellowstone, Mont., and Cody, Wyo., during the tourist season. The service was also maintained on a twice-a-week basis from the rail road to Moran, Wyo., in Jackson Hole, for parties desiring to take this side trip. One hundred 10-passenger automobiles and seventeen 7-passenger touring cars were used in this service.

At the Geysers Camp, in Upper Geyser Basin, the new dining-room extension was completed and used for the first time on August 22, when the visiting governors' party. A new kitchen was well under way at this camp. If weather conditions permit, a new central building or lodge will be constructed this fall.

For the purpose of extinguishing abandoned camp fires and preventing violations of the Auto-mobile rules and regulations. From every standpoint I feel sure that the use of one or two aeroplanes for fire patrol would be a most desirable aid to our system of protecting this park, and I hope that some arrangement may be perfected before the opening of next season by which aeroplanes may be used to assign machine forces to the various points during the time of greatest danger from fires. It is also desirable that a fire lookout station be established on Mount Washburn. This mountain commands a vast expanse of the best forests of the park.

The use of motor cycles for making road patrols was very successful. Six machines were placed at the ranger force's disposal and with them the rangers covered the road side of the park twice daily, except when rains interfered or we were short of riders or mechanics. A few machine guns are necessary to keep a most desirable aid to our system of protecting this park, and those which will be placed under the charge of the ranger force should be kept up in a proper condition for the next season.

At the Geysers Camp, in Upper Geyser Basin, the new dining-room extension was completed and used for the first time on August 22, when the visiting governors' party. A new kitchen was well under way at this camp. If weather conditions permit, a new central building or lodge will be constructed this fall. At Camp Roosevelt, near Tower Falls, and before the opening of the next season this attractive camp will be expanded and improved in other directions.

The Yellowstone Park Boat Co., operated the only transportation line in the park and met all trains at Gardiner, Mont., Yellowstone, Mont., and Cody, Wyo., during the tourist season. The service was also maintained on a twice-a-week basis from the rail road to Moran, Wyo., in Jackson Hole, for parties desiring to take this side trip. One hundred 10-passenger automobiles and seventeen 7-passenger touring cars were used in this service.

Mr. C. A. Hamilton, who personally ran the business in a very satisfactory manner during the summer.

Union Pacific and North Western lines as tour managers, and under the United States Railroad Administration first manager of the Bureau of Service, National Parks and Monuments, purchased the controlling stock interests of the Yellowstone Park Camping Co. Furthermore, Mr. Hayes has made many improvements in his camps and has several very important projects under construction. These include the installation of a new central building or lodge at the Lake Camp, which I consider desirable. Before the opening of next season Lake Camp should be largely rebuilt, and new flush toilets and other sanitary facilities will be installed.

At Wraith Camp heavy timber supports were placed throughout the center of the large main building to strengthen its construction and to improve its appearance. A new central building or lodge was constructed last fall, as to shield the service yard from the east side of the main building. The view is superb; the driveway on this side of the building was discontinued and the porte-cochere removed. A small room preparatory to seeding grass, and a gravel driveway and walk built. In the early future a swimming pool will be constructed in or adjacent to this camp and other extensive improvements will be made. On the part of the Government the approach to the Mammoth Hot Springs should be greatly beautified from the Mammoth Hot Spring Bridge to the main road.
Porch outfits.—Movable-camp party licenses were issued during the season in favor of the following-named parties:

- Thomas E. Newcomb, Gardiner, Mont.
- George M. Cody, Cody, Wyo.
- George T. Hopkins, Cody, Wyo.
- S. N. Leek, Moran, Wyo.
- Clarence Ryerson, Gardiner, Mont.

This increase in the number of pack trains in use in the tourist business of the park, together with the fact that many of the parties who patronized this class of transportation during the season, indicates a revival of interest in the service, and likewise it was the first party to make an en masse gratifying.

Transportation to Cooke.—Special permits were issued to parties interested in the development of the mining town of Cooke, Mont., to use their motor trucks and service cars to haul ore and supplies to and from Gardiner, Mont., through the park, as follows:

- Motor trucks
  - N. B. Soderholm, Cooke, Mont. (merchant) 1
  - Frank R. Lind, Gardiner, Mont. (contractor for hauling U. S. mail) 1
- Service cars
  - R. L. McKay, Cooke, Mont. 1

The permit dated March 28, 1917, held by Mr. Robert I. McKay, covering the construction of a metal-surfaced road through the park connecting Gardiner and Cooke, Mont., was canceled on November 27, 1918.

Conventions and Special Parties.

- Montana Bankers' Association: Two conventions were held in the park during the season. On August 8 and 9 the Montana Bankers' Association met at Mammoth Hot Springs. Headquarters were maintained at the Mammoth Hotel and the various sessions of the convention were held in the assembly hall at park headquarters, formerly the post exchange of Fort Yellowstone. The Montana bankers, after transacting the usual business of the association, planned much of their remaining time to a discussion of road improvement in their State.

- National Park Touring Association: On August 11 and 12 representatives of moving-picture companies operated in the park under special permits from the Service, as follows: Pathes Co., in June; C. L. Chalmers, in July; Players-Lasky, in July; Famous Films Co., in August and September; International Film Service, October 7 to 10, to get special pictures of tama buffalo herd.

A Proposals.

The sundry civil act of July 19, 1919, made available for the administration, protection, maintenance, and improvement of Yellowstone National Park the sum of $255,000, very much less than has been available annually for the park during the past 5 or 10 years. On the other hand, the fact that labor and equipment costs for the past year were about the same as those of the year before, this year's appropriations were very inadequate, and should be more than doubled next year if the needs of the Yellowstone are to be even approximately met.

Revenues.

On the other hand, the revenues of Yellowstone Park were very largely increased, and at this time it appears likely that they will total $125,000 for the current fiscal year, or more than double that of the appropriation for the upkeep of the park. The revenue fund would certainly exceed the cost of the administration of the affairs of the park and the protection of its great area by nearly $35,000.

The war season of 1918 produced relatively small revenues, but really more than we expected under the conditions. The following is a statement of the receipts for the fiscal year ended June 30, 1919, as deposited to the credit of miscellaneous receipts of the United States Treasury:

- Sale of automobile and motorcycle permits $31,863.22
- Contribution for special pictures of the Yellowstone National Park 7,914.92
- Sale of electric current 286.60
- Miscellaneous collections 305.08

Total 42,775.50

All of our men who left to engage in the World War were taken back into our permanent organization, except a few who did not care to return. Other discharged soldiers who applied for work were given employment on the temporary force in fact, at no time during the summer were men turned away, as labor was scarce, and it was necessary to keep the park service operating with as many men as possible. The work included the operation of the transportation line, and practically all permanent employees and their families belonged to the local branch.

VITAL STATISTICS.

Births. A baby girl, Frances Murdy Barrett, was born to Mr. and Mrs. Bert Barrett, on September 8, 1919.

Deaths. 1. On November 15, 1919, Thomas G. Frazier, buffalo keeper in the park, died at the Buffalo Farm of influenza. 2. On April 24, 1919, Wayne Wrenn, assistant electrician, died of scarlet fever. Two cases occurred in the family, but only one resulted fatally.

1. Hotels not opened in 1918.
On July 29, 1919, E. M. Hach, of Portland, Oreg., died at Mammoth Hotel. He was touring the park in his private automobile. He was a sufferer from tuberculosis, and was in very poor condition when he arrived here. His body was taken to his home.

In August, 1919, Mr. Louis D. Boatman, of Merrill, N. B., touring the park with his aunt and sister, while bathing in Yellowstone River, dived from the bridge across the river and was instantly killed. The bridge was not beeswaxed or back dressed, and the bottom and fracturing his skull.

Several attempts have been made to fence in and around the park that a man had been killed by a bear at Old Faithful while he was endeavoring to take a tin and howler out of the bear's cage.

In September, 1919, a small boy was struck by a car while crossing the road near Mammoth Hotel.

On August 23, 1919, a 10-passenger car belonging to the Yellowstone Park Transportation Co. and carrying members of the Yellowstone Club, left the road and ran into a tree and a telegraph pole. The most serious injury to any of the occupants was a broken arm.

On July 30, 1919, one of the 10-passenger cars of the transportation company was tipped over through the fault of the driver. The driver was tried before the commissioner for violation of park rules and regulations and fined $100 and costs.

James Baxter Hughes, 4-year-old son of Mr. R. H. Hughes, of Gueydon, La., who was traveling through the park with his grandparents, died at Old Faithful Inn from shock caused by burns sustained by backing into a small hot pool the day before at Thumb.

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On August 10, 1919, an elderly man touring the park with a party of friends stumbled and fell into the edge of Prismatic Lake at Midway Geyser Basin. Fortunately the lake is large enough so that the water is comparatively cool at the edges, and he was not fatally burned.

We had well enough to travel, and left the park with his party on August 18.

On July 30, one of the 10-passenger cars of the transportation company was tipped over through the fault of the driver who was speeding around a double curve. The driver was summoned to appear at Madison Junction. The three of the seven passengers in the car were stunned and quite nauseated. The driver was ordered to appear before the commissioner for violation of park rules and regulations and fined $100 and costs.

The driver of an automobile car with a load of tourists went out for a "joy ride" left the road and ran into a tree and a telegraph pole. The most serious injury was a broken arm.

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We had well enough to travel, and left the park with his party on August 18.
11. Many of the ranger stations of the park are in a dilapidated condition and should be rebuilt. The greatest need is for new stations at Upper Basin, Lake Outlet, and the Grand Canyon, which should be built next year and should be large enough to accommodate several park rangers, a divisional highway engineer, and a large information office in which maps, national park newspapers, and other descriptive matter can be made accessible to tourists. Several snowshoe cabins used by the park and needed for fire protection should be rebuilt.

12. Attractive gateway structures should be erected at the Cody or eastern entrance and at the Yellowstone or western entrance to the park. Although the project was completed but funds have not been available for the construction of this gateway, both of those entrances are of importance as the northern gateway, which is the way the majority of tourists enter the park, and an interesting arch.

13. The National Park Service and the Yellowstone Park Hotel Co. maintain a telephone line and the hotel company maintains a direct telegraph line. None of these lines are in satisfactory condition. They should all be consolidated and maintained by the National Park Service. This would make it possible for the Government to build and maintain a first-class telephone and telegraph service for the public as well as for the park administration and the business interest of the Yellowstone.

14. Funds are provided for the seeding, cultivation, and draining of hay lands, in order that larger supplies of hay for buffalo and other animals may be available hereafter.

15. The special authority of law which the National Park Service now maintains the approach roads to Yellowstone Park through the forest reserves east and south of the park. Extending the approach roads south from the entrance would be useful, but the expense of placing a tremendous burden of road maintenance on the county treasurer, which, in view of the large size of the county and the small amount of taxable property therein, is a particularly hard burden to bear. It would seem that the Federal Government should bear the cost of upkeep at least half of this approach road, and I recommend that this proposition be given the earnest consideration of the Service and of the department. The expense of this part of the road was estimated at $27,000, and it was not expected that it would be paid for until the end of the season. By that time the expense of developing the State of Montana, with the cooperation of the Forest Service, are rebuilding the highway through the gorgeous canyon of the Gallatin River north of the park, and within two years will have this work completed. Before this new road is finished we should rebuild the section of the Gallatin Highway and should continue it through to the west approach road. This would mean the construction of from 16 to 12 miles of new road from Graysby Creek to the Madison River.

16. Aside from the work of reconstructing the El Portal Road, the regrading of approximately one-half mile of the Black Dog Road, and the construction of several miles of roads other than the main roads, there was no constructive work done during the past year on any of the 138 miles of Government-owned roads in the park.

17. Unusual weather conditions and extremely heavy travel necessitated the expenditure of all available road funds to make necessary road improvements. The need of these funds is even more apparent now that the tourist season is beginning. The great fires which swept through the park during the past season, and the floods which occurred during the spring and early summer, have done great damage to the roads. Rebuilding these roads is now considered more pressing than any other work of the year. In both cases it is the desire of the road department to do the necessary work to keep the roads in a reasonably passable condition and to prevent irreparable damage resulting from travel.

18. During the winter months without lack of feed outside of the boundaries of the park.

**Yosemite National Park**

W. B. Lewis, Superintendent, Yosemite, Calif.

**GENERAL STATEMENT.**

The Yosemite National Park, when created by the act of October 1, 1890 (26 Stat., 650), was situated in Tuolumne, Mariposa, Madera, and Mono Counties, Calif., and covered an area of 1,248 square miles, being 36 miles wide and 34 miles long.

Under the act approved February 7, 1905, entitled "An act to exclude from the Yosemite National Park certain lands therein described and to divide the same into 160 acre parcels," 116.32 square miles were added to the park, making a net reduction in area of 49.26 square miles, so that the area of the park after the passage of the above act was 1,198.8 square miles. This area is now being situated in Tuolumne, Mariposa, and Madera Counties. By act of June 11, 1906, entitled "An act to divide the county of Mariposa, in the State of California, into sections 5, 6, 7, and 8, township 11 north, range 1 east, Mariposa County, section 6, township 12 north, range 1 west, Mariposa County, section 5, Mariposa County, and Mariposa County, respectively," 116.32 square miles were added to the park, making a net reduction in area of 49.26 square miles; Mariposa Big Tree Grove, 4 square miles; and a strip lying between the new road from Big Oak Flat to Yosemite and the California Central division of the Atchison, Topeka and Santa Fe Railroad, 2.32 square miles, making a net reduction in the area of 49.26 square miles. The present area of the park is 1,124.41 square miles.

**PAST, PRESENT, AND FUTURE.**

The success of a national park is dependent upon its ability to attract visitors and allow for the preservation of its natural beauty. In order to achieve this, the park must make it worthy of such distinction, this ability is governed by its accessibility and the facilities provided to the visitor after his arrival. The development of the park involves the construction of the Conventville, Wawona, and Big Oak Flat Roads, the stage coach marked a milestone in the history of the park, as it opened up the Yosemite facilities to the upper regions, and by the notable increase in travel immediately followed. Each following year saw a slow but steady increase in travel. In 1906 came the Yosemite Valley Railroad to the park gates, and its construction has resulted in a great increase in the number of visitors to the park. While the park has already opened up a number of trails, there is still much to be done. The park is only at the beginning of its development, and there are still many areas that need to be explored and developed. The future of the park is bright, and with continued development, it will be an even greater attraction for visitors.
addition to washing the road so disastrously, was to remove the snow, thus leaving it free from snow on June 1, at least a month before the snow was a full month before just the worst places could be repaired and made safely passable and the road opened to travel.

When completed the Pate Valley Trail will open up an area hitherto practically inaccessible of magnificent scenery and ... region. The characters have not as yet been deciphered, but undoubtedly will be soon after the valley becomes accessible.

Since my last report, with the exception of the erection of four employees' cottages as a part of the Lost Arrow housing ... has been done except that necessary in connection with road maintenance and the operation of the ranger service.

Only one piece of trail construction was undertaken this season, this being the Pate Valley Trail from Harden Lake, on the west side of the Tuolumne River, to the intersection of the Tioga Road. The high elevations reached during the Tioga Road was the last to open, on July 1. With an exceedingly difficult and expensive task to maintain the park roads against the terrific wear and tear of the greatly increased automobile travel to which they have been subjected, and in which we have not been any too successful, there is no doubt that the greater whole the work has not been as good as it might have stood up better and are in better condition at the close of the season than those outside of the park.

The electrical system, which consists of a diversion dam across the Merced River about 1 mile below Pohono Bridge, from where water is carried in a 54-inch wood-stave pipe 120 miles to the Merced telephone station. From there the water is conveyed to the Tuolumne by an iron metallic circuit and by means of pumps. The pumping station is located at the outlet of Lake. The electrical system, which consists of a diversion dam across the Merced River about 1 mile below Pohono Bridge, from where water is carried in a 54-inch wood-stave pipe 120 miles to the Merced telephone station. From there the water is conveyed to the Tuolumne by an iron metallic circuit and by means of pumps. The pumping station is located at the outlet of Lake. The electrical system, which consists of a diversion dam across the Merced River about 1 mile below Pohono Bridge, from where water is carried in a 54-inch wood-stave pipe 120 miles to the Merced telephone station. 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The electric power was to have been completed and connected into the system some 5 miles of iron metallic circuits were strung throughout the valley to meet the increased demands there. The line will have been put in a state of good repair, well ditched and drained, and all bridges made safe and substantial.

The building system, which consists of a diversion dam across the Merced River about 1 mile below Pohono Bridge, from where water is carried in a 54-inch wood-stave pipe 120 miles to the Merced telephone station. From there the water is conveyed to the Tuolumne by an iron metallic circuit and by means of pumps. The pumping station is located at the outlet of Lake. The electric power was to have been completed and connected into the system some 5 miles of iron metallic circuits were strung throughout the valley to meet the increased demands there. The line will have been put in a state of good repair, well ditched and drained, and all bridges made safe and substantial.

The volume of telegraph business handled rapidly reached the point where an additional operator was required, and in ... posting and billing, it was necessary for a period of a month to furnish additional assistance on this part of the work.

Similar but more intense congestion was experienced in the operation of the telegraph service. It was absolutely necessary for the Western Union to transfer our exchange point to San Francisco, where business could be moved until midnight.

During the time the plant developed a total of 866,129 kilowatt hours, which was utilized and distributed as follows:

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Kilowatt Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sold for lighting purposes</td>
<td>75,611</td>
</tr>
<tr>
<td>Sold for heating purposes</td>
<td>121,441</td>
</tr>
<tr>
<td>Sold for power purposes</td>
<td>37,194</td>
</tr>
</tbody>
</table>

Used by service for all purposes 940,355
MAP OF YOSEMITE NATIONAL PARK
Investigation of the accident indicated that the driver tried to pass another car at a high rate of speed, but failed to see the result that his own car skidded over the bank. The driver was denied further privilege to drive on the park roads.

On June 28, while working as a line man on the El Portal telephone line, William Glenn, Government employee, was hit by a rattlesnake. With the assistance of a fellow line man who was early enough to the road, a short distance away, and a passing automobile, was hurried to the hospital, where he was given immediate treatment, as a result of which he was completely recovered some three weeks later.

On September 30, a fire occurred on the evening of September 26, when Mr. Charles A. Clark, Government employee and road foreman in charge of the Yosemite road construction, struck a live line pole on the valley side of a light Ford truck, lost control of the machine and ran off the road about one-half mile below Pohono Bridge. His automobile was completely destroyed, and the driver was severely burned. According to Stover's report, he was taken to the hospital on the evening of his accident, died there the following morning, and was pronounced dead. It was obvious that death had been instantaneous.

Mr. Clark left a wife and three sons, all of the same age under four years of age.

The other fatal accident occurred on August 14, 1919, when Mrs. G. D. French, of Los Angeles, was thrown into the air by the collision of two automobiles about a mile from her residence, her husband and daughter, had just arrived in the park, and while Mrs. French was walking around Camp 17, the mother and daughter were struck by a truck and run over to the hospital. Immediately the mother entered the water, she collapsed as suffering from cramps and disappeared beneath the water. The assistance of the physician was spent in an effort to resuscitate her, but efforts were fruitless, it being impossible to restore respiration.

None of these were reported, the first being that of Mr. George Fiske, the oldest resident of Yosemite Valley. Mr. Fiske was about 85 years of age and had spent about 49 years of his life in Yosemite Valley. During all this time he conducted a photographic studio. For several years before his death he had been feeble and was incited to the death of his wife, who had taken place less than a year before. Of his own accord he had lived alone the greater part of the time following the death of his wife. Mr. Fiske had been in his house for a minimum of time before leaving instructions as to the disposal of his effects, indicated that his act had been contemplated for some time.

His funeral was held in the local cemetery by the side of those of his wife, who had preceded him by about nine months.

On May 14, 1919, Mrs. Marjorie Higgins, 4-year-old daughter of Mr. and Mrs. Perry Higgins, of El Portal, died in the Yosemite hospital of influenza, and she was followed the next day, May 20, by her father, who succumbed to typhoid fever.

An unusual case of suicide occurred on March 17, 1919, when Peter Arbo, a laborer on the El Portal Road, arose from his bunk in the Arch Rock camp about 12:30 a. m. and walked up the road to where dynamite was kept in a locked box, broke the box half open, and exploded the hoist box of 40 pounds of dynamite, which had no apparent motive for the act.

Mr. M. R. Sater, a guest of the Sentinel Hotel, and Mrs. F. Hilscher, a guest of Camp Yosemite, died on May 26 and August 24, respectively, death resulting in each case from diabetes.

INSECT CONTROL

A survey of the Yellow, Sugar, and Jeffre pine areas of the park made early in the spring by Ranger Ranker & Adair developed the fact that the beetle was first noticed when the trees were under conditions by which the beetle could be utilized to good advantage and is something that should be considered as advisable in the near future.

Seaweed and sanitation.

The operation of the Yosemite medical service was placed in the hands of Dr. Frederick L. Stein of San Francisco, on August 15, 1918, a five-year concession having been granted him by the Government to furnish the camp and camps.

No change has been made in the water-supply system during the year, the present main supply consisting of two concrete reservoirs, into which spring waters from the talus directly beneath Glacier Point and near Happy Isles are conducted and carried a distance of more than 2 miles to the Yosemite Creek bridge in an 8-inch cast-iron main. Local springs and irrigation distribution are of 4-inch cast-iron pipe. In addition to this the pressure line for operation of the old power house at Happy Isles, which is supplied from the same spring.

The spring supply is of excellent quality, but insufficient in volume during the dry season, during which time it is supplemented by the river supply, which is very inferior in quality and often carries considerable quantities of sand, silt, and fine gravel, which clog and otherwise damage plumbing fixtures.

The following is a summary of the business handled through the telephone exchange and by Morse key during the months of June, July, and August, the month of maximum business, and also the total business for the year:

<table>
<thead>
<tr>
<th></th>
<th>June</th>
<th>July</th>
<th>August</th>
<th>Entire Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local telephone calls</td>
<td>26,366</td>
<td>30,104</td>
<td>33,729</td>
<td>134,287</td>
</tr>
<tr>
<td>Telegrams handled through switchboard</td>
<td>922</td>
<td>1,016</td>
<td>1,070</td>
<td>3,008</td>
</tr>
<tr>
<td>Telegrams handled by Morse key</td>
<td>2,822</td>
<td>3,011</td>
<td>3,169</td>
<td>9,853</td>
</tr>
</tbody>
</table>
In the Cathedral and Tenaya Creek Basins control measures were only temporarily effective in stands which were badly defoliated by a needle miner. Where this condition has persisted for 10 years or more the forests are being rapidly killed by the mountain-pine beetle. Theoretically, the protection against bark-bettle attacks does not now appear advisable. Where the needle miner is highly destructive the distribution within the park will be completed this season. Methods of controlling this pest have not been determined. In the past, the condition of forest conditions under which the control must be applied is doubtful if artificial measures can be practiced. On approximately one-half of the area affected by the defoliation the forests are being rapidly killed by the mountain-pine beetle.

All of the stand between the elevations of 7,000 and 9,000 feet has been repeatedly defoliated by a needle miner. Where this condition shows, the majority of the trees have been attacked by bark beetles. Where they may ultimately recover, even though the bark beetles do not attack them, is doubtful. Such recovery can only be accomplished after a long period of years. In the Tuolumne Meadows only a very small per cent of the trees have as yet been killed by the bark beetle. However, an outbreak in this extensive forest is now to be expected. The entire stands within the limits of the park have been repeatedly damaged by defoliation that from a distance it resembles a dead forest, although a careful inspection shows that the majority of the trees are still alive. That recovery may ultimately recover, even though the bark beetles do not attack them, is doubtful. Such recovery can only be accomplished after a long period of years.

In Virginia canyon, where the needle-miner epidemic subsided prior to 1915 from natural agencies in the latter part of 1913, the bark beetle were brought under control by the waters of the Tuolumne River and the artificial measures, and the expenditure well warranted by the results obtained. It is expected that within a few years only a few surviving trees will be found near meadows and more favorable sites.

It is not considered that the infestation in the lodgepole pine areas threatens the forests of other species of pine in the park. The attention of the people as here, where a hatchery would be visited by probably not less than 40,000 people annually.

A maximum of 21 rangers were engaged during the season in the handling of traffic, checking, assembling, patrolling, fire-fighting, and the various duties of the forest ranger service. A maximum of 21 rangers were engaged during the season in the handling of traffic, checking, assembling, patrolling, fire-fighting, and the various duties of the forest ranger service. They have met with a considerable measure of success.

Ranger service.

The city and county of San Francisco, in connection with their development of the Hetch Hetchy project, continued logging operations on park lands involved in the so-called Dudlev exchange. In spite of the unusual dryness of the entire country in and around the park, the number of forest fires reported during the past season was less than that of any of the three previous years. A total of 10 fires only have been reported, only two of which, however, gave any serious trouble. One of these was set by lightning on May 28, about 3 miles west of the Ranger Station, and although the men were established in the brushy nature of the country, it burned. It smoldered for nearly three months, and at times breaking over the guard made necessary the sending of fire-fighting parties back to it on three occasions. In spite of the fact that it burned over considerable area, being a ground fire, comparatively little damage was done to the timber.

The other bad fire was started on July 28 outside of the park on the south side of the Merced River, just below El Portal. It was of incendiary origin, having been set by an Italian named Jim Monteag, who had shortly before been expelled from the park on account of his unseemly attitude toward everyone with whom he came in contact. He was arrested by Forest Ranger Adrian Foster, and later sent to the State Insane Asylum, where he had been confined for more than a year and a half.

The fire rapidly gained ground and, traveling toward the park line more than a mile away, was within the park line. It burned near meadows and more favorable sites. Practically no damage was done to park timber, but the fire inside of the park being principally on lands owned by the Yosemite Lumber Co.

Forest fires.

In spite of the unusual dryness of the entire country in and around the park, the number of forest fires reported during the past season was less than that of any of the three previous years. A total of 10 fires only have been reported, only two of which, however, gave any serious trouble. One of these was set by lightning on May 28, about 3 miles west of the Ranger Station, and although the men were established in the brushy nature of the country, it burned. It smoldered for nearly three months, and at times breaking over the guard made necessary the sending of
REPORT OF DIRECTOR OF NATIONAL PARK SERVICE.

PROHIBITION OF DOGS.

After an effort lasting through three seasons to regulate without absolute prohibition the bringing of dogs into the park, the idea was abandoned and the regulation absolutely prohibiting them promulgated. Although extensive publicity was given this regulation both before and during the season, occasionally persons accompanied by dogs arrived at the park entrance maintaining ignorance of the rule. While little sympathy was had for those who, in the belief that there were instances where concessions had to be made, this was true principally on the Tioga Road, where, had the regulation been rigidly applied, the number of markers found on the far side of the Sierras on the road for parties on horseback would have been enormous.

I am very much in favor of continuing this regulation in effect. In spite of every dog owner's belief that his dog can readily distinguish between predatory and harmless animals and will attack only the former, the fact is almost any dog will run game, and game that has been run by dogs will seek the far places where dogs are not found and will therefore be lost to an attraction to the tourist along the beaten track. The delight that park visitors enjoy in seeing deer or bear or other wild animals along the roads and trails is sufficient reason for prohibiting dogs, even if no other reason existed.

FIRST AEROPLANE ARRIVES.

After much discussion as to the feasibility of the proposition and considerable negotiation with the officials at Mather Field, the commanding officer of the field finally consented to permit an attempt to be made with an Army plane to negotiate an aero plane landing on the floor of Yosemite Valley. Accordingly on the morning of May 27 Lieut. J. S. Kral, flight commander at Mather Field, in a Curtiss biplane equipped with a 150-horsepower Hispano-Suiza motor, dropped down into the valley from the direction of Half Dome and made a perfect landing on the landing field that had been prepared for the purpose.

On the following morning Lieut. Kral, without an equal success take-off, and, although a forced landing, due to gasoline trouble, was necessary at Mormon Bar on the outgoing trip, he arrived safely at Merced after having made the round trip of about 150 miles in less than two hours of actual flying time and with the assurance of having been the pilot of the first aeroplane to land in Yosemite Valley.

Lieut. Kral's experience demonstrated that the hazards that were considered to be lurking along the rim of the valley in the way of dangerous air currents did not exist, and that, so far as this phase of the situation is concerned, a flight into the valley is little, if any, more dangerous than elsewhere. This initial flight was followed by another on August 5, when Lieut. Earl B. Neubig, also of Mather Field, landed in the valley after the first nonstop flight from San Francisco, in which he negotiated the distance of approximately 180 miles in 2 hours and 40 minutes.

It seems no reason why, after careful preparation, there are many of the countless high mountain meadows suitable for this, this method of transportation and become popular, and all difficulties of landing on the floor of Yosemite valley, but in other places of interest in the park, such as Tuolumne Meadows and Lake Tenaya.

I believe also that the feasibility of the use of the aero plane for fire patrol from the valley is one that should be immediately considered.

TRAVEL.

The tremendous increase in travel recorded during the season has been mentioned so frequently elsewhere in this report that it is needless to comment further on this phase of park activity other than to give a summary of the total, and the following tables have been prepared to show this, together with its distribution, as means employed in getting to the park:

<table>
<thead>
<tr>
<th>Means of transportation</th>
<th>1918</th>
<th>1919</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto stages other than via El Portal Road</td>
<td>4,300</td>
<td>3,127</td>
</tr>
<tr>
<td>Travel by wagons, horseback, or on foot</td>
<td>516</td>
<td>994</td>
</tr>
<tr>
<td>Total travel other than by private cars and motor cycles</td>
<td>7,740</td>
<td>15,274</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name</th>
<th>For what granted</th>
<th>Expiration</th>
<th>Annual rent</th>
</tr>
</thead>
<tbody>
<tr>
<td>E. N. Baxter</td>
<td>Sale of curios, photos, etc</td>
<td>Dec. 31, 1919</td>
<td>$75.00</td>
</tr>
<tr>
<td>Mrs. John Degnon</td>
<td>Delicatessen store</td>
<td>Dec. 31, 1919</td>
<td>$250.00</td>
</tr>
<tr>
<td>A. C. Pillsbury</td>
<td>Farm store</td>
<td>Dec. 31, 1919</td>
<td>$250.00</td>
</tr>
<tr>
<td>J. L. Bewynn</td>
<td>Saloon</td>
<td>Dec. 31, 1919</td>
<td>$250.00</td>
</tr>
<tr>
<td>D. J. Foley</td>
<td>Hospital</td>
<td>Aug. 15, 1920</td>
<td>$200.00</td>
</tr>
<tr>
<td>Dr. F. L. Smith</td>
<td>Yosemite Stages &amp; Timpano Automobile stage line</td>
<td>Dec. 31, 1919</td>
<td>$100.00</td>
</tr>
<tr>
<td>Yosemite National Park Co.</td>
<td>Lease of site for schoolhouse</td>
<td>Dec. 31, 1919</td>
<td>None</td>
</tr>
<tr>
<td>Public camp</td>
<td>Dec. 31, 1919</td>
<td>$2,000.00</td>
<td></td>
</tr>
<tr>
<td>Hotels, chalets, inns, camps, transportation service, store, and dairy</td>
<td>Dec. 31, 1919</td>
<td>$100.00</td>
<td></td>
</tr>
<tr>
<td>Yosemite National Park Co.</td>
<td>Do</td>
<td>Dec. 31, 1919</td>
<td>(0)</td>
</tr>
<tr>
<td>Yosemite National Park Co.</td>
<td>Do</td>
<td>Dec. 31, 1919</td>
<td>(0)</td>
</tr>
<tr>
<td>Yosemite National Park Co.</td>
<td>Do</td>
<td>Dec. 31, 1919</td>
<td>(0)</td>
</tr>
</tbody>
</table>

1 Permit fee fixed at 4 per cent of gross revenue, $250 minimum.
2 Permit fee fixed at 1 per cent of gross revenue, $200 minimum.
3 Permit fee fixed at 3 per cent of gross revenue, $2500 minimum.
4 Yosemite National Park Co., operating under the name of Yosemite National Park Co., George J. Dougherty, receiver, during the season of 1919.
5 2½ per cent of operating profit after deduction of 6 per cent on physical investment.

LEASE, SPECIAL-USE, AND WATER-POWER PERMITS UNDER ACT OF FEB. 7, 1905, SEGREGATING LANDS FROM YOSEMITE NATIONAL PARK AND PLACING SAME IN SIERRA AND STANISLAUS NATIONAL FORESTS.

1 Return cars through Aspen Valley from Crane Flat and through Crane Flat from Aspen Valley, included in totals for each station in 1918 figures.
are owned in relatively large blocks and located in the western part of the park west of the divide between the Yosemite Creek watershed and the watershed of the Tuolumne Fork of the Tuolumne River and south of the Grand Canyon of the Tuolumne River. The remaining 3,440 acres consisting of comparatively small isolated holdings scattered through the eastern and northern part.

The larger acreage mentioned has long been in part owned and in part controlled as a logging claim by one man, who has used the advance as an argument for special grazing privileges on adjoining park lands. The result has been contention between the forest supervisors and the Federal and State authorities as to the creation of a satisfactory arrangement has been determined upon. The existence of this situation is not entirely clear, but it is evident that efficient administration of the Forest Service, which contradicts the general grazing policy of the park, which since the war, stipulates that grazing will only be allowed in certain areas. The Service is, therefore, permitted.
provided, however. That jurisdiction shall not vest until the United States, through the proper officer, notifies the State of California that they assume police jurisdiction over said parks.”

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said parks: and saving also to the persons residing in any of said parks now or hereafter the right to vote at all elections held within the county or counties in which said parks are situated:"

Only those who have had to do intimately with the actual enforcement of park regulations, as has been the case in past years, can realize what the granting of Federal Jurisdiction means as an aid to satisfactory park administration. Lacking the machinery at hand for the enforcement of violations of the park regulations, all sorts of makeshift procedure and action have had to be devised, and it is indeed fortunate that our authority in specific cases has not been called upon more often than it has been. In each case we have accepted the grant of jurisdiction without undue delay, so that the necessary Federal machinery may be installed before another season arrives.

NATIVE SONS OF THE GOLDEN WEST CONVENTION.

On June 1 the forty-second Grand Parlor of the Order of Native Sons of the Golden West met in session at the Government Pavilion in Yosemite, President William F. Loomis, of Fresno, presiding. From then until June 5 alternate days were given to the different subjects and visiting points of interest.

Four hundred and fifty-six delegates of the order were present at the sessions, and with their families and other members of the order the total number visiting the park by reason of the convention was placed at about 1,900 people.

LE CONTE MEMORIAL LECTURES.

The University of California, through its university extension division, offered in June and July the first series of the Le Conte Memorial lectures. These lectures, instituted in honor of the naturalist and geologist, Joseph Le Conte, a member of the faculty of the University of California for 30 years and an ardent lover of Yosemite and the Sierra, will henceforth be an annual event in Yosemite.

The series of lectures completed during the past summer were scientific in character and yet delivered in the language of the layman. They covered a variety of subjects and were delivered by speakers of recognized standing in their various fields.

Prof. W. L. Jepson, of the department of botany, University of California, in three well-selected lectures discussed “The Growth and Distribution of Buttercups in Yosemite,” “The Biology of the Chaparral,” and “The Ancestry of the Yosemite Pines and Sequoias.”

Prof. William F. Bade, lecturer and literary executor of John Muir, gave in his talks a picture of John Muir, his life, and his thought as the leading figure in the Sierras and of the region, and his theory of the forces creating the Yosemite Valley. In his last address, given as the oration of the day on July 4, Prof. Bade told of Muir’s long fight for the protection of the national parks and of his cooperation with Theodore Roosevelt in securing favorable legislation.

Four lectures, three of which were delivered by Dr. F. Emile Matthes, geologist, United States Geological Survey, on the origins of Yosemite Valley and of the dome of the Yosemite region and on the part glaciation played in their development. The extraordinary topographic features of Yosemite Valley arouse in every visitor the desire to know something about the processes that were engaged in creating the beauty of the Yosemite Valley. Prof. Matthes’ lectures were therefore received with a very high degree of enthusiasm.

A fifth lecture was delivered by Dr. C. G. Throop, professor of geology in the University of the state of California, who was the first of his department to visit Yosemite and who for 30 years and an ardent lover of Yosemite and the Sierra, will henceforth be an annual event in Yosemite.

All of these lectures were highly educational and delivered as they were in the simplest of language met with an enthusiastic response. The lectures were delivered in the open in front of the Le Conte Memorial Lodge, and the average attendance was probably in excess of 250 people.

SIEGEL CLUB OUTING.

The Sierra Club outing, which was scheduled for last year, but which was postponed on account of the war, was finally conduced from July 11 to August 1. The group met on the Sierra Club property in Tuolomne Meadows, where 175 members of the club met and proceeded to the high Sierra region. Early in August the entire party made a trip into the Ten Lakes country, utilizing the new Ten Lakes Trail built last summer. Two more trips were made to various points of scenic interest along the south rim of the Tuolomne Canyon. Mr. William R. Colby, president of the club, was in personal charge of the outing, and it is needless to say that he saw to it that each one enjoyed the beauties of the mountains. He was the toast of all those of not more than 3 miles more of grading has been completed on the El Portal Road. The work is very much in advance of the very satisfactory, labor situation, the exceedingly difficult country through which the road passes, and the necessity for keeping the road serviceable, if not complete, during the heavy tourist season. Construction was stopped during the past year. Constructed to a full width of 20 feet, of easy grades and safe curves so that the motorist cannot be caught unawares, it has a bridge over the Merced River and presents a pleasing appearance and has given delightful contrast to motorists who made use of it during the summer.

The present policy of the campaign instituted in May for the sale of certificates for the construction of the Yosemite Highway from Merced to El Portal created little or no enthusiasm among the public. There was a critical view of the scheme to see what a practical means of raising money there was in the way of providing the necessary connecting link to the valley. Accordingly, from the start of the campaign it was evident that the El Portal Road had a strong element of curiosity, but later in the light of an additional Yosemite attraction for its scenic beauty, nature is watching the road, which has 10,000 automobiles handled during the past summer.

In the present grading of the road completed to the park line and an attractive entrance gate erected at that point before winter. There will still remain to be done a considerable amount of finishing work, such as ditching and the laying of some 4 miles of parapet along the upper part of the road. The opening of another season, and all will be ready for paving by the end of the current fiscal year.

The most satisfying improvement made in the past several years was the erection of a new bridge across the Merced River connecting the village of El Portal with the north side of the river. There are funds available for its construction last autumn. The structure is 220 feet long, is 14 feet wide, and is substantial and capable of carrying loads up to 20 tons, and should meet all requirements for years to come.

The imperative need for more cottages for the accommodation of Government employees made necessary the erection of four new cottages. These were built in accordance with a definite plan that has been drawn up for the development of a complete housing scheme.

CRITICISMS AND RECOMMENDATIONS.

As previously stated, development of necessary accommodations in Yosemite to meet public requirements have never kept pace with the growing demand. As a matter of fact the valley has been losing ground in this direction in recent years. It must be admitted that the Government has been equally remiss in this respect with the concessionaires.

Except for a few small buildings for the employees of the hotels, the very necessary tourist facilities in Yosemite are largely lacking. This year’s activities very forcibly predict, both Government and concessionaire are called upon to make some effort to meet the demand. The Yosemite National Park is one of the most beautiful tourist areas in the world, and it is imperative that Yosemite should have modern tourist facilities.

Seirage and sanitation.—The most glaring lack in the way of the most necessary provisions in Yosemite is the almost total lack of accommodations for sewage. During the month of July the average daily population of Yosemite Valley was approximately 4,000 people, with a maximum population of approximately 6,000. This number was increased by the addition of a large number of the high Sierra tourists who were accommodated at the El Portal. It is a serious matter that even in cases where some effort has been made to install a system, it has been subjected to relatively little or no use. The capacity of the present sewage runs to 250 people, and the use of the sewage, to 2,500. In other words, the system has been far from adequate. In many instances the sewage has been discharged directly into the river, thereby endangering the health of the valley and the health of the park visitors who use the river for drinking and fishing purposes.

The new Sentinel Bridge, near the site of the old Lost Arrow Camp, and mark the beginning of the development of a complete housing scheme.

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That these conditions exist is most unfortunate, and it is not pleasant to cogitate on what might happen in the way of a... in Yosemite Valley. Here sewage is disposed of through a so-called septic tank, which is little more than a cesspool, the overflow of which discharges directly into the river. The tank was originally... to carry a load of 300 tons of sewage for which it was designed and installed and nearly 100 per cent of all the sewage received in Camp Yosemite is handled in this manner. It is not pleasant to think of the exact amount of pollution that is thus added to the river with little or no purification.
FIG. 3.—AUTOMOBILE GUIDE MAP SHOWING ROADS IN YOSEMITE VALLEY, YOSEMITE NATIONAL PARK.
strucution or in such condition as to carry loads in excess of 4 or 5 tons with any assurance of safety. In order to handle ordinary freight traffic and road sprawling equipment it was necessary to give them additional support in the way of under-supporting posts or other structural improvements in the way of being carried out. This is now being done in a dangerous condition, with the result that their use for heavy hauling was constantly being interfered with and at the same time considerable amounts of money were being expended without permanent results. They offer, with a permanent and adequate supply, unsatisfactory, and the great step toward permanent rectification of the situation taken in the construction of the very attractive and substantial new Sentinel and Stoneman Bridges, erected since my last report, will, I hope, be followed by the replacement of other inadequately and equal importance, by the improvement of such structures. I have in mind principally the Yosemite Creek and the Happy Isles Bridges as being of first importance.

Trails.—After two or three years, during which interest in trail trips to the back country has been manifestly on the decline, it is agreeable to note that the past season has seen a revival of interest in the trail as a means of touring the park, and from the numbers of parties that have availed themselves of the opportunity to take the trail trip into the far places not reached by the automobile, it seems logical to presume that the interest will continue to increase and that the high Sierras will again come into their own as a mecca for the real campers and mountain lovers.

One of the finest bits of rugged mountain scenery in the park, or even in the entire range of the Sierras, is found in and along the Grand Canyon of the Tuolumne River, but because of lack of trails much of the region has been heretofore almost inaccessible. This new supply must be obtained either from the White Creek or from Milliondome Wheel Falls and that of the trail from Yosemite Creek Bridge on the Tioga Road to Ten Lakes on the south rim of the canyon in 1918 important links were provided in what should be the final trail system to open up the entire area, and the completion of the trail now under construction from South Lake along the west side of the valley to Tuolumne, in the floor of the Canyon, will supply an additional link of equal importance. In order, however, to complete the system by which it is proposed to make the Grand Canyon of the Tuolumne accessible from the Tuolumne, the mineral Lake Tenaya and Tuolumne Meadows country, and at the same time effectively connect the northern part of the park with the southern part, it will be necessary to continue the Wisconsin Trail down to Tuolumne and to then join the Yosemite Creek Trail. In this connection I am of the opinion that it will be necessary to construct two new trails into and out of the Yosemite Valley, the one to continue the Pothole Road to the Tuolumne regional Valley, and the other to join the Pothole Trail Valley up to Tuolumne Creek to join with the Pleasant Valley and Rogers Lake trail, a distance of about 5 miles. I consider this an important improvement of the park-trail system and I trust funds can be supplied for during the next year.

Additional water supply necessary.—The unusually dry season just passed, combined with a totally unexpected demand for water, has demonstrated without question that no amount of spring-water supply will make this region suitable for future development without another source for the development of a permanent supply, it being the intention, of course, to utilize, as in the past, the spring supply during the early part of the season and to develop the new supply for late season needs only. This new supply must be obtained either from the White Creek or from Milliondome Wheel Falls and that of the trail from Yosemite Creek Bridge on the Tioga Road to Ten Lakes on the south rim of the canyon in 1918 important links were provided in what should be the final trail system to open up the entire area, and the completion of the trail now under construction from South Lake along the west side of the valley to Tuolumne, in the floor of the Canyon, will supply an additional link of equal importance. In order, however, to complete the system by which it is proposed to make the Grand Canyon of the Tuolumne accessible from the Tuolumne, the mineral Lake Tenaya and Tuolumne Meadows country, and at the same time effectively connect the northern part of the park with the southern part, it will be necessary to continue the Wisconsin Trail down to Tuolumne and to then join the Yosemite Creek Trail. In this connection I am of the opinion that it will be necessary to construct two new trails into and out of the Yosemite Valley, the one to continue the Pothole Road to the Tuolumne regional Valley, and the other to join the Pothole Trail Valley up to Tuolumne Creek to join with the Pleasant Valley and Rogers Lake trail, a distance of about 5 miles. I consider this an important improvement of the park-trail system and I trust funds can be supplied for during the next year.

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The popularity of the free public camping grounds maintained in Yosemite Valley by the Service continues to increase with the increase of travel. Not only are they being utilized more and more by the transient park visitor who comes to camp for a change, but the greater advantage in being close to the place of resort is being availed of by families who have become convinced that this is an ideal way to spend the entire summer. Numbers of such camps have stood all summer long, and in some instances a considerable portion of the space has been occupied by the various owners, each trying to outdo the other in having the most complete outfit.

There is also a great demand that the public camps be lighted. This is a reasonable demand, as it is exceedingly difficult, thereby eliminating the dust nuisance which during the past summer in some of the camps has been so annoying.

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1. the date of opening of the Toga Road, to about the middle of August an average of not less than 200 campers were scattered about the meadows, and it is estimated that the maximum number reached was about 400. Such extensive use of this area for camping purposes without some sanitary facilities and without supervision can not safely be continued longer or serious pollution of the Tuolumne River will result. The time has come when it is necessary to lay out camp grounds and assign campers to designated camps as in Yosemite Valley and to provide toilets and supervise the disposition of garbage and other camp waste. This problem is now being studied with a view to handling the situation in this next season.

The demand for camping space near the Mariposa Grove of big trees is I believe should be given consideration, and a suitable site where the Fallen Monarch and near the new Ranger station, where it is recommended camping be allowed. In reply to the demand that the demand that I am sure the public would like to see that sanitary measures and grazing regulations were properly enforced. The dis-
Mr. A. D. Ferguson, of Fresno, Calif., recently purchased 160 acres of land immediately adjoining the headquarters and main tourist camp in General Grant National Park. Mr. Ferguson is not only a serious menace to the occupants of this camp but also to those living in adjoining camps on the Government land.

**SAINTAN**

Frequent inspections of permanent camps were made throughout the tourist season. The grounds were policed, and privy buildings that contained earth pits were regularly looked after and all garbage pits were provided with convenient places throughout the camp for use of campers in disposing of their kitchen garbage.

**IMPROVEMENTS**

Improvement work accomplished in the Sequoia and General Grant National Parks during the fiscal year 1910 was as follows:

- **Roads.**
  - New尸体 Road, 144 feet in length and 18 feet in width, supported on concrete piers and abutments, sightly in appearance and durable in character, was constructed across the Marble Fork of the San Joaquin River, which is the only road leading to the region over which automobiles can pass. The road was 18 feet wide, 100 yards long, and was built in the summer season with the result that it is now in fine condition throughout its entire length.
  - **Telegraph lines.**
    - Private automobile travel.
  - **Telephone lines.**
    - There are 2,000 miles of telephone lines in the Sequoia National Park system, and all are in good working order, as a result of which excellent service has been maintained throughout the season.

**SANITATION**

The water supply for the Giant Forest tourist camp in Sequoia National Park is furnished by means of a piped system taken from two large springs and a small stream known as the Big Sur River. According to plan, the system is capable of supplying about 1,000 people at one time. This season the supply was taxed to its utmost capacity during the months of July and August. At no time did this camp become insufficient water from year to year, it is evident that the present water system will prove inadequate to meet future demand. This is a matter that should be given consideration in the very near future, looking to a more plentiful supply of water for the camp, which can best be accomplished by adding to the present system a pipe line intake at Wolverton Creek, in distance some 4 miles.

The water supply at the camp in General Grant National Park was lower than at any time recorded previously, but was sufficient to meet all demands.

**REPORT OF DIRECTOR OF NATIONAL PARK SERVICE.**

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REPORT OF DIRECTOR OF NATIONAL PARK SERVICE.

Giants Forest ranger’s cabin, one additional room and overhead ceiling applied. Water system of Giant Forest tourist camp, 4,400 feet new pipe and 32 drinking hydrants applied. Sanitation has been improved as follows: Nine new privy buildings and 22 additional privy pits. Road repairs and improvements were as follows: Water system in main tourist camp, 5,426 feet additional new pipe, 22 drinking hydrants, and one concrete reservoir applied. Water system improvements were as follows: The nine new privy buildings were provided with new privy and garbage pits.

CAMPING AND CAMP SITES.

Camping out beneath the shades of the forests, where the weather even at midday in summer is balmy and cool in the areas set aside for their use and pleasure, seems the prize treat for park visitors visiting the Sequoia and General Grant Public Parks, and for this reason many beautiful and commodious camp sites were prepared in advance of the opening of the parks this season.

In Sequoia Park seven camps were established, in locations as follows: Giant Forest, Monkey Camp, Hospital Rocks, Twin Lakes, Hospital Rocks, Sequoia Park, and Giant Forest. One camp sufficiently large to accommodate all of the park visitors was maintained in General Grant National Park. In all instances camp grounds, wood, and water were furnished free of cost.

CONCESSIONS.

Mr. Chester Wright was granted the store privilege in Giant Forest. Mr. Wright also conducted the pack and saddle transportation service in the park.

Mrs. Walter E. Kenney operated a hotel with tent sleeping accommodations in Giant Forest. The Kings River Stage and Transportation Co. operated through the season on a regular daily schedule standard Packard auto stages between Sanger and the park.

In Sequoia Park the following concessions were conducted: Mr. H. E. Roberts was granted concession for conducting a photograph gallery and the sale of photographic supplies in the park. The General Grant National Park Hotel Co. was granted permission to conduct a tent camp with hotel accommodations and store in the park. The Sequoia National Park Stage Co. operated through the season on a regular daily schedule standard seven-passenger automobile touring cars between Lemon Cove and Giant Forest in the park.

The cooperation which has been afforded by the Bureau of Entomology to the field investigation by the National Park Service has been of great value. It has recently been observed that not a month in the year passes by without the blooming of new flowering specimens of the various species of wild flowers that are common in the park. It is a pleasure to find that many other beautiful floral growths, all of which help to make up the landscape beauty of the park.
WILD ANIMALS.

Deer and bear are numerous in the Sequoia and General Grant National Parks, and elk, mountain sheep, wolves, mountain lion, foxes, owls, and many smaller fur-bearing animals are found.

Bear and deer are seen daily by park visitors in the vicinity of the tourist camps and quite often elsewhere. Many scientists visited the parks this year for the purpose of studying the life habits of certain species of animals at close range.

The Sequoia and General Grant National Parks are the home of both migratory and breeding birds. Millions of these creatures either make their nests within the parks or spend a portion of each year within them. They are always more varied and abundant during the nesting season, thus affording splendid opportunity to be studied at close range by scientists and park visitors.

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More than 100 square miles of the park lands are densely timbered. Douglas fir, white cedar, Alaska cedar, and hemlock are the predominating varieties. In addition to these, the following varieties are found at various points within the park: Lovely spruce, Alpine hemlock, silver fir, Alpine larch, Sitka spruce, mountain pine, alder, cottonwood, quaking aspen, broad-leaved maple, vine maple, and smooth-leaf hickory.

At the approximate general elevation of 4,500 feet, the density of timber growth gradually diminishes until the extreme timber line is reached. The intervening areas, which are usually benches or plateaus on the long sloping ridges, dividing the various glacial moraines, form natural parks, to which travel by horse and foot is open for rest and recreation. These natural parks are excellent camp sites and serve as bases for the hiker or backpacker, and are the source of many of the smaller streams which descend from the lesser mountain peaks, the glaciers, snow fields, and canyons so numerous within the national park area.

These meadows, benches, plateaus, or natural parks are beautifully adorned by nature with flowers and shrubs of infinite variety and color, and furnish to the botanist, as well as to the lover of the beautiful, endless occupation in nature study. Nearly 400 varieties of plant life are known to grow within the park.

For each State of the Union there is a "state flower." If the national parks were each to adopt a "park flower," that of Mount Rainier National Park would certainly be the avalanche lily (known also as the deer tongue, dog's-tooth violet, and other popular names). As soon as the snow drifts begin to disappear from the hillside, the white lilies spring up in great abundance, forming waving fields of delicate white blossoms that follow closely on the retreating edges of the snow. Some of them, with a remarkable prophetic instinct, send up their tender shoots through the edges of the snow banks and are in bud before the sun has even had a chance to warm the ground. Their season of growth on the higher slopes is short and they make the most of it. Most of the varieties of flowers bloom in abundance this summer. The red heather was unusually brilliant, with its blossoms in thick clumps, as though each plant was competing with its neighbor for the most brilliant display. Visitors also carry away with them vivid impressions of waves of light forming lakes of brilliant blue.

The flowers appear on the lower elevations with the early spring, and as the snow line climbs up the mountain slopes the flower line follows rapidly behind it, so that in going from high elevations to lower valleys one finds the flowers in all stages of development. The developed seed pods that are to renew the cycle during the coming year.

Visitors are urged to enjoy the beauty of the flowers without destroying them, so that the wealth of blossoms will remain to greet future visitors.

**ROADS.**

_Nisqually Road._—This road is the main thoroughfare into the park. It leads from the southwest entrance to Paradise Valley, 20 miles. This road was originally constructed by the War Department under an appropriation of $240,000 and was opened for travel in 1910. Horse stages were operated over the 8-mile section above the Nisqually Glacier until the close of the 1914 season. This section was opened to automobiles in 1915, and has since been operated on a one-way schedule by which cars leave Nisqually Glacier and Paradise Valley on each hour from 8 a.m. to 7 p.m., passing at Narada Falls on the half hour. During the tourist season the traffic is controlled three park rangers stationed at Nisqually Glacier, Narada Falls, and Paradise Valley. The system, which has proven very satisfactory during the last five years, operates in the following manner:

As soon as a road is clear—which under normal conditions occurs 5 or 10 minutes before the hour—the rangers at Nisqually Glacier and Paradise Valley pass the following double message: The road is clear to Narada Falls, which is held open until the government double express has passed the road; then they close the gate and telephone to the ranger at Narada Falls, giving the number of cars in the train and the license number and make of the last car. When the train arrives at Narada Falls from each direction, the rangers here pass the message that the road is clear and the car is the last. They then open the gate for the train to pass and the rangers at the other range stomach the number of the last car in each train.

When weather and road conditions are favorable, trains of 100 to 125 cars can be handled on the hourly schedule. In one instance during the past season as many as 288 cars have been handled in a single train, requiring considerably more than one hour's time to clear the road. During the past five years about 35,000 cars and 175,000 people have passed over this section of the road without any serious accidents.

_White River Road._—This road was not in operation this year, as it was closed by washouts and slides in the upper section. The cost of maintenance of the road is $30 per mile per year. A new trail 2 miles in length was opened during 1919, so as to give access to the beautiful upland park at the head of Kispadache Ridge. This trail starts from the West Side Trail where it crosses the Silver Creek, and after gaining the crest of Kispadache Ridge follows the park road until the park and lake are reached at an elevation of about 3,500 feet. This park road is among the most attractive of the many parks on the slopes of Mount Rainier. It offers a favorite camping site to park parties taking the trip around the mountain.

There are 150 miles of trails in the Mount Rainier National Park, some of which are for pedestrians only, but the greater part are equally suitable for foot or horseback travel.

**TRAILS.**

The mountain is entirely encircled by the trails within the park. With the exception of the 12-mile section between Carbon Glacier and Glinzach, these trails are improved and are in first-class condition. During the year 1919 several parties made the complete circuit of the mountains, some on horseback and some on foot. The following amounts have been expended on maintenance and improvement of the various trails.

<table>
<thead>
<tr>
<th>Trail</th>
<th>1914</th>
<th>1915</th>
<th>1916</th>
<th>1917</th>
<th>1918</th>
<th>1919 (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nisqually Road from entrance to Paradise Valley, 20 miles:</td>
<td>$22,064.19</td>
<td>17,865.94</td>
<td>26,560.58</td>
<td>32,421.05</td>
<td>38,500.00</td>
<td>12,990.76</td>
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<tr>
<td>Nisqually Road to Paradise Valley via Longmire Springs, Narada Falls, and Paradise Valley, 13 miles.</td>
<td>$32,990.52</td>
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<tr>
<td>Nisqually Road to Paradise Valley via Longmire Springs, Narada Falls, and Paradise Valley, 15 miles.</td>
<td>$29,865.94</td>
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<tr>
<td>Nisqually Road to Paradise Valley via Longmire Springs, Narada Falls, and Paradise Valley, 17 miles.</td>
<td>$7,000.00</td>
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<tr>
<td>Total</td>
<td>$112,990.52</td>
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</tbody>
</table>

This work has included general repair and improvement, consisting of widening from 12 to 16 and 18 feet. Construction of new culverts and bridges, rock and timber crib retaining walls, and surfacing with 6 inches of cement gravel.

**BUILDING CONSTRUCTION.**

A powder house, 14 by 18 feet, was constructed in 1919. The location is on the Tahoma Creek Trail. The building was $500. The magazine is used for the storage of the 30 tons of T. N. T. received from the War Department.

**TELEPHONES.**

The park system consists of the following lines:

1. Commercial line.—The Government double-wire metallic line formerly operated by the Tacoma & Eastern Railroad Co. From Ashford to Longmire Springs, 13 miles.
2. Commercial line.—The Government double-wire metallic line formerly operated by the Mount Rainier Mining Co. From Ashford to Ephrata, 26 miles.
3. Commercial line.—From Nisqually entrance to Carbon River ranger station on Forest Service lines in the territory south of the park.

**TELEPHONES.**

The park telephone system connects at Longmire Springs and Ohanapecosh ranger stations with the Forestry Service lines in the territory south of the park. The cost of the building was $500. The magazine is used for the storage of the 30 tons of T. N. T. received from the War Department.

**TELEPHONES.**

During 1919 a 6-inch sewer line 1,100 feet long was installed to take the sewage of Paradise Inn to the Paradise River.

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NOTE:
Distances given are by road. There are 150 miles of trail within the Park.
REPORT OF DIRECTOR OF NATIONAL PARK SERVICE.

The bearers are interesting animals, and their houses and dams are visited by many tourists. On the Tahoma Creek trail, about 2 miles up from the automobile road, the bear built a dam which formed a reservoir and flooded a bridge on the trail. The trail has been relocated this year in order not to interfere with the bear dam.

The mountain bear is not at all rare. The work of this nocturnal animal is common along the ridges of the high peaks and on the forest.

The rock rabbit, cony, or pica lives in piles of rock and talus slopes. He is often found by the side of the road.

The mountain goat is found in the higher altitudes nearly all around the mountain. There are also small numbers of elk on the east side above anything which have been seen by tourists, as they are very shy.

Elk have been reported from the park. Two elk in the winter season. But it seems to be on the increase in several areas.

The American magpie is often present in the winter months, especially in the Alpen houses. Grosbeaks, sparrows, woodpeckers, owls, hawks, and eagles are often seen during the tourist season.

The mountain goats, which are often seen climbing the slopes and cliffs, are wild and often in their migratory flights rest along the ponds and small lakes of the park.

NO FIREARMS.

As far as possible, all firearms are taken up and held at the point of the entrance to the park.

Persons entering the park at one point and intending to leave at another with firearms in possession are allowed to carry them through the park on written orders. Persons found in possession of persons inside the park are taken up, sealed, and held until the owner leaves.

In the mountain goats, the desireability of carrying firearms was demonstrated permits have been granted.

GAME PROTECTION.

Notwithstanding a rigid enforcement of the rules which prohibit hunting inside the park, it is impossible to protect the park game because of the fact that large numbers of deer are driven down into the lower elevations by the fall and winter snows and are killed outside the park during the open season.

It would be desirable to create a game preserve surrounding the park for the purpose of protecting park game.

GRAZING.

During the war grazing permits were issued for the first time for small herds of cattle within the park as a war measure. H. J. Swedler, Jr., received such a permit in 1915, and his permit for the grazing of 500 head of cattle was renewed during 1916, but hereafter no permits for this purpose are to be issued.

MINING CLAIMS.

Mining operations are confined to claims located prior to the act of Congress of May 27, 1891. No mining operations are allowed on the park.

The Mount Rainier Mining Co. has been operating for a number of years on the development of ore, but still feels hopeful of the development of a valuable property. The company has expended much more on its property than it has received from shipments of ore, but still feels hopeful of the development of a valuable property.

The principal mining works are located in the vicinity of the park. The company has devoted much time and money to the development of the property.

The Eagle Peak Mining Co. is working toward the development of two claims in the Nisqually Canyon near the mouth of the Paradise River. The company has driven a tunnel over 400 feet in length and has installed a power plant which generates about 20 horsepower.

Sherman and the Evans have two claims adjacent to those of the Eagle Peak Co. which are of special interest to the Eagle Peak Co.'s claims for the purpose of mining copper ore and hauling it to the railroad at Ashford.

Neither company has shipped any ore this season, and their shipments in past years totaled only a few carloads.

MINERAL SPRINGS.

The principal mineral springs are easy access to the tourist are those located on the path among the Longmire Springs. Several kinds of mineralized water spring from the ground on this tract and are known as soda, iron, and sulphur springs. Some of the springs are warm, and others are cold and sparkling.

This property is now leased by the Rainier National Park Co., and the proper development of these springs is under consideration.
The Champoegh Hot Springs, near the southeast corner of the park, are very hot and are noted for their curative qualities. Very little development work has been done on them, and they are accessible by trail only, 13 miles from Lewis, Wash., or 15 miles from Narada Falls. They are located just south of the park boundary in the National Forest. The small amount of land involved should be added to the park, so that it may be prop­

TRAVEL.

The dates of opening the Nisqually Road to various points for the past five seasons is shown in the following table:

<table>
<thead>
<tr>
<th>To</th>
<th>1915</th>
<th>1916</th>
<th>1917</th>
<th>1918</th>
<th>1919</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nisqually Springs</td>
<td>All</td>
<td>May 15</td>
<td>June 4</td>
<td>May 1</td>
<td>Apr. 25</td>
</tr>
<tr>
<td>Narada Falls</td>
<td>June 10</td>
<td>July 14</td>
<td>July 12</td>
<td>June 9</td>
<td>June 18</td>
</tr>
<tr>
<td>Paradise Valley</td>
<td>June 15</td>
<td>Aug. 24</td>
<td>Aug. 9</td>
<td>July 6</td>
<td>July 16</td>
</tr>
</tbody>
</table>

The depth of snow at Paradise Valley, which governs the date at which the road may be opened, was as follows: March 1, 20 feet; April 1, 18 feet; May 1, 19 feet; June 1, 13 feet; July 1, 7 feet; July 16, 4 feet; August 1, none.

Travel for the Labor Day period broke all records, the number of visitors being as follows:

Saturday, Aug. 30 ......... 1,005
Monday, Aug. 31 ......... 1,750
Monday, Sept. 7 .......... 1,029

Total 3,784

The total registration up to Oct. 12 was as follows:

At the main entrance .... 54,697
At the White River entrance ... 234
At the Carbon River entrance ... 234
At the Ohanapechigh entrance ... 100

Total 55,232

Distribution of visitors:

From Tacoma ................ 12,389
From Seattle ............... 11,125
From other points in State of Washington ......... 18,066
From points outside of State of Washington ......... 13,638

Total 55,232

The number of private automobiles entering the park for the year ending December 31, 1919, was 10,454.

SPECIAL EVENTS AND PARTIES OF VISITORS.

The Northwestern Ski Club held its annual tournament at Paradise Valley on Sunday, June 29. The snow conditions were favorable and the weather was clear and fine. The tournament was attended by several hundred visitors, who enjoyed the winter sports in summer weather.

The Mazamas, the mountain-climbing organization of Oregon, held their annual outing in Mount Rainier National Park. They conducted an around-the-

mountain trip in which about 100 members participated. They entered the park on July 20 and took three weeks for their trip. Camps were made at 12 different points, and a two and one-half week stay was made at several of the points in order to permit various excursions to be made. Pack horses were used to transport the equipment and supplies of the party, but the members themselves made the entire trip on foot. When camp was moved, the members had the choice of either taking the trail connecting the camps or taking the Cascades route via Mount Rainier. A party of 250 persons, under the guidance of the Rainier National Park Co., which has the route usually climbed went up the slope of the mountain, crossed the glaciers and ridges, and then descended to the new camp site. The Mazamas are the oldest group of mountain climbers in the United States, and have made many trips to the top of the mountain, completing an ascent in 1917. The Mazamas plan to erect a monument to celebrate the first successful ascent of the mountain in 1870 by the Mountaineers. The Mountaineers' plan to erect a stone column marking the summit of the mountain.

The Mazamas plan to erect a column marking the summit of the mountain.

HOTEL AND CAMP ACCOMMODATIONS.

Rainier National Park Co., organized in March, 1916, to operate hotel, camp, and transportation service in the park, has completed its fourth season. The camping and hotel camps were operated during the 1918 season by this company.

National Park Inn, at Longmire Springs.—During the winter months this hotel was in charge of a caretaker, and limited service was given to such visitors as reached Longmire Springs by trail. The hotel was opened for the season on Saturday, June 28, and kept open until September 15, and after that date informal service has been continued for a number of weeks, as long as weather permitted access to Paradise Valley.

National Park Inn, near Paradise Valley.—This hotel was built in 1918 and is located on patented land. It was formerly operated by the Rainier National Park Co., but this season the Rainier National Park Co. leased the property and operated the National Park Inn. In connection with the National Park Inn, a hotel was built, which is a two-story structure, with 17 sleeping rooms, some of which have private baths. There are a number of framed tents, which bring the total sleeping capacity to about 200. The hotel is open all year round and is furnished with all modern conveniences.

Paradise Camp.—This camp is located on the ridge above Paradise Inn. It consists of an A-frame cabin and a number of tents equipped with beds, springs, and the necessary cooking equipment. The camp is well supplied with food and is available for use by visitors. The camp is open from May 1 to September 30.

REPORT OF DIRECTOR OF NATIONAL PARK SERVICE.

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<td>All</td>
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</tr>
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mattresses. The object of the camp is to furnish accommodations to those wishing something simpler and less expensive than is offered at Paradise Inn. In order to accomplish this purpose, the Paradise Camp is operated in a much more primitive manner, so that visitors may obtain as much or as little as they desire. They may rent the tents partly or completely furnished and either take their meals at the lunch counter or do their own cooking by an open camp fire, fuel for which is furnished by the company. Campers’ supplies may be obtained at the camp grounds, so that patrons may be governed by their own wishes in choosing their manner of living.

In all, the Rainier National Park Co. can furnish sleeping accommodations for 1,100 at the Paradise Camp and 300 at the Log Cabin and tents and camps.

The Glacier Camp, near the Nisqually Check Station, was not operated this year, as the contract for service at that point having expired.

A camp in Indian Henrys Park was maintained by the Cooperative Campers’ Association, of Seattle, for the use of its members from July 4 to August 30.

PUBLIC CAMP GROUNDS.

For the accommodation of visitors who bring their own tents, beds, cooking utensils, and food supplies, free public camping grounds have been established at Longmire Springs, Van Trump Camp, and Paradise Valley. These grounds have been cleaned up and supplied with waterworks and sanitary facilities.

There are other camp sites, located conveniently to the road, where camping is permitted and encouraged.

SERVICE STATION.

A concession was given this year to the Standard Oil Co. to operate a service station at Longmire Springs and sell gasoline, oils, and similar motor supplies to the public. The station was built as a permanent building, under plans approved by the National Park Service, and started operation on June 27 and continued throughout the season. The station rendered very satisfactory service and met with a large demand.

INFORMATION BUREAU.

A bureau of information was maintained in the office of the superintendent at Longmire Springs for the purpose of answering the many inquiries, directing visitors to the points of interest, distributing the general information circulars of this and other parks, and selling the Government maps and publications relative to the park.

PLANS FOR DEVELOPMENT OF MOUNT RAINIER NATIONAL PARK.

At the present time the only part of the park that is accessible to the average visitor is the southwestern corner, tributary to the Nisqually River. The area that is thus developed is estimated at 5 per cent of the total area of the park.

The most logical and feasible routes of approach to the park are along the valleys of the principal rivers that spring at the northwest corner; the White River, at the northeast corner; and the Ohanapecosh River, at the southeast corner.

Plans have been completed for the construction of suitable approach roads to two other corners of the park along the valleys of the Carbon River and the White River.

The first development has taken place along the Nisqually River, where the present road, 20 miles in length, leads from the park entrance (elevation 2,000 feet) to Paradise Valley, at an elevation of 5,500 feet.

The estimated cost of the road was $321,275.89, or $11,276.70 per mile.

In the event that State Road No. 5 is built up the Ohanapecosh, the connection between it and Longmire Springs would be open for travel for the greater part of the year, but has not the scenic features of the Stevens Canyon route.

There is at the present time a road up the Carbon River, within the park, for a distance of 10 miles to Storbo Camp in Glacier Basin. This road was built by a mining company for the other purposes of the National Park Service. The road has been constructed, and partially surfaced the lower 2 miles and widened and reconstructed the third mile. At times it is closed to automobile traffic.

At the grade of the road runs up to 13 per cent in places. It is periodically inundated by the flow of the river; it is of single width and is a narrow mountain road.

State Road No. 5, or the Cowlitz-Naches Road.—The act of the Washington State Legislature establishing this road specifies that it shall begin at Biffort Post Office, in Lewis County, thence the Cowlitz River and its tributaries, by way of Kosmus and Randle, by the most feasible route to a connection with the McClellan Pass Highway.

The other portions of Mount Rainier National Park are equally attractive and contain giant forests of fir and cedar, and other timber. Mount Rainier rises as the dominating spirit of the region, its lofty summit resplendent with its crown of eternal snow and ice.

Around-the-Mountain Road.—The ultimate development of the park will require the construction of an automobile road entirely around the mountain, connecting with the various approach roads, and linking together the many forest, mountain parks, and glaciers that can now be seen only by an arduous camping trip.

When these two sections of the McClellan Pass State Highway are completed, there will be a well-developed gap of 8 miles between the ranger station and Chinook Pass.

In 1916 location surveys were made for a road from Narada Falls to connect with the McClellan Pass Highway at Cayuse Pass. Beginning at Narada where it is 5,250 feet above sea level, the proposed road climbs to the top of Mount Rainier where it is 8,350 feet above sea level. The road is to be constructed over the ridges and passes of the Carbon River, the White River, and the Ohanapecosh River, at the northeast corner; and the Ohanapecosh River, at the southeast corner.

It is up the valleys of these streams that the most ready access to the park is to be obtained.

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A con-
The placing of signs to guide visitors along the trails throughout the park and to furnish them with desired information should be continued on a complete and comprehensive plan. The trails recently constructed have been laid out with proper consideration of grade, drainage, width, and general location. Some of the older trails are the product of necessity, and the travel over them has been heavy. The new trails increase in number and become more and more necessary to continue the improvement of existing trails and to construct new ones where the location of the present trails is not satisfactory or to open up new districts not now reached by any trail and at present inaccessible except to visitors on foot.

The trails used by the greatest number of people, and therefore in need of improvement and extension, are those in the vicinity of Paradise Valley. The present density of travel indicates the desirability of widening all of this 8-mile stretch or at least enough of it so that it could be opened to travel by both horse and man.

The construction of a parapet wall should be continued until all of the road on steep slopes is furnished with this protection.

**Trails.**—The improvement of present trails and the construction of new trails should be continued.

The improved trails should be built or reconstructed in such a manner as to afford a safe and satisfactory condition for horse and rider.

**Superintendent Alex Sparrow,** of the Crater Lake National Park, arrived in the park as acting superintendent on April 22 and remained until Tune 3. Superintendent Roger W. Toll reported for duty on May 29 and was in charge throughout the remainder of the season.

Crater Lake Park is approximately 13½ miles east and west and 18½ miles north and south and contains 249 square miles. It is surrounded by a chain of extinct volcanoes, among them Mount Scott, Timber Crater, Red Cone, Crater Peak, and Union Peak. It lies in a great basin or caldera, formed, it is supposed, by the subsidence of the upper part of a volcano, which has been named Mount Mazama. The lake is almost circular in outline, with an average diameter of 21 miles, and is covered with pure precipitation. Rising sheer from the water to a height varying from 000 to 2,500 feet.

Crater Lake is said to be the deepest body of fresh water in America, having the remarkable depth of 2,922 feet. Its basin is broad and shallow, formed, it is supposed, by the subsidence of the upper part of a volcano, which has been named Mount Mazama. The lake is almost circular in outline, with an average diameter of 21 miles, and is covered with pure precipitation. Rising sheer from the water to a height varying from 000 to 2,500 feet.

Crater Lake is one of the most interesting of great natural wonders. It is remarkable not only for its position and size but on account of its deep-blue color, its clearness, great depth, the majesty of its encircling cliffs, and its wonderful geological history. It is a broad and shallow basin, formed, it is supposed, by the subsidence of the upper part of a volcano, which has been named Mount Mazama. The lake is almost circular in outline, with an average diameter of 21 miles, and is covered with pure precipitation. Rising sheer from the water to a height varying from 000 to 2,500 feet.

The lake is kept well stocked with rainbow trout. Fishing is permitted only with hook and line, and the catch is limited to five in one day for each fisherman. There is good fishing also in Anna Creek, below the falls.

Black and brown bears, the only varieties found in the park, are growing more numerous every year. Black bears are seen almost daily in the neighborhood of the lodge and the construction camps. Pictures were taken recently of visitors to the lodge feeding a cub bear.

Pine marten, porcupines, squirrels, chipmunks, pheasants, and numerous varieties of birds, including eagles, hawks, owls, and coyotes are seen occasionally, and every effort is being made to exterminate them.

The nearest railway points are Medford, on the main line of the Southern Pacific, 83 miles distant, and Klamath Falls, 62 miles to the south, on a branch of the Southern Pacific leaving the main line at Weed, Calif.}

**Means of transportation.**

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pinnacles Road</td>
<td>1,068</td>
</tr>
<tr>
<td>Fort Klamath Road</td>
<td>7,532</td>
</tr>
<tr>
<td>Medford Road</td>
<td>7,532</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16,045</strong></td>
</tr>
</tbody>
</table>

The season’s travel has been the heaviest yet recorded.

**Travel.**

By means of snow plowing and shoveling, automobiles coming from Medford were enabled to reach Anna Spring Camp on June 18 and the following day the road was open to Fort Klamath. It was not possible to run cars to the lake until June 30, when the road from the lodge to the water was covered in many places by huge snow banks, but paths were shoveled along the tops of the banks and the trail was in shape for use by July 1.

The season’s travel has been the heaviest yet recorded.

**Crater Lake Stage.**

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automobiles</td>
<td>1,024</td>
</tr>
<tr>
<td>Motor cycles</td>
<td>15,219</td>
</tr>
<tr>
<td>Wagon</td>
<td>7</td>
</tr>
<tr>
<td>Mounted on horse</td>
<td>796</td>
</tr>
<tr>
<td>On foot</td>
<td>37</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16,045</strong></td>
</tr>
</tbody>
</table>
There are four roads in the park system, known as Pinnacles, Medford, Fort Klamath, and Rim Roads. The Pinnacles Road, 3.25 miles, connects the east entrance with the Rim Road at Lost Creek. The Fort Klamath road, 11.4 miles, connects the south entrance with the Rim Road at Government Camp, 2 miles south of Crater Lake Lodge. The Medford Road, 0.84 miles, connects the west entrance with the Fort Klamath Road at Anna Spring. These three roads have been open for travel since 1915, and are in good condition for dirt roads. The Rim Road, 55 miles, circles the lake. This road is at an average altitude of 715 feet and is open for travel about eight weeks during the year. This season, which was comparatively early, it was not cleared of snow until August 3, and it can rarely be used after September 30.

On account of its many scenic attractions, this road is destined to become a popular drive, but much improvement work will be necessary. During this, its first season, travel over it has been very heavy. The total length of roads in the park is 57 miles, and the maximum grade is 10 per cent.

TRAIL SYSTEM.

The park system of trails is made up of the following: The Watchman, 3.5 miles; Garfield, 1.9 miles; Lodge to Lake, 1.2 miles; Wizard Island, 0.75 miles; Dewey, 2.05 miles; to Rim, south side, 1 mile; Anna Spring, to Rim, 4 miles; Copeland Creek, 2.2 miles; Union, 2.9 miles; Red Blanket, 2 miles; Red Diamond, 3.25 miles. A trail of very easy grade, on which horses and burros are now used, leads from the Rim near Crater Lake Lodge to the lesser of 900 feet, and visitors to Wizard Island find a good trail to the crater.

A trail runs from the Rim to Garfield Peak. The one to Watchman is a winding trail, passable for horses, and the lake is in full view for the entire distance. The Dewie Trail is passable for motor autos. It affords a good view of Dewey, and Dewie Dells. An easy trail is now open to Union Peak. It is passable for light vehicles for about three miles; the remaining distance to the base of the peak is a good horse trail. Horses and burros from the top of the peak must be taken down the steep, but the footing is good and the climb easy. The trail ascends 700 feet in the last one-fourth mile, but the view from the top of this peak is well worth the climb.

A trail from the Rim to Sore Notch was built this season. It is passable for vehicles, but the other half mile is rough, as it was confined to rough ground. The possible view of the Phantom Ship is from Sore Notch.

Another trail made this season runs from the Rim Road to Crater Peak. One and a half miles of this is passable for light vehicles; the remainder, while very steep, is practicable for horses clear to the top. From Crater Peak, a magnificent view may be had of the Klamath Lake country.

WATER LINES.

Work was continued this season on cutting brush and clearing a fire lane along the park boundary. This work will be finished before the end of the fiscal year.

RANGER SERVICE.

The ranger force consists of seven temporary rangers; one is employed throughout the year at Anna Spring, three on mounted patrol, and three unmounted at checking stations during the tourist season.

One temporary clerk-stenographer is employed during the working season.

The scarcity of labor and the short season would make it impossible to complete these buildings during one season, but the warehouse and garage should be built without delay. An archway should be placed at the west entrance to the park.

As a result of much hunting outside the park more bear and deer have appeared in the park this year than ever before, and if the game is to be saved from extermination in this locality the game preserve must be enlarged.

WIND CAVE NATIONAL PARK.

ROY BRAZELL, Superintendent, Hot Springs, S. Dak.

GENERAL STATEMENT.

The Wind Cave National Park was created by the act of Congress approved January 9, 1903 (32 Stat. 792), which reserved for park purposes a tract of land comprising 10,022 acres, which tract was increased in 1912 by purchase of 57.05 acres of adjacent farms, making the total area of the park now 10,080.22 acres.

The park was established, primarily, to preserve for posterity the natural beauties and wonders of the Wind Cave, and gets its name from this cave, the cave in turn getting its name from a peculiar, intermittent draft of air blowing in or out at its entrance.

The park is located in the southwestern corner of South Dakota, 36 miles from the south boundary and 24 miles from the west boundary of the State, in the semimountainous region of the Black Hills, and is approximately 4 miles square.

A glance at the park map will reveal the fact that the three entrances to the park are all near the south. This necessitates north and south bound tourists taking a back track to get in or out of the park. We should have a northern outlet to connect with the Bend Road, which is the only outlet worth visiting on the park. The long July day allows the visitor to visit both peaks and the Wast Cave, which has been materially out of their way to do so. The area involved is all in the forest reserve, and they could be made into a very easy drive if any connections can be arranged.

According to forest reserve data, there is grazing for only 112 head of cattle and 1,400 head of sheep and their increase for 50 years.

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The extent and number of the various crevices, cross passages, and chambers which make up the cave no one knows nor can guess is permissible. Old guides, who have spent years in the cave, claim to have explored over 100 miles of passages.

Among the formations of the cave may be found calcite crystals, exposed geodes, stalactites, stalagmites, quartz, and a formation called frostwork, and boxwork, and the usual mineral-bearing rock.

The cave was formed by the chemical reaction of hot water on the limestone composition, some of the fantastic formations having been made by the deposit left by receding hot water. This deposit resembles closely the deposit found on the inside of a used teakettle.

The entrance to the cave is located about 12 miles north of Hot Springs, which is our main railroad city. The Chicago, Burlington & Quincy Railroad. Hot Springs is but an overnight ride by railroad from Omaha, Denver, or Billings.

This year we have established a new record for number of visitors. The park and the Black Hills country generally have had the biggest run of tourists this season they have ever experienced.

Each trip through the cave requires from two to three hours, and but two regular trips are made daily—9 a.m. and 2 p.m. It has been the custom to discontinue the forenoon trip during the period from October 1 to April 30.

Everyday, the furnished with the water from the spring to a cement and rock reservoir, which is built excellently pure and clear, though the supply is such that we dare not use it as freely (for lawn, etc.) as is desirable.
The magpie, a very pretty bird itself, is the worst enemy to bird propagation we have to contend with, as it is given to robbing other birds' nests of both the eggs and the young.

**NATIONAL GAME PRESERVE.**

In the northwestern corner of the park a national game preserve has been established under the provision in the act making appropriations for the Department of Agriculture for the fiscal year ended June 30, 1912, approved August 29, 1912, for the purpose of the creation of a permanent range for a herd of buffalo to be presented to the United States by the American Cattle Association. The area included under this act is composed of all the other native American game animals as may be placed therein, the Secretary of Agriculture having full power by purchase or condemnation of such adjacent lands as may be necessary for the purpose of assuring adequate water supply, to inclose the game preserve with a good fence, to provide necessary sheds and buildings for the proper care and maintenance of the said animals, $256,000 to be available until expended.

The game preserve is located on the most desirable part of the park and comprises about 4,000 acres, which are inclosed by a woven wire fence 88 inches high, with 24 line wires and stays every foot. Cedar posts are used and are 10 feet apart on the level land and 12 feet apart on the rough ground. Fence was built in 1914 under the supervision of F. M. Qualive, Inspector for the Biological Survey, and is said to be rabbit tight and buffalo strong.

In many places dynamite had to be used to blast the postholes out of solid rock.

At present the animals within the inclosure number approximately 54 bison, 100 elk, and 21 antelope. In addition to these there are a few native black-tailed deer in the inclosure, that were accidentally caught on the inside when the fence was built. The deer are quite plentiful on the park outside of the game inclosure, and several small herds have been sighted this summer at various points on the park.

The game within the inclosure is doing very well and is increasing quite rapidly, except the antelope, which are just nicely holding their own. However, even that is very gratifying, as in most places where they have been kept in captivity I am informed they do not even hold their own.

**PREDAIY ANIMALS.**

The coyote, bobcat (lynx), skunk, and porcupine are very common in the park, and the weasel and mink are present in small numbers. These animals are very numerous, and some of them may properly be classed as pests. Due to the persistent efforts of the game inspector and the park management, assiduous care is being taken to prevent the first-named animals from becoming less numerous. To quote from the annual report of the game inspector: "There are a total of 7 bobcats caught on the park this year." Mr. Chambers assisted Mr. Troy Beach, Government trapper, sent here by the Department of Agriculture, in exterminating the predatory animals.

**GRAZING.**

The grazing privileges granted to the neighboring ranchers have been one of the park's main sources of revenue, and with the exception of a valueless class of horses belonging to the former superintendent, no range restrictions have been placed by the Government upon the grazing privileges of these people. The increased production of beef to help in keeping this community as having "done its bit" during the war. Owing to an exceptionally dry season this year our range is very short, and in all probability we will have to decrease the number of cattle allowed to graze on the park next season.

**CONCESSIONS.**

The park allowed the following concessions during the year just ended: The Ludek Shops and Famous Players Ltd., at the Trade Post; the C. W. Ellwood Company, August Ramsey, Paul Roden, E. V. Anberg, John Raver, Smith Brothers, D. L. Hayden, Joe Telander, J. L. McAdam, graz- ing, transportation concessions; Dave Ellwood, transportation concession; Famous Players Ltd., dancers, motion-picture concessions; A. A. Underhill, souvenir concession.

**REVENUES.**

Revenues of the park from all sources for the fiscal year ending June 30, 1919, aggregate $2,535.15.

**PLATT NATIONAL PARK.**

**THOMAS FERRIS, Superintendent, Sulphur, Oklahoma.**

**GENERAL STATEMENT.**

By acts of Congress of July 1, 1902 (32 Stat., 641) and April 21, 1904 (35 Stat., 229), 629.33 and 218.98 acres, respectively, at the town of Sulphur, Oklahoma, then Indian Territory, were segregated as the "Sulphur Springs Reservation," which designation, by joint resolution approved June 29, 1906, was changed to "Platt National Park."

The park, with a total area of 848.22 acres, extends in irregular form a distance of approximately 4,000 feet southwest from the point of intersection of a portion of Rock Creek, into Travertine creek, and it has a circuit of 9 miles.

**WEATHER CONDITIONS.**

In August of 1918, Mr. J. P. Slaughter, meteorologist, of Oklahoma City, in charge of the Oklahoma section, Weather Bureau, came to the park and installed near the park office a weather station, with the town of Sulphur and rain gauges at various points. It is a meteostation generally of this long noted, but the thermometer was not sheltered, and often the readings were far from correct. The Weather Bureau apparatus was installed on August 9, and the thermometers set that afternoon, and readings were begun on the following day.
From this table it will be noted that since the installation of the local bureau there has not been a single month during which we have had at least an inch of rain, and during the interval of less than a year a total rainfall of 23.35 inches. The present prevailing atmospheric conditions are leaking badly. Even the superintendent's residence needs some repairs which it will be impossible with the funds available.

BROMIDE BRIDGE AND APPROACHES.

Before the close of the year 1876, the Bromide Suspension Bridge spanned Rock Creek, so that persons crossing the bridge entered the spring house directly from the bridge; but after this had been washed away by the flood the department engineer, who selected a site for the new bridge, decided that the safest foundation was some distance up the stream from the spring house, where a turn in the road was adapted to the site, and to the engineer's opinion of the advisability of the new bridge and the condition of the approaches. This trail was constructed by former Superintendent A. R. Greene in the latter part of

BROMIDE PAVILION.

When the former superintendent built the new Bromide Pavilion, it appears there was not sufficient funds available for this purpose to enable him to finish all the finishing touches to this structure that he was inclined to make. The waters from the Bromide, Medicine, and Chloride-Sodium Springs are all distributed to the public from this pavilion, all of them being pumped from the springs into containers within the spring house. It was necessary, because of lack of funds when the pavilion was built, to install therein temporary facilities for dispensing these waters. During the year just ended, however, we replaced this temporary arrangement with a permanent cement stand 5 feet below the pavilion. Necessary, this change of location made requisite the building of some permanent developments and show conclusively that much careful thought and attention has been devoted to this work by the former superintendent that this improvement would probably be sufficient for its completion.

CLEFTSPY TRAIL.

This trail was constructed by former Superintendent A. R. Greene in the latter part of 1908 and consists of a footpath leading from the Pavilion Springs west across the park, and to the Bromide Cliff, descending by way of a cement staircase to the Bromide Spring. The trail crosses several ravines which have been spanned by small wooden bridges since its construction. Col. Sneed advises that it has been some years since any great amount of work on either the trail or the little bridges has been done, his intention to thoroughly repair both during the year just ended, but it appears there have not been sufficient funds available to do this and other work on the park which was more necessary, so the trail was merely cleared off and some of the worst bridges replaced with new ones. The new bridges were constructed of new lumber and painted. Further work should be done on this trail, and I am making recommendations along this line.

FENCING.

During the fiscal year past the superintendent purchased about 2,000 new oak posts for the purpose of repairing the park fences, some of which had not been repaired since it was built some 11 years ago. The old fence posts had rotted, and many of them were entirely gone. These were replaced, and the fencing was thoroughly repaired as far as it was possible with the funds available.

Col. Sneed advises that he has in mind for some years building an iron fence of 1 by 12-inch iron rail with 2-inch post set in cement around the East and West Central Parks and around the little park near the Bromide Spring. It was his desire to build ornamental conglomerate rock gateposts at the entrances to these parks. These were constructed of 1 by 12 lumber and thence along the Bromide Cliff, descending by way of a cement stairway to the Bromide Spring. The trail crosses several ravines which have been spanned by small wooden bridges since its construction. Col. Sneed advises that it has been some years since any great amount of work on either the trail or the little bridges has been done, his intention to thoroughly repair both during the year just ended, but it appears there have not been sufficient funds available to do this and other work on the park which was more necessary, so the trail was merely cleared off and some of the worst bridges replaced with new ones. The new bridges were constructed of new lumber and painted. Further work should be done on this trail, and I am making recommendations along this line.

BUILDINGS.

About the only repairs made to the park buildings during the past year was the painting of roofs on the superintendent's residence and office and the cottage occupied by the laborer at the Bromide Spring. It has been impossible for some years past to make extensive repairs since to these buildings because of the lack of funds with which to do the work. I find they are all in bad repair with exception of the ones newly constructed, and unless the department is again provided with the means to do this work the buildings become uninhabitable and the expense of repairing them will be probably more than they are worth. The superintendent thinks there is not enough money in the appropriation available for repairs to storm damages by the time the fiscal year closed, which made it necessary to provide a temporary plank walk along the north side of the pavilion and the end of the bridge. It appears to have been his intention when funds were available to make a permanent walk way at this location, building a rock retaining wall along the foot of the bluff to hold the walk up and prevent its being washed by the waters of the creek. Up to this date, since the construction of the bridge there has not been sufficient appropriation for the park of sufficient magnitude to justify him in undertaking this project; hence the temporary walk is still in use.

This walk should be built with the necessary rock retaining wall as its support, but it will be an expensive undertaking to build it and artfully done, and I have no reason to believe that all improvements made in the national parks. I include in my estimate for submission to Congress a recommendation for the sum necessary for the same purpose, which the former superintendent thinks would probably be sufficient for its completion.

FINANCIAL.

There were no financial statements made of the administration of the park during the year just ended, but it is believed that the department engineer has been able to finance the park in a satisfactory manner, and that the annual expenditure of the park for the year just ended was not in excess of the funds available.

REPORT OF DIRECTOR OF NATIONAL PARK SERVICE.

MONTHLY SUMMARY.

Below I give you a summary covering the weather conditions as they have existed here since the installation of the local bureau:

<table>
<thead>
<tr>
<th>Month</th>
<th>Mean temperature</th>
<th>Mean maximum</th>
<th>Mean minimum</th>
<th>Rain in inches</th>
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</thead>
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<tr>
<td>August</td>
<td>66.4</td>
<td>90.0</td>
<td>42.3</td>
<td>2.14</td>
</tr>
<tr>
<td>September</td>
<td>68.0</td>
<td>66.2</td>
<td>43.4</td>
<td>4.15</td>
</tr>
<tr>
<td>October</td>
<td>57.0</td>
<td>68.0</td>
<td>47.7</td>
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</tr>
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<td>63.0</td>
<td>42.0</td>
<td>2.55</td>
</tr>
<tr>
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<td>55.0</td>
<td>68.0</td>
<td>42.0</td>
<td>3.33</td>
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<td>22.0</td>
<td>52.0</td>
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<td>16.0</td>
<td>45.2</td>
<td>9.3</td>
<td>3.39</td>
</tr>
<tr>
<td>March</td>
<td>36.0</td>
<td>60.0</td>
<td>22.0</td>
<td>2.15</td>
</tr>
<tr>
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<td>52.0</td>
<td>74.0</td>
<td>32.0</td>
<td>4.49</td>
</tr>
<tr>
<td>May</td>
<td>58.0</td>
<td>80.0</td>
<td>32.0</td>
<td>3.15</td>
</tr>
<tr>
<td>June</td>
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<td>July</td>
<td>21.0</td>
<td>68.0</td>
<td>40.0</td>
<td>3.91</td>
</tr>
</tbody>
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on they will begin to deteriorate rapidly unless Congress makes an appropriation sufficient to permit of the proper repairs being made to them. I include in my estimate for this purpose which will probably be sufficient for the time covered by the next appropriation.

ANTELOPE AND BUFFALO SPRINGS.

I am advised by the former superintendent that these springs ceased to flow in January, 1913, for the third time within his knowledge during a period of 27 years. The first time was in 1885, when both springs ceased to flow altogether. The second time, in January, 1908, they ceased to flow at half their normal rate, and then again in January, 1913, at which time they resumed their flow at a very limited ratio of their normal capacity. They continued at this rate until the fall of the same year, when they ceased to flow again. From that time they were allowed to remain without water. A year later, however, they resumed their flow and have been flowing with reasonable regularity since the spring of 1913, at which time they resumed their flow at a very limited ratio of their normal capacity. They continued at this rate until the fall of the same year, when they ceased to flow again. From that time they were allowed to remain without water. A year later, however, they resumed their flow and have been flowing with reasonable regularity since the spring of 1913, at which time they resumed their flow at a very limited ratio of theirnormal capacity.

Col. Sneed says that old settlers who were here prior to his knowledge of the place claim that these springs had failed once before, about the year 1891, but nobody has ever given an opinion as to the cause for this which could be relied upon as being the real cause. The problem before us now is to find out the cause of these failures.

These springs have always formed the source of the beautiful Traversite Creek, which is the main water supply of the park, with a distance of about 500 feet from the proposed bathing house location. In this creek there is a range of 600 feet, surrounded by the inclosure to the springs proper, which should be built a square inclosure to prevent overflow of these streams by the creek. This inclosure is to be about 6 feet high at the creek edge and bedded back into the bank, the depth of the side walls gradually increasing from the top of the wall remaining level with the wall along the creek edge, the approximate measurement of this entire wall being 440 square feet.

In the spring of 1917 the city of Oklahoma, in this State, presented to the park three fawns out of a surplus which they had on hand, the deer being of the white-tailed variety. Since that time the herd has increased in number, and it is known that there are now seven of these deer. They are very friendly to visitors, will eat out of their hands, and are a source of amusement to visitors here.

I have taken up with Mr. Frank Rush, of the Wichita Forest Reserve in this State, the question of obtaining three buffalo from the Reserve, and he has expressed a willingness to supply me with one male, provided he can make it in time to have the transfer made to the park.

I also have in mind obtaining some elk from the Yellowstone National Park as an added attraction, and have already requested your department to arrange with the Superintendent of the Yellowstone to furnish me with a male and two females.

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On the Fourth of July last the citizens of Sulphur gave a big home-coming picnic in the park to the returned soldiers of the World War. This was widely advertised, and thousand of friends came here and spent two days of real pleasure in the park. The returned soldiers and sailors were everybody's guests for the days—the 4th and 5th.

ANIMALS, BIRDS, AND WILD FLOWERS.

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There is ample feed stuff raised on the park to take care of these animals, and I am anxious to add every feature possible for the pleasure and entertainment of visitors.

Of the squirrels which abound in this park as well as in most of the other national parks, they are the most friendly little animals that they eat out of the hands of even the most timid of the visitors, and are apparently as little afraid of the people as are the squirrels. They are unafraid of the squirrel, and will often be found trying to pick a quarrel with the squirrel over the possession of a line of nut. They are quicker in action than the unafraid, and often avail themselves of means for the squirrels, much to the amusement of the visitors.

The sweet-voiced mocking bird is found in this park the entire year, and during the breeding season (like the bobolink) and the mocking bird, and several varieties of the finch, including the painted bunting which is rare in this section of the country.

The little brown squirrels which abound in this park are such friendly little animals that they eat out of the hands of visitors, and like their nses rubbed, and are a source of pleasure and interest to the people who come here.
TRAVEL.

The number visiting the park during the season of 1919 will be a little larger than the number of 1918. A demonstration has been made this year that shows conclusively that corn can be raised on the mesa, without irrigation, by the methods used by the ancient inhabitants of this section. It takes its name from a five-story tower, the lowest part of which is preserved, and guarding this big valley is the Sleeping Ute—"The Sleeping Ute"—beautiful in its solitude, rising abruptly from the plain, with no foothills to dwarf its height.

Many people have doubted the assertion that the corn found in the ruins was raised on the mesa without irrigation. Many specimens of corn have been found in the ruins, and the question naturally arose as to where it came from. A demonstration has been made this year that shows conclusively that corn can be raised on the mesa, without irrigation. Two small areas have been planted and an enormous quantity of excellent quality demonstrates where the corn found in the ruins came from. A few potatoes were also planted as a test, and they are yielding good returns.

BURNS.

The beautiful drive into Mesa Verde Park from Mancos is one of the pleasantest drives to be found in the United States. The scenery is varied and unsurpassed. Leaving the Mancos-Cortez highway, the traveler turns his back on all the improvements of civilization, and steps as if once into an unknown wilderness where the road on which he is traveling is the only mark of man's handwork. This road winds through a sagebrush country dotted with cliffs of sandstone and juniper trees. After skirting the base of Point Lookout, the most northerly portion of the park, the road ascends to the mesa, and from the crest of the mesa, magnificent views of the country to the west and north, and the descent by the new road shows the Mancos Valley and guarding this big valley is the Sleeping Ute—"The Sleeping Ute"—beautiful in its solitude, rising abruptly from the plain, with no foothills to dwarf its height.

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REPORT OF DIRECTOR OF NATIONAL PARK SERVICE.
The restoration of Mummy Lake is something that should be undertaken soon. Cleaned out and made water-tight this little lake could be kept full of water most of the season.

Running through the center of the park in a northwesterly-southeasterly direction the Lewis Range of the Rocky Mountains cuts the park into two parts, referred to as the East Side and the West Side of the park. Each of these sides is in turn divided into many valleys, through which flow streams fed by the glaciers lying on the sides of the mountains, each valley having some peculiar attraction of its own. The most important of these valleys are the Two Medicine, Cut Bank, Red Eagle, St. Mary, Swiftcurrent, Kennedy Creek, and Belly River Valleys on the east side, the Little Kootenai Creek Valley on the north, and the McDonald, Logand, Quartz, Bowman, and Kinney Valleys on the west side of the park. Besides these, there are a number of small valleys on the north side of the park, although not comparing in interest to the named.

The elevations in the park range from 3,100 feet to over 10,400 feet. The mountains are covered with spruces and firs, as well as with the yellow pine of the western situation of the Lewis overtrust. The scientist will never tire of studying the geological formations of this interesting region.

The park is administered by a permanent ranger force of 14 rangers under a superintendent, chief ranger, and assistant chief ranger. Headquarters are maintained at Belton, Montana, and there are several ranger stations scattered through the park. The rangers in charge of these stations keep track of all complaints of tourists, while many others are accessible if one is willing to undergo the exertions of mountain climbing.

A road from the present road in the park at a point near the head of Navajo Canyon, along the northern edge of Mesa Verde to Wetherill, March 1917, and to do so have to return to the Mancos-Cortes highway, thence to Cortes, and on to Shiprock, while the proposed road would be direct. For visitors from the west it would be the same benefit.

Many varieties of wild flowers are found in the park, and in the early summer outside the timbered portions the park is a blaze of color. During the present season, on account of an unusually full rain, the northern portion of the park and the canyon floors have been a beautiful sight. One could see for miles a carpet of the richest colors, not in patches or clumps, but one great spread of color.

The entrance fee for automobiles entering on both sides of the park was changed from the rate in effect during previous years, to be effective as follows: Automobiles or motor cycles, east side road system, $2.50 and $1, respectively; automobiles, west side road system, 75 cents; motorcycles, east side road system, 25 cents; motorcycles, west side road system, $1.

The most striking increase in travel figures, however, is that showing the entrants by private automobile. The roads were generally in good condition throughout this part of the country, this fact helping to bring out tourists to the park in larger numbers than in previous years. In fact, exceptionally light snowfall gives the road an excellent condition for early travel, and even though hot weather developed later on in the summer, making some of them very dusty, this fact did not lessen automobile travel.

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Many persons prominent both in public and scientific life visited Glacier National Park during the past season besides many special parties. Mr. Leroy Jeffers, librarian of the American Alpine Club and secretary of the Associated Mountaineering Clubs of North America, visited the park during August, accompanied by Mrs. Jeffers. Mr. Theo. Noyes, editor of the Evening Star, Washington, D. C., was a park visitor during August, as was Prof. Walter A. Stanford, of the University of California.

On July 9 a party of the Massachusetts Forestry Association, consisting of about 150 members, for the guidance of Mr. Clinton L. Babcock, visited the park, entering at Glacier Park and Many Glacier and leaving by way of Lake McDonald.

A party of the Brooklyn Eagle party paid a visit to Glacier Park in the course of its tour through the Western States.

The proposed road from the foot of Lake McDonald to Lewis’s Hotel is already a necessity, and it is hoped that this road and trail improvements will be under way during the year. The proper road from the foot of Lake McDonald to Lewis’s Hotel is already a necessity, and it is hoped that this road and trail improvements will be under way during the year.

Increased interest is being shown by motorists in the road under construction on the south side of the park from Glacier Park to St. Mary. The bridge across the middle fork of the Flathead River was also strengthened and repaired.

Two Medicine entrance—140
Belton entrance 770
St. Mary entrance 140
Two Medicine entrance 140
Many Glacier entrance 165

Accommodations.

The proposed road from the foot of Lake McDonald to Lewis’s Hotel is already a necessity, and it is hoped that this project will be put through at once. The North Fork Road should also be improved so that cars can visit the numerous lakes and valleys in the North Fork country.
**TRAILS.**

All trails were open for the tourist season and all the well-traveled trails were in excellent condition. The Swiftcurrent Trail was cleared of all loose rocks and slides, and the retaining walls were rebuilt. Slides and rocks were removed from Logan Pass Trail. All the roads leading from the East Glacier Park Station were improved, the entrance road was completed around McDermott and Josephine Lakes and foot bridges constructed at the stream crossings.

A trail is in the course of construction from Many Glacier east along Appenanny Mountain to the headwaters of the Two Medicine Creek, also on the North Fork of the Two Medicine Creek. The construction is being carried on by the Two Medicine Lodge Trail, managed by the Biological Survey. The trail is being opened up for the tourist season and will prove to be an important factor in making this park noted for its excellent fishing. We have been fortunate in having a very competent man in charge of the hatchery at the Two Medicine Station.

Foot trails are also being extended to the top of the Three and Four Mountains. These will afford excellent views of the surrounding peaks and give the tourists who do not desire long trips a chance to see the surrounding country.

**BUILDINGS.**

Owing to the loss of the Two Medicine and Kishenehn ranger cabins it will be necessary to reconstruct them this fall. Good fishing has been reported on both sides of the park.

A small building for the storage of oil, paints, and grease was erected at headquarters, and an additional equipment shelter will probably be built at headquarters during the coming fall.

**FISH.**

The fish hatchery at Glacier Park Station was put in operation during the fore part of June, and during the course of the season 921,000 young trout and 225,000 Montaran grayling (Thymallus tricolor montanus) were planted in various waters on both the east and west sides of the park. Of trout planted, 350,000 were eastern brook trout (Salvelinus fontinalis) and 275,000 were yellow-bellied grayling (Thymallus telenius). Of the grayling, 125,000 were in the East Glacier area, 25,000 in the Two Medicine Basin, and 100,000 in the Glacier Park area. A large number of trout have been planted in the area south of the park.

The operation of this hatchery has proved very successful during the past two seasons, and will prove to be an important factor in making this park noted for its excellent fishing. Appenanny Mountain, the site of the hatchery, was one of the first to be occupied by the Biological Survey.

**FOREST FIRES.**

The fighting of forest fires has taken up the greater portion of the energies of the park service in the past season. The fire of 1918 was the greatest that has ever been experienced in this region. The exceptionary dry climatic conditions resulted in the largest fires that have ever occurred in this park, of which Glacier National Park received its share.

We have been greatly handicapped in fighting fires by the scarcity of labor, and had it not been for the assistance of the Biological Survey by the hunters.

The following fires have occurred during the past summer:

- **Two Medicine fire.** This fire started July 21 in section 21, township 32 north, range 20 west. A fire crew was out put the fire was put out. A total of approximately 26,000 acres in townships 34 and 35 north, ranges 19 and 20 west, have been burned over. For this fire 36 men were under the charge of Mr. T. G. Langhout, and a very sturdy and healthful lot of troops was provided.

- **Lower Two Medicine Lake fire.** This fire was put under control by July 12. Approximately 30 acres were burned over, although little damage was done from a commercial standpoint.

- **Skyland fire.** This fire started about a quarter of a mile east of Skyland on the southern boundary of the park, probably caused by sparks being blown onto the park from the railroad. A total of approximately 26,000 acres in townships 34 and 35 north, ranges 19 and 20 west, have been burned over. For this fire 36 men were under the charge of Mr. T. G. Langhout, and a very sturdy and healthful lot of troops was provided.

- **Trot Lake fire.** This fire was started about a quarter of a mile east of Trot Lake on the southern boundary of the park, probably caused by sparks being blown onto the park from the railroad. A total of approximately 26,000 acres in townships 34 and 35 north, ranges 19 and 20 west, have been burned over. For this fire 36 men were under the charge of Mr. T. G. Langhout, and a very sturdy and healthful lot of troops was provided.

- **Walton Creek fire.** This fire started about a quarter of a mile east of Walton Creek on the southern boundary of the park, probably caused by sparks being blown onto the park from the railroad. A total of approximately 26,000 acres in townships 34 and 35 north, ranges 19 and 20 west, have been burned over. For this fire 36 men were under the charge of Mr. T. G. Langhout, and a very sturdy and healthful lot of troops was provided.

- **Pony Creek fire.** This fire started about a quarter of a mile east of Pony Creek on the southern boundary of the park, probably caused by sparks being blown onto the park from the railroad. A total of approximately 26,000 acres in townships 34 and 35 north, ranges 19 and 20 west, have been burned over. For this fire 36 men were under the charge of Mr. T. G. Langhout, and a very sturdy and healthful lot of troops was provided.
the fire in the hope of bringing it under control before the beautiful scenery in the vicinity of Two Medicine Lake and Trick Falls was destroyed.

Although the fire was brought under control and was considered extinguishe., sufficient to be safe, as far as the park was concerned, the crews returned to their regular work, with the expectation of patrol crews. However, on August 19, the fire broke out in section 9, the exact cause of which is unknown. This fire immediately burned over the top fire and fanned by high wind swept the south slope of lower Two Medicine.

A total area burned over the Two Medicine fire was approximately 9,000 acres, of which only a small portion was in the park. There are at present signs of this burned area that have not been touched by the fire, thus reducing the net amount of land burned in the park.

Red Eagle fire.—On August 6 a smoke was reported in the Kennedy Creek district, probably started by campers on the reservation. By August 23 there were signs of active burning, and it was not until August 26 that sufficient assistant could be obtained from the Indian Service to control the fire. Approximately 500 acres were burned in the park and about 1,800 on the Indian reservation. The land in the park which was destroyed was mostly by lodge-pole, undergrowth, and small trees, and was burned over the Red Eagle fire. This fire was found burning at 6:30 p.m. on August 26 on the Red Elk River. Approximately 20 acres were burned over the park and about 30 on the Reservation.

Kennedy Creek fire.—On July 29 a fire broke out on the South Fork of Kennedy Creek, in section 10, township 36 north, range 21 west, on the Blackfoot Indian Reservation, resulting from embers of a fire left by campers. The fire burned mostly in grass and scrubby timber and was put out by a small crew sent from Many Glacier before it could enter the park.

A fire in the section 10 second break out in the Kennedy Creek district, probably started from fires left by campers on the reservation. A large fire started on the reservation was not until August 26 that sufficient assistant could be obtained from the Indian Service to control the fire. Approximately 500 acres were burned in the park and about 1,800 on the Indian reservation. The land in the park which was destroyed was mostly by lodge-pole, undergrowth, and small trees, and was burned over the Red Eagle fire. This fire was found burning at 6:30 p.m. on August 26 on the Red Elk River. Approximately 20 acres were burned over the park and about 30 on the Reservation.

Among the most important needs of the road system within the park is the improvement and construction work within the parks. The present Cut Bank Road should also be continued to a point about 5 miles from the eastern end of the park, and it was not until August 26 that sufficient assistant could be obtained from the Indian Service to control the fire. Approximately 500 acres were burned in the park and about 1,800 on the Indian reservation. The land in the park which was destroyed was mostly by lodge-pole, undergrowth, and small trees, and was burned over the Red Eagle fire. This fire was found burning at 6:30 p.m. on August 26 on the Red Elk River. Approximately 20 acres were burned over the park and about 30 on the Reservation.

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In my estimation, one of the greatest needs of this park is a central information and reporting bureau located at the entrance at Glacier Park and operated by the Service to bring all the various reports from the firefighters, and to make the necessary reports to the people. This would not only save the money but would also make the people more intelligently carry on the improvement and construction work within the parks.
Travel not classified by States.

Visiters from the following foreign countries were registered in the park this season:

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<th>Country</th>
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MAP OF ROCKY MOUNTAIN NATIONAL PARK

Note: Numbers on the map indicate the locations of the resorts and hotels bearing corresponding numbers, listed on pages 16-17-18
Highdrive Road, 2 miles—Bowlders removed; chuck holes and ruts filled; partly resurfaced.

Glacier Basin Road, 2 miles—New turnouts built and enlarged; old turnouts resurfaced and graded; raked; chuck holes and ruts filled; ditched.

Fall River Road (park boundary to Horseshoe Park), 3 miles—Bowlders removed; resurfaced and raked; chuck holes and ruts filled; ditched.

Hallett's Glacier, 61 Fall River Road, Lawn Lake, and Hallett's.

Steep Mountain, 2 Pool and Mill Creek Ranger Station.

Bear Lake No. 1, 1 Glacier Basin Road and Bear Lake.

Wind River, 2 Wind River Road and Highdrive Road.

Longs Peak, 2 Longs Peak Inn and summit Long's Peak.

Loch Vale, 2 Bear Lake Trail and Loch Vale.

Lakes Nanita and Nakoni Trail, 15 Longs Peak and Nash's Falls.

Total, 77.

TRAILS.

Due to extreme dryness and light snowfall last winter, our trails were not damaged to the usual extent. Because of the difficult condition of the roads and bridges, it was impossible to concentrate all work on them; consequently, much work has been done except necessary clearing out of fallen timber and corduroying the most dangerous bog holes when possible. This work was done by park rangers.

Name of trail Miles Points connected.
Flattop
Hallett's Glacier
Ypsilon
Storm Peak
Wind River, Bear Lake No. 2
Loch Vale
Fern Lake
Steep Mountain
Odessa Lake
Devil's Gulch
Bierstadt Lake
Millers Pass
Longs Peak
Lakes Nanita and Nakoni Trail

Total 77.

CONCESSIONS.

Transportation.—On May 13 a concession was granted to the Rocky Mountain Parks Transportation Co. for transportation within the Rocky Mountain National Park. This company has operated here for a number of years and has given excellent service. They have demonstrated the value of our concession policy and their services to the traveling public. The system by which they operate is in every way a perfect one. The problem, though handicapped by floods, which did great damage to the roads and bridges, was solved with much less cost and passengers were very much benefited. They have two sets of schedules from railroad terminals to and from the park, running their cars night and day when occasion demanded, serving the people, and seeing that the traffic was regulated by the weather, or no annoyance or inconvenience to the travelers. I know of no case where a traveler has been refused a passage by this company, either on regular trips through the national park or from railroad terminals to or from the park, except during the time that bridges or on extremely wet days when it was thought unsafe for travel. The efficiency of this company is evident from the popularity. In previous years one or two hundred people per week over the Fall River or Highdrive Roads in rent cars was considered a good week at the price of $10 per seven-passenger car, while under the concession plan one or more persons make the trip with additional mileage at $4 per passenger and two trips daily. One thousand nine hundred and ninety-six passengers were carried on this trip between June 15 and August 31. As high as 150 persons have made this trip in one day in Transportation Co. machines.

Deer Mountain, 2 Fall River Road and Deer Mountain.

Odessa Lake, 2 Fern Lake and Odessa Lake.

Fern Lake, 5 Moraine Park Road and Fern Lake.

Fern Lake, 5 Moraine Park Road and Fern Lake.

Longs Peak Inn, 2 Fall River Road and Highdrive Road.

Fern Lake, 5 Moraine Park Road and Fern Lake.

Longs Peak Inn, 2 Fall River Road and Highdrive Road.

Horseshoe Park, 2 Horseshoe Park and Falls.

Estes Park Trail, 2 Fish Hatchery, Estes Park.

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### Touring car rates—Continued.

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<td>$3.25 $14.00</td>
</tr>
<tr>
<td>28</td>
<td>3, 4</td>
<td>50</td>
<td>$4.50 $19.00</td>
</tr>
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<td>29</td>
<td>9, 10</td>
<td>50</td>
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<td>30</td>
<td>5, 7, 8, 9, 10</td>
<td>50</td>
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</tr>
<tr>
<td>31</td>
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<tr>
<td>32</td>
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<tr>
<td>33</td>
<td>4, 5, 6, 9, 10</td>
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<td>35</td>
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<td>6, 8, 9</td>
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<tr>
<td>39</td>
<td>4, 5, 6, 9, 10</td>
<td>50</td>
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</tr>
</tbody>
</table>

For this service the Transportation Co., under contract, own and operate the following: Twenty-four 10-passenger cars, eight 7-passenger cars, five 2-ton trucks, two 5-ton trucks.

Orders for additional equipment have been placed by this company, but it has not been possible to secure deliveries to date. Anticipating increased travel to this park next season, orders for additional equipment will be placed.

### Hotels, lodges, camps—Permits have been issued as follows:

<table>
<thead>
<tr>
<th>Name</th>
<th>Proprietor</th>
<th>Capacity</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sprague's Hotel</td>
<td>A. E. Sprague</td>
<td>50</td>
<td>Glacier Basin</td>
</tr>
<tr>
<td>Lodge</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fern Lodge</td>
<td>F. W. Ferry</td>
<td>50</td>
<td>Lawn Lake</td>
</tr>
<tr>
<td>Timberline</td>
<td>E. A. Mills</td>
<td>10</td>
<td>Long's Peak</td>
</tr>
<tr>
<td>Lawn Lake</td>
<td>Bradley &amp; Patrick</td>
<td>15</td>
<td></td>
</tr>
</tbody>
</table>

### Construction of buildings.

- **Superintendent's Barn.**—Size 14 by 20 feet; 5 stalls, with hay loft, grain and saddle room; height of ceiling 16 feet; frame construction; to be used for winter housing of saddle horses used on official business by the superintendent.

- **New tool cache.**—Three fire-proof caches, log construction, size 6 by 6 by 6 feet front. 4 feet rear, containing fire-fighting equipment for 10 men, have been installed. The new equipment is installed in place and are large enough to afford shelter in case of emergency, thus serving a double purpose.

### Fishing and hunting.

- **Miller Creek ranger station.**—Log cabin, size 12 by 14 feet, was added to Miller Creek ranger station and the cesspool rebuilt.

- **Repairs of buildings.**

<table>
<thead>
<tr>
<th>Name</th>
<th>Construction</th>
<th>Nature of work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mill Creek ranger station</td>
<td>Log</td>
<td>New ceiling and floor; 3 windows and 3 doors installed; balance of chimneys done; fireplace constructed; all ranger lines completed.</td>
</tr>
<tr>
<td>Pole Creek ranger station</td>
<td>Log</td>
<td>Porch and stairway added; general spring repairs; all ranger lines completed.</td>
</tr>
</tbody>
</table>

### Telephone lines.

- **General statement.**—All telephone lines have given excellent service this season, practically the only work necessary after spring repairs being the replacing of lightning fuses. The Fall River line, 2 miles, new connecting Fall River shelter cabins and the road camp; Pole Creek line, location changed from connection with Mountain States Telephone Company's line, over Hot Sulphur Springs road, to connect with Platoff line, giving connection with the superintendent's office, over all Government line, total distance reconstructed, 35 miles, using new material on 11 miles.
The red fungus coloration referred to above is discussed in my report of February 15, which I now resubmit.

The general assembly of the State of Colorado recently passed an act (S. B. No. 66) creating and establishing the Colorado State Game Refuge, which embraces a section of the Colorado National Forest adjoining that part of the Rocky Mountain National Park within the North Park Division, thus affording a suitable refuge for the elk (Cervus elaphus) of that section. It is hoped that this sanctuary will afford a suitable refuge for the elk of the North Park Division during the winter months and that it may be extended to embrace the entire North Park Division at some future time. The elk are native to this section, but were exterminated by hunters years ago. A herd shipped in from the Yellowstone National Park has been resigned to the care of the Superintendent, and it is hoped that this herd will be increased in numbers in the near future.

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Mountain sheep show a remarkable increase this year. It is disappointing that but few herds have been seen along the roads in low altitudes this season, due, I believe, to extreme dryness and the unusual number of fides. Mountain sheep have been seen in large bands by every party that has gone to the crater on Specimen Mountain this season, one party, to outline 225 sheep, while others have reported great numbers of sheep on the mountain heights. It is estimated that there are about 50 elk in the park.

The ranger force is entirely inadequate. It is impossible for three rangers to satisfactorily patrol the 400 square miles of territory embraced in this park, as they do, some of the wildest, roughest country in the United States. They cannot even cover a large area of the park from the prevention of fires resulting in loss of life. To add to this the hundreds of campers in the wild sections of the park, many of them careless in the use of firearms, and the lack of means of communication, there should be at least seven permanent rangers throughout the year and five temporary rangers during the summer months. It is hoped that the next year's appropriation will be increased to meet this situation.

Fishing conditions during the State open season were very good and afforded excellent sport to anglers. Through cooperation with the Colorado State hatcheries, located within the park boundaries, the following streams and lakes have been stocked during the past year:

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REPORT OF DIRECTOR OF NATIONAL PARK SERVICE.

from which he recovered. The slope is at least 60 degrees, and Mr. Thomson stated that he did not come to rest 60 feet before he lost consciousness.

On August 22, 1918, Rev. E. F. Kimmelshuie, of Monmouth, 111., was driving up the Fall River Road. In the party were Mrs. Kimmelshuie and two sons, aged 11 and 17, and Mrs. C. W. Woods, also of Monmouth. At a point approximately one-half mile above the entrance to the park, the automobile was driven over the side of the road, and landed bottom side up on the road below, about half way on the switchback, Mr. Kimmelshuie being the driver of the party to escape from the peril of blindness of formation, in a territorial sense and needs for completion the awakened interest of its visitors in its ideals and plans. This gives it a distinctly missionary place and work to do.

WILD LIFE.

The ranger service as organized has proved most efficient. Hunting over the park lands has largely stopped; the rabbit ground, if not entirely stopped, the game bird of the region, whose numbers have been decreasing to an alarming extent for a whole generation past, has largely increased in number during the past season in the protected area; hundreds of ducks, migrating southward, may now be seen on its secluded lakes; and tracks of deer are frequent in its wilder portions. The greatest difficulty that has been encountered in these latter connections is that of breeding generally in couples, pursue all game from deer to hares and foxes through the woods with the greatest of ease.

Among the interesting incidents of the park's wild life history during the past year was the birth of the baby eagle at the nest placed high in the top of a dead rock maple, some 80 feet above the ground. The parent eagles commenced nest building almost immediately after the President signed the bill creating the park and were watched by one of the rangers, Mr. John Bich, as they circled above the chosen spot. From that time on he kept the nest under observation, and the eagles, both young and old, became accustomed to human presence, and later, when the young birds grew to size, some remarkable photographs were secured by the aid of an enlarged binocular. The nest has been kept up into the children's neighborhood. As this bird is not only one of the most splendid of our American birds, but is the national emblem, an enlargement of one of those pictures was forwarded by the superintendent to the President at Washington.

Two young beavers have been recently presented to the park, and others are to follow. Originally they abounded on the island, and old dams of their construction still remain. Admireable opportunity exists for restoring their communities under the park's protection, it will be interesting to bring them back and reestablish them in their native haunts.

REPORT OF DIRECTOR OF NATIONAL PARK SERVICE.

LAFAYETTE NATIONAL PARK.

GEORGE B. DORR, Superintendent, Bar Harbor, Me.

GENERAL STATEMENT.

The principal fact which stands out above all others in the history of the Lafayette National Park during the year just ended is the fact that it is its birth, the fact that the Lafayette National Park, the first national park to the east of the Mississippi River and marks an important new departure in park policy by the Secretary of the Interior and the Director of the National Park Service. The bill was passed unanimously by both House and Senate, and the action of the administrations in this new departure has been warmly approved upon every side. This is not only the first national park in the eastern States, but the first in the country actually bordering upon the sea, and adding its refreshment and beauty to the great ocean road which runs along the coast.

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Such areas in long occupied and settled States need different policy and treatment from the extensive western tracts of mountains, plains, and forest. Hence the work of the National Park Service in the Lafayette National Park is creative in an important sense, dealing with a condition involving the solution of new problems. It is concerned with the intensive development of a relatively limited but singularly interesting area in a peopled region where human associations replace in a measure the appeal of far-extending wilderness and wild life.

The legislation that made this possible is that which may endure forever enters in uniquely—that of contact with the ocean and the sight from mountain heights of its great plain of waters stretching boundlessly away till hidden by the curvature of the earth.

A great human association has been established with that ocean since the creation of this park began. The youth and manhood of the Nation have streamed across it in a great creative wave, never before achieved, their end as yet unknown, the results of which will be in the very nature of the Occident.

The wave of generative feeling that flooded the whole country during this period is now beginning to die, and the knowledge of the park is of the kind that is probably appropriate by the early ownership by France of the Acadian region within whose bounds it lies and by its broad outlook on that dangerous highway which brought our aid to France, as it once had brought her aid to us.

EXTENSION OF THE PARK.

The Lafayette National Park is still in process of creation in regard to lands. Formed by gift to the National Government, its bounds are growing steadily through further gift. The palest tint of this vast system of public lands, more than 500 square miles in extent, will be searched out and cleared before the Government, with its high standard of requirements, extends its gift. To this end the principal work of the first year of the park administration.

Each tract of land whose ownership is offered to the park or sought for it means a separate and separate study in the county records.

OLD DEEDS AND TITLES.

All deeds and titles on the island go back ultimately to three sources: First, a gift of its western half by the Commonwealth of Massachusetts, made shortly after the foundation of the country, to John Bernard, son of the last colonial governor of Massachusetts, to whom a tract of land by the name of Monmouth Island had been granted by the town before the declaration of the Independence of the United States, and afterwards of France; and, third, to early settlers' rights granted by the General Court of Massa­chusetts when Massachusetts was a British colony, and each is granted by a separate grant which is in the name of the park.

The development of the natural-history interests of the park has been proceeding rap­idly this year. The Secretary of the Interior has directed the establishment of a nature studi­um at the southern border of the park, and by its broad outlook on that dangerous highway which brought our aid to France, as it once had brought her aid to us.

Established by Office of Ranger Service.

The next important fact connected with the Lafayette National Park during the past year has been the establishment of its office and administration, the appointment of an associate-director of operations, and of a clerk-sergeant, and the collection of fees not readily acquired with local conditions in a long-settled region. All this has been most admirably done since the beginning of last winter by Mrs. Richard C. Dole, of whose work in a difficult and new position the superintendent can not speak too highly, while her previous experience in the Department of the Interior at Wash­ington has been of the utmost value to him in the systematic organization of the national-park office and the introduction of National Park Service methods into its work.

Organic laws applying to the Lafayette National Park are quite different from those obtainable in other national parks. They were in the nature of an experiment in management, and are the result of a long-settled region, all being shown to be satisfactory and friendly reception of visitors to the office in a great resort, and the giving of a familiarity not readily acquired with local conditions in a long-settled region. All
The broken boundary lines indicate the approximate limits of additional lands to be deeded to the United States as a part of the Lafayette National Park.
BUILDINGS.
A building was erected (approximately 18 by 20 feet in size) at a suitable point near the northern foot of Champlain Mountain for the storage of explosive to be used on road and trail construction.

PURCHASE OF AUTOMOBILE.
Under authority given by its last year's appropriation, an automobile for the park service has been purchased, and has proved to be of the greatest value in its work and has rendered constant service without mishap.

PEACE TREE PLANTING.
In the early summer an interesting ceremony took place at the Sieur de Monts Spring entrance to the Plying Squadron Mountain, beneath the boulder cairn selected for the site of the memorial—planting of two "peace trees," the one a pine representing the East, the other a cypress, the West. Portions of the adjoining forest, portions of the island, and portions of the mainland were represented in this way. These trees were presented by Dr. Charles W. Eliot, president emeritus of Harvard, and the superintendent of the park laid the spadefuls of earth to plant them, and children followed them to represent the future.

GIFT OF A LETTER FROM GENERAL LAFAYETTE.
The most recent among an interesting series of gifts made to the park this summer (the others being chiefly lands) is an autograph letter written by General Lafayette on the occasion of his return to this country in 1825. This letter, purchased for the park, will be framed and placed on view where all may see it in the national-park office.

REPORT OF DIRECTOR OF NATIONAL PARK SERVICE.

FRANK PINKLEY, Custodian, Blackwater, Ariz.

CASA GRANDE NATIONAL MONUMENT.

The Casa Grande Ruin Reservation consists of 480 acres of land lying in the south central part of the State, at an altitude of 1,422 feet, and is a typical spot of desert scenery, being level ground on the floor of the Gila Valley, covered with a growth of mesquite, creosote bush, and salt bush.

The name "Casa Grande" or "Great House" was first applied to the large central building by Father Kino, who was, so far as can be ascertained, the first to see it. On his next trip north, in 1697, he was accompanied by Lieut. Juan Mateo Mange, who kept a diary of the trip, in which we obtain the first written description of the ruins.

One is led to believe that it was an old building when it was abandoned, for while four centuries of erosion has scarcely altered its appearance, the village, for the evidence points to the conclusion that the Casa Grande is only the last of an indefinite number of settlements which have been built in the vicinity. These puebloans were not all contemporaneous, but some appear to have been abandoned and forgotten long before others were built.

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At this time the Casa Grande stood a burned-out, dismantled group of walls, and so far as the local Pima legends gathered from the old occupants the building was a great house. The Pima call the house "Casa Grande," but the Spanish name has been changed to "La Granja." The name "Casa Grande," or "Great House," was first applied to the large central building by Father Kino, who was, so far as can be ascertained, the first to see it. On his next trip north, in 1697, he was accompanied by Lieut. Juan Mateo Mange, who kept a diary of the trip, in which we obtain the first written description of the ruins.

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along the bank of the river, where the water could be led out by the smallest and shortest ditches.

The average visitor, when he walks around and examines the 105 rooms which we now have open in the Casa Grande group and thinks he does not wish to spend time or money on this sort of work, is inclined to think that what was once a solid wall and a mud plaster. The house was a simple brush structure covered inside and out with a mud plaster. The land next the river being pretty well taken up as their population increased and the water was led out by the smallest and shortest ditches. Then they would take out a new canal and lead it up on higher ground, thus covering the new aerial water. This was the way they went about it. Possibly a third time the village at the Casa Grande Ruins was founded. We must remember in this reclamation of what I have called the ancient inhabitants did not have, as the present inhabitants have had, the eastern flatlands for a source of water as fast as it was needed. They made ponds which would wait until their natural increase of population demanded more ground, and so the gradual filling in of the various high-level terraces took place much longer in their day than it has been with us. The labor involved, too, in taking out a new ditch was a matter of no consequence to them. Think of the labor of the labor of the labor of the labor of troubling the dirt, putting it in baskets, and carrying it away to construct a canal 5 or 6 miles long, which was only 4 or 5 or 3 or 4 feet deep.

These large canals must have evolved, naturally, from the small, single-family ditches. Too many for the visitor to join hands and build one large ditch, trying to build and maintain many small ditches.

The ditch experience would lead to a similar evolution in house building. The tendency to have a single-family ditches in this low country was not to add to the height of the house by plastering on more mud, but to build the mud plaster to the height of the ditches. This was a cheaper, more stable way of building. It would take a heavier burden. The house would then be a single-family ditches and not a single-family house. The number of self-reinforcing poles would have to be increased, and the amount of mud plaster would have to be increased. The mud plaster would have to be increased and the amount of mud plaster would have to be increased. The mud plaster would have to be increased and the amount of mud plaster would have to be increased. The mud plaster would have to be increased and the amount of mud plaster would have to be increased.

After developing the reinforced type of wall to a thickness of about 10 inches, it must have occurred to someone that a wall could be built that was cheaper and easier to obtain. The wall would be a reinforced wall and not a reinforced wall. The wall would be a reinforced wall and not a reinforced wall. The wall would be a reinforced wall and not a reinforced wall. The wall would be a reinforced wall and not a reinforced wall. The wall would be a reinforced wall and not a reinforced wall.

We may suppose that at this time the people were living each family in a separate house. The house was a simple brush structure covered inside and out with a mud plaster. The land next the river being pretty well taken up as their population increased and the water was led out by the smallest and shortest ditches. Then they would take out a new canal and lead it up on higher ground, thus covering the new aerial water. This was the way they went about it. Possibly a third time the village at the Casa Grande Ruins was founded. We must remember in this reclamation of what I have called the ancient inhabitants did not have, as the present inhabitants have had, the eastern flatlands for a source of water as fast as it was needed. They made ponds which would wait until their natural increase of population demanded more ground, and so the gradual filling in of the various high-level terraces took place much longer in their day than it has been with us. The labor involved, too, in taking out a new ditch was a matter of no consequence to them. Think of the labor of the labor of the labor of troubling the dirt, putting it in baskets, and carrying it away to construct a canal 5 or 6 miles long, which was only 4 or 5 or 3 or 4 feet deep.

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Tourist travel has been greatly hampered this year by the unusually heavy rains all through this State. The roads, which are never what they should be, owing to the volcanic formations and the mineral springs that pour out waters of all sorts, have been almost completely wiped out in places. Bridges were carried away, and for days tourists were stranded on account of mud or missing bridges.

El Morro was visited by as many people as last year on that account, but nevertheless a good many parties braved the roads and took their chances on hardships in a frontier way. No one has ever visited El Morro and returned with a story of a midnight back to bring friends.

During the past year F. W. Hodge, formerly director of the Institute of Ethnology, in Washington, and now conducting excavations at Hawikau, near Zuni, N. Mex., for the Museum of Northern Arizona, the American Indian, visited the monument with the object of determining whether El Morro is one of the authorities on the monument, having made plaster imprints of the principal inscriptions many years ago. While at the monument he made the point that the sandstone, from which the most valuable historical pages in America. Were the monument in Massachusetts, he said, it would be "protected with a gold fence with diamond tips, and there would be thousands of people to see it every day."

The camp house built for the convenience of visitors was used by a number of parties during the season. In the near future another attempt will be made to put the water from the spring on the south side of the rock in a more accessible form for the use of the public.

Owing to the heavy rains and the fence built around the 240 acres embracing the monument, the wild flowers and wild grass has made the entire pasture a rara avis of rampant green growth. The custodian has poisoned the prairie dogs which have been destroying the grass.

Roads have now been repaired, and the monument may be reached either by the road from Grant, N. Mex., or Gallup, N. Mex.

PETRIFIED FOREST NATIONAL MONUMENT.

WILLIAM NELSON, Custodian, Adamana, Ariz.

The Petrified Forest, set aside as a national monument in 1906 and reduced to its present size in 1918, is located in Apache and Navajo counties of Arizona, and contains about 25,000 acres of ground more or less covered or studded with fossilized wood, some of which are so well preserved that the trunks of the trees have been cut and sawed into pieces. These trees belong to a now-extinct species of cone-bearing trees. The area was located by the Bureau of American Ethnology, and the monument, having made plaster imprints of the principal inscriptions many years ago.

The subsequent upheavals and erosion have brought about the exposure of these logs, which now to a great extent are the remains of cones that have been carried away by the streams. The petrified logs extend along the south side of the monument, and are in a sandstone that has been eroded down to a level with the surface of the ground. The subsequent upheavals and erosion have brought about the exposure of these logs, which now to a great extent are the remains of cones that have been carried away by the streams. The petrified logs extend along the south side of the monument, and are in a sandstone that has been eroded down to a level with the surface of the ground.

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During the past season approximately 42,200 visitors entered the Muir Woods National Monument; 15,000 came by train, 1,600 by private automobile, and 25,000 made the visit on foot.
Father Liberos made an entry in the burial record of the mission to the effect that on December 13, 1822, he had removed the bodies of Father Carrillo and Father Gutierrez from the old church to the new and buried them on the opposite side of the altar. From this evidence it is reasonable to assume that the present church was under construction at the time of the death of Father Gutierrez in 1820 and was not yet in use, but by the latter part of 1822 services were being held in it and the old church being abandoned; the bodies were removed to the new church. The evidence as it stands, we cannot regard as proof that the mission walls at Tumacacori were built earlier than 1834.

Tumacacori Mission must have been abandoned soon after 1824. Prof. Thomas Davies, superintendent of the Aztec Syndicate Minors, wrote that when he first passed down the Santa Cruz Valley in 1846 the church roof was nearly in ruins and the interior floor was in a good state of preservation. There were many fruit trees, pomegranates, peaches, etc., bearing profusely, and the walls that once inclosed the orchard and garden could still be traced by the eye.

In the last report, dated 1860, made to the mining organization of which he was general agent, Prof. W. Wrightson describes the Tumacacori Mission, and says:

"The church is an adobe building plastered with cement and copped with burnt brick. The front is of the Moorish style, and has on the southeast and southwest sides, the main entrances of which was burnt. The roof of the church was flat and was covered with cement and tiles. The timbers have now fallen and decayed. There was a dome, which is still in good preservation. Adjacent to the church, in the form of a hollow square, were the residences of the priests, containing several beautifully carved confessionals, with every evidence of comfort and refinement, while surrounding these in the interior was an arched colonnade forming a shady walk around the whole enclosure. To the east of this square of square-shaped residences was a small plaza, where all the religious services were performed. The operations were carried on. Here are still the remains of furnaces and quantities of slag. Of the purposes for which this was made, it is impossible to tell; but it is the evidence that the site was not abandoned. To the east was the garden, inclosing about 5 acres and surrounded by a cahone wall. The arcades passed through this area and here are the remains of a bathing place and wash-house. There are also fruit trees and vines still growing; while in the rear of the church is the cemetery, inclosing 2 acres, and bounded by a strong adobe wall surrounded by a high ground, and forming even now the best inclosure in Arizona. To the south of the mission the front and church building was laid out a large square or plan, which was surrounded by peasant houses, thus forming a respectable village."

In describing the Tumacacori Mission and surrounding mounds and traces of buildings we will divide them into the church building, which will include the six sacristies; the cemetery and mortuary chamber; the outer buildings and inclosures; and miscellaneous structures.

**THE CHURCH BUILDING.**

The church building is built for the greater part of sun-dried adobe bricks laid in mud mortar. The walls average about 6 feet thick at the base and are stepped back so they are about 21 to 23 feet thick at the top. In places where groups of adobe were used as in the tower, the walls are nearly 10 feet thick. Where exposure to the weather was liable to occur, burnt adobe bricks were substituted for sun-dried adobe. Burnt bricks were used in capping walls and in constructing the bell tower.

The church building was a three-storied structure, with a width in front, including the tower, of about 56 feet, and a length, on the west side, of about 105 feet. It has three essential divisions—the church room proper, the sacristy, which is attached to the church on the west, and the sacristy on the north end, and the sacristy on the south end. The tower was apparently considered as a separate unit in designing the facade, as the decoration of the front of the church was not carried across its base.

Approaching from the south the visitor will notice that the facade is in bad condition. As it was originally designated the facade had a two-story effect, the upper story being supported by a semicircular pediment, with columns between the piers, and the columns placed in pairs, the arched entrance being between the pairs. Well up between the columns niches were placed for the reception of statues of the church and the church. The niches were in the walls of the church rooms. Over the arched entrance in each of these columns were placed columns, and between each pair of these columns was another niche for the reception of statues. Two of these columns supported another column, and the columns supporting the column supported another column. These upper columns have at present is broken off above this lintel, but when completed the wall ended in a semicircle, forming a depressed arch over the pediment. Thus the facade of the tower had a cornice having a gable effect. The two slopese of this cornice did not meet, but left a open space on the wall about 4 feet wide, and standing in this space and resting on the upper lintel was a statue, probably of the patron saint, St. Joseph. The facade of the San Xavier church has the figure of St. Xavier at its top.

The pediment was surrounded near its edge by a heavy molding projecting about 6 inches from the face of the wall. At the top of the pediment was a half sphere, and modelled on it was a cross. Aside from columns, lintels, moldings, and statues, the facade was further decorated by painting, traces of which still exist in protected spots where the color has been protected. The arched entrance in the facade was in bad condition, the sides and the greater part of the arch having been restored during the past year. The base of the arch has been restored during the past year and the base is about 10 feet high and 6 inches wide. This has been done by swinging doors about 10 feet high and 6 inches wide, and the doors rest on a wooden lintel sunk in the wall behind the top of the arch. The doors are supported by back supports on each side of the wall, and a rafter in the cornice having a gable effect. The two slopese of this cornice did not meet, but left a open space on the wall about 4 feet wide, and standing in this space and resting on the upper lintel was a statue, probably of the patron saint, St. Joseph. The facade of the San Xavier church has the figure of St. Xavier at its top.

The entrance room was about 17 feet wide and 39 feet 6 inches long. In its inside measurements. It has three well-marked sections—the vestibule, the nave, and the sanctuary.

Upon passing through the entrance the visitor is in the vestibule or nave under the choir loft. The loft was supported on its east, south, and west sides, with each of the church, and its front, or north side, was carried on a arch. The choir loft and arch were broken down and covered the floor with their debris to a depth of between 3 and 4 feet. This has been removed in the repair and restoration work of the last year. A doorway, or arched tunnel, leads from this vestibule through the choir loft into a small hall, which has a ceiling 10 feet high into the baptistry in the church. The room of the choir loft over one's head, being about 10 feet high, would have emphasized the height of the church in the nave and sanctuary and made the walls there seem higher than they really were. The fonts for the holy water occurred on the main floor of the church, which carry the choir loft, but here they are placed slightly forward of the choir loft and nave side.

The nearness of the choir loft over one's head, being about 10 feet high, would have emphasized the height of the church in the nave and sanctuary and made the walls there seem higher than they really were. The fonts for the holy water occurred on the main floor of the church, which carry the choir loft, but here they are placed slightly forward of the choir loft and nave side. It will readily be seen from an examination of the interior plan that the church that it could not have been the purpose of the architect to seat a congregation in this building. This idea seems rather to have been to overawe and impress the primitive mind, and this could be done with better effect without the use of seats.

Excavations made during the last year have cleared up the floor plan of the church building, which will include six sacristies; the cemetery and mortuary chamber; the outer buildings and inclosures; and miscellaneous structures.
The floor of the sanctuary was raised about 3 feet above the floor of the nave, and being an earth fill, the material was held by a circular wall springing from the piers which carried the arch. The stone piers of one arch and at a greater distance from a chord connecting the corners of the piers on that side nearest the nave. A series of steps, centrally located, led up from the floor of the nave to the floor of the sanctuary.

The whole back wall of the sanctuary was filled with the high altar and its subsidiary decorations. On the north wall, occupied by these piers and by one of these piers and by two nearly equal sections. At the top, near the center line of each of the four sections thus formed, and just under the middle holding the window, were about 6 feet 6 inches high, and they had four windows, with the choir-loft window over the entrance, admitted all the light the nave received during the day.

Under each of these four windows was a large altar, of which an elevation is shown indicating the altars in the nave. The base of the altar, which was 6 feet 10 inches long, 2 feet 7 inches high, and extended from the wall of the nave 4 feet 10 inches. This base rested the body of the altar, which was 5 feet 10 inches long, 2 feet 6 inches high, and extended from the wall.
There were numerous outer buildings around the Tumacacori Mission, but, the walls being thinner and probably not so well plastered as the church building, they have suffered more from erosion and are now for the greater part down in the mounds. The outer buildings were laid out in a semicircle, with the church in the center. The walls of the church were about 5 feet thick, and the adobe bricks used were about 12 by 18 inches. The church was about 100 feet long and 50 feet wide, and was entirely surrounded by an adobe wall about 5 feet high and 2 feet thick.

The mortuary chamber is the main feature of the cemetery. This building measures about 10 feet in diameter inside the church, and it was used for the burial of the dead. The walls of the chamber are about 8 feet thick, and the roof is supported by wooden beams. The chamber was originally covered with a wooden roof, but this was burned down by a fire. The roof was then replaced with a wooden truss system supported by wooden beams. The chamber was then covered with a wooden roof.

Entrance from outside the cemetery was gained to the mortuary chamber by means of a gate in the west wall of the cemetery. Assuming the existence of this gate, we made out a plan of the cemetery, and it was found that the walls of the church were about 5 feet thick, and the adobe bricks used were about 12 by 18 inches. The church was about 100 feet long and 50 feet wide, and was entirely surrounded by an adobe wall about 5 feet high and 2 feet thick.

The plaza mentioned as being to the south of the church is well marked on its western side by a mound of debris joining the church. This mound is about 200 feet long and 50 feet wide, and it is covered with mesquite brush.

A two-story dormitory building lies just east of the cemetery, the west wall of the house acting for its length as the east wall of the church. It was originally constructed of adobe bricks, but these were soon replaced with wooden beams. The walls of the church were about 5 feet thick, and the adobe bricks used were about 12 by 18 inches. The church was about 100 feet long and 50 feet wide, and was entirely surrounded by an adobe wall about 5 feet high and 2 feet thick.

On December 9, 1918, the Tumacacori National Monument was formally placed under my direct supervision. Acting under instructions contained in a telegram from the director while at the Grand Canyon and also under instructions in a letter of December 17, giving the details of the trip and need of repairs, asking for an allotment of $400 for immediate repairs, and after some unavoidable delay, work was started on March 14, with Mr. A. S. Nunn as foreman. Work was continued from the 14th to the 22d, inclusive, and from the 27th to the 30th, inclusive.

The total cost of these first operations was $400.45.

The next visit was from June 25 to June 28, inclusive. This was to check up the year's work, to inspect the financial matters, to sign the permit, and to proceed under date of July 6 on this visit.

In addition to the above-mentioned funds, Prof. Byron S. Cummings expended $54 of the State of Arizona funds under his authority as professor of archaeology in the University of Arizona.

The total expenditures at Tumacacori Mission during the year have been $1,051.98.

The administrative expense of the year has been confined entirely to my personal expenses, and the income from the sale of the prints being charged against the Tumacacori National Monument. The estimated distance I have traveled in these operations is 1,500 miles, and the cost of the various trips was about $11 per mile. The total administrative expense was $205.30.

In conclusion, this report would not be complete without an expression of the appreciation for the aid given the National Park Service by persons and organizations during the past year in connection with our work at the Tumacacori National Monument.

Mr. Frank J. Duffy and Dr. A. L. Gustetter, had charge of raising the fund contributed by the chamber of commerce. Mr. Taylor has also shown a very keen personal interest in our work and has been very helpful in many ways.

A well should be provided during that year, as the present water supply is too far away. We propose to spend $500 to $1,000, with the chambers of commerce of Tucson and Nogales would each allot $200, for the $600 to be spent under my direction.

I should recommend an allotment of $1,500 for the fiscal year ending June 30, 1921.

Another class of protection was against vandals. Under this class may be placed the reconstruction of 80 or 90 feet of the north wall of the mission, the restoration of cemetery gates and some of the doors and windows of the church building. Other work was a matter of development, such as the removal of debris from the floor of the church and exposing the original plan, thus discovering the altars of the nave, which would not let be overlooked. We also provide for some repairs to the church, which would not let be overlooked. We also provide for some repairs to the church, which would not let be overlooked.
Lund, Utah, is the nearest railroad station, which is 100 miles distant from the Wylie Camp. This distance is covered in eight hours by the National Park Transportation & Camping Co.'s auto stages. The road through the monument has been maintained and repaired during the past year at a cost of $700, making it a ... on the much-needed bridges leading to the monument. This, of course, is going to make the roads much more accessible.

The Right Rev. Bishop Cranjon, of Tucson, and Rev. Father Nicholas Perschl, who has charge of the San Xavier Mission, have helped us greatly with their wide knowledge of church and mission architecture and history.

Last, but not least, we should thank the press, for without the aid of the Tucson and Nogales papers, which have given publicity to our work, we could not have gone so far in the short time. Steady progress is the keynote in the monument. With the closing of the World War travel has increased fully 300 per cent, the number of persons staying at the Wylie Camp being at the time of writing 1,627 on December 7, 1919, and 1,590 on October 12, 1918, being 1,814. Because of conditions brought about by the influenza epidemic, travel was actually suspended during the winter just past. Railroad travel being encouraged, the Railroad Administration playing a large part in order that ... extensive advertising and the issuance of illustrative booklets on all members of the national park and monument system. Lund, Utah, is the nearest railroad station, which is 100 miles distant from the Wylie Camp. This distance is covered in eight hours by the National Park Transportation & Camping Co.'s auto stages. The road through the monument has been maintained and repaired during the past year at a cost of $700, making it a ... on the much-needed bridges leading to the monument. This, of course, is going to make the roads much more accessible.

The trail to the eastern rim has, during the season just passed, been reconstructed at a cost of $700. This trail, being a bit of trail-making, is a turning point in the development of the monument. It will open up to visitors a wonderful view of the canyon with its... of the existing conditions were submitted, and sketch plans were made showing the nature of the proposed improvements. The work of the year has involved studies of problems for which the Service is directly responsible, and also matters pertaining to the regulation of the areas occupied by the several species of animals within the valley are becoming very numerous and are taking the liberty of visiting campers while the parties are away.

CAPULIN MOUNTAIN NATIONAL MONUMENT.

MRS. W. H. JACO, Custodian, Folsom, N. Mex.

Not as many tourists as usual, although more than 1,500, visited Capulin Mountain National Monument last year, but there is more local interest in that mountain. The tourists are enthusiastic over good roads to Capulin and are ambitious to have a road built to the top of the mountain, but I do not know that any definite steps have been taken further in that direction. The climate of the locality in summer is rather warm, but the evenings and mornings are delightful. The quickness with which this is a haven for people that are afflicted with nervous troubles or those seeking recuperation.

Another interesting trip is the one-day horseback ride from the Wylie Camp to the ancient cliff-dweller ruin up the south fork of the Virgin River, six rooms making up the group.

The Wylie Camps have enjoyed a very successful season and with the proper road conditions the next season promises to tax the camps to their utmost.

The climate of this locality in summer is rather warm, but the evenings and mornings are delightful. The quiet, restful atmosphere is making this a haven for people that are afflicted with nervous troubles or those seeking recuperation.

REPORT OF THE LANDSCAPE ENGINEER.

CHRISTOPHER PUNCHARD, JR., Landscape Engineer.

The road through the monument has been maintained and repaired during the past year at a cost of $700, making it a pleasure to travel over it, and comparing very favorably with the best of roads. The State has not used the road leading to the monument in good condition, making it possible to travel at any time of the year. This is another step toward making the Zion National Monument an all-year-round resort. Already the steep grade, from the Lavernik Hill, has been eliminated with a good grade at a cost of $10,000, and work has commenced on the much-needed bridges leading to the monument. This, of course, is going to make the roads much more accessible.

The trail to the eastern rim has, during the season just passed, been reconstructed at a cost of $700. This trail adds greatly to the visitor's stay in the monument, because it leads to the rim and assures the visitor a wonderful view of the canyon with its... of the existing conditions were submitted, and sketch plans were made showing the nature of the proposed improvements.

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YOSEMITE NATIONAL PARK.

On account of the fact that I made Yosemite National Park my winter headquarters, a greater opportunity was offered for intensive study, not only in the valley itself but in the regions back in the mountains to the north, east, and south. Numerous trail trips during the winter months were undertaken, and it was realized that such a period was of the greatest value in so far as the preservation of nature is concerned. It was also possible to study the natural conditions in the more remote parts of the park. On these trips good trails were used to advantage in the study of the vegetation on the floor with the idea of restoring this area to its former appearance. I shall mention later in the report some of the recommendations for the improvement of the valley floor and the problems which were investigated during the winter months, the most important of which are:—

Lake Eleanor.—The unfortunate condition of the standing trees in the newer portion of the lake beyond the construction of the Lake Eleanor dam, a unit in the San Francisco power and water development, was investigated during the winter. Night visits after most any of the work on the dam and also during the winter months, the condition of the trees and vegetation near the lake was studied. The trees were found to be about 30 feet in diameter and to be in a condition of decline. The immediate correction of this situation was urgently recommended.

Mirror Lake.—Mirror Lake at the eastern end of Yosemite Valley was studied carefully and a survey was made to determine in a more or less definite manner the cost of removing the sediment and tree growth which have choked up this sheet of water. The beauties of an open body of water are far superior to the appearance of Lake Eleanor at the time of my first visit, and later in the season when a second trip was made. The immediate correction of these conditions is most urgently recommended.

During the past winter the location and development of this type of settlement on the floor of the valley was of great importance, and too great an emphasis cannot be placed upon the idea of restoring this area to its former appearance. I shall mention this later under another heading.

El Portal entrance.—With the completion of the El Portal Road within the park the entrance from Merced on the floor of the valley was greatly improved. The Forest Service will have a much better chance to control the area from this point and to keep it as nearly natural as possible, with only such improvements as are necessary for the comfort and ease of the visitor.

Power plant.—A log gateway was erected at the Wawona entrance to the park from sketches prepared by the Park Service.

Sequoia National Park.

General statement.—Sequoia National Park was visited at the end of the season. Therefore I did not have a good opportunity to study conditions there under the stress of the tourist season and the resulting pressure of the public. However, the present condition of the park is one of great beauty and the nature of the improvements is very simple and practical. It seems apparent that the park is in one of the most interesting and picturesque sections of the United States, and the nature of the improvements is very simple and practical and should be so continued. The general recommendation is that the plans for the improvement of the park be so simple and practical that the area may be developed in the simplest manner possible.

Perpetuation of the sequoias.—A log gateway was erected at the Wawona entrance to the park from sketches prepared by the Park Service.
It is thought that a system of indirect electric lighting within the cave would be the most satisfactory, and by the use of such a system very beautiful light effects would be possible.

New hotel.—A new hotel is badly needed in the Giant Forest, and it should be constructed in such a way that it will harmonize with the surroundings. The site selected for the new hotel is a pleasant location, with a beautiful view of the surrounding trees. It will be possible to erect a picturesque building in a very attractive manner.

Post-office building.—The present post-office building was studied with the idea of making it more attractive. In connection with the existing store and other buildings, there is a possibility of making the post-office building a part of its overall design.

Elimination of old Government barns and corrals.—It is proposed to remove the structures now in use and construct new buildings in a less conspicuous place. A site on the Wolverton Road already selected for this purpose by Superintendent Fry was approved.

Lighting.—One of the most important needs of the Giant Forest is a modern system of lighting. At sunset among these great trees it is essential to have proper lighting to make the park more attractive.

New Government buildings.—The completion of these new buildings of attractive design to those in the forest, and it is hoped they will be followed as models for future structures.

New hotel.—A new hotel is badly needed in the Giant Forest, and it should be constructed in such a way that it will harmonize with the surroundings. The site selected for the new hotel is a pleasant location, with a beautiful view of the surrounding trees. It will be possible to erect a picturesque building in a very attractive manner.

Gateway.—The entrance to the park should be marked in a dignified manner, and for this purpose I have submitted to you a drawing which I believe will be more pleasing than any other plan.

Minor undertakings.—From time to time problems were worked out on the ground with the superintendent and the engineers, all of which had to do with the future appearance of the park.

Post-office building.—The present post-office building was studied with the idea of making it more attractive. In connection with the existing store and other buildings, there is a possibility of making the post-office building a part of its overall design.

It is proposed to remove the structures now in use and construct new buildings in a less conspicuous place. A site on the Wolverton Road already selected for this purpose by Superintendent Fry was approved.
REPORT OF DIRECTOR OF NATIONAL PARK SERVICE.

Unfortunately, only two days could be devoted to this visit, but later conferences were held with Miss M. E. J. Coulter, architect and designer for the Fred Harvey Co., which owns and operates El Ojar Hotel and other properties in the park. These conferences acquainted the Service with the future plans of the Harvey Co. and formed a basis upon which to work when funds were available for improvement.

I urge that study be made for the possibilities offered by the two-day visit in connection with the possibilities of limiting the acreage ofthe parks, which may be available for the development of important national monuments.

The question of admitting automobiles to this area should be seriously considered. Personally, I would much prefer to see these reservations preserved for the exclusive enjoyment of those who prefer to see them from the saddle and the trails. Development of any kind in the future will seriously ruin the beauty and grandeur of these beautiful woods.

The proximity of this reservation to San Francisco is such that it is visited by picnic parties during the entire year. Fireplaces, benches, and trails should be built for the accommodation of these visitors. A water-supply system should be installed, and the entire area should be kept clear of brush and trees that would be easily downed by fires.

The topography of this area is such that it will not allow any extensive development, and the beauty and grandeur of these woods will be seriously ruined by any extensive road system.

I urgently recommend that the allotment be increased from $1,500 to $2,500.

CASA GRANDE NATIONAL MONUMENT, PAPAGO SAGUARO NATIONAL MONUMENT, TUMACACORI NATIONAL MONUMENT.

These three small reservations, all in Arizona, were visited during the month of January, 1919. Reports have been submitted covering recommendations for their further development and control, and one drawing was submitted for an administration building at Casa Grande Ruin.

Though small, each exhibits an individual aspect of early southwestern life, history, and vegetation, and each should be developed slowly as funds and demands permit.

SPECIAL RECOMMENDATIONS AND URGENT NEEDS.

Increase in building allotment.—One of the most important requirements in the construction of park buildings is an increase in the amount allowed for their construction. The present allotment of $1,500 is not sufficient, with the present condition of the building trade, with the price of lumber from 50 to 100 per cent higher than ever before, to provide buildings as required. It is impossible to construct buildings large enough to meet the conditions unless material is used from buildings which have been condemned as unsafe for further use. These buildings are rapidly becoming less and less in some parks, and in others where there are no such buildings to salvage the present allotment is hardly sufficient to purchase the necessary material, to say nothing of labor.

I urgently recommend that the allotment be increased from $1,500 to $2,500.

Grazing.—The policy of the Service in relation to this important question—permitting grazing only in certain remote sections of the national parks—should be very stringently adhered to.

The destruction to the small mountain meadows caused by intensive grazing of large numbers of cattle will become a very serious matter. In the case of only one of these meadows after only one year of grazing as a war measure was very disheartening indeed. The forest floor of the Sierra offers very little forage on account of the great areas of rock and the steep canyon walls. Therefore the small meadows suffer the greatest amount of destruction, and their resources are soon depleted by concentrated feeding.

On one trip to the Hetch Hetchy country during round-up time I made it a point to talk with the foremen of the "cow-punchers" with the idea of obtaining first-hand and frank opinions as to the value of cattle grazing in that section of the park. Economically it was not a success. It took six "cow-punchers" two months to round up less than a thousand head of cattle, and when they were in the corrals their appearance was far from that expected from the point of view of marketable beef. The following day's round-up for these 6 men was not over six cattle, and a good day resulted in 20 animals. Cows were driven out of the park, and when the opportunity offered itself they would chase deer and other game. The country was so rough and rugged that it was hard to herd the cattle when they were finally brought to the trails, and at the end of the season fewer cattle were driven out than had been driven in the spring.

Private holdings.—The possession of private lands in national parks, unless attended by a spirit of cooperation and appreciation for the parks, will in the future result in another serious question for the Service to deal with.

The growing desire to camp out for long periods of time, particularly in the California parks, is rapidly becoming more and more popular, and it will not be long before the owners of these private holdings will commercialize the areas, breaking them into small lots and selling them at popular prices. The Service should insist on their exclusive use under permit, but permission to remove water and to build water mains is continually being uncovered, the existence of which has not been known. The Service should insist on proper plans of record and as an aid in planning for the future, recommend the preparation of such maps, showing the locations of all buildings, roads, water and sewage systems, power lines, telephone lines, bridges, and road beds, which will control or influence construction in the future. It would be desirable and of inestimable value if these maps could also show the nature of the topography by contours and a-foot for more extensive areas.

Each superintendent should be requested to prepare a map of reservation showing these features, in order that succeeding superintendents may work with some degree of definiteness in planning new work.

Grazing.—The policy of the Service in relation to this very important question—permitting grazing only in certain remote sections of some of the national parks—should be very stringently adhered to.

The destruction to the small mountain meadows caused by intensive grazing of large numbers of cattle will become a very serious matter. In the case of these meadows after only one year of grazing as a war measure was very disheartening indeed. The forest floor of the Sierra offers very little forage on account of the great areas of rock and the steep canyon walls. Therefore the small meadows suffer the greatest amount of destruction, and their resources are soon depleted by concentrated feeding.
APPENDIX C.

STATISTICS.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visitors to the national parks, 1907-1919</td>
<td>270</td>
</tr>
<tr>
<td>Automobile and motorcycle licenses issued during seasons 1915-1919</td>
<td>271</td>
</tr>
<tr>
<td>Receipts collected from automobiles and motorcycles during seasons 1915-1919</td>
<td>271</td>
</tr>
<tr>
<td>Private automobiles entering the national parks during seasons 1916-1919</td>
<td>271</td>
</tr>
<tr>
<td>National park and monument areas administered by the National Park Service in relation to the States and Territories in which they are located</td>
<td>272</td>
</tr>
<tr>
<td>National park and monument areas administered by the National Park Service in relation to the public lands</td>
<td>272</td>
</tr>
<tr>
<td>National park and monument areas administered by the National Park Service in relation to the national forests, including national monuments administered by the Forest Service</td>
<td>273</td>
</tr>
<tr>
<td>Statement of appropriations made for and received revenues from the various national parks and national monuments, and expenditures made therefrom during the fiscal years 1904-1919, inclusive; also appropriations for the fiscal year 1920</td>
<td>273</td>
</tr>
<tr>
<td>Detailed statement of appropriations for the national parks and monuments</td>
<td>277</td>
</tr>
<tr>
<td>Graphic Chart:</td>
<td></td>
</tr>
<tr>
<td><em>Fig. 6.</em>—All national parks, appropriations, revenues, and visitors.</td>
<td>278</td>
</tr>
<tr>
<td>Name of park</td>
<td>1907</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Hot Springs Reservation</td>
<td>(1)</td>
</tr>
<tr>
<td>Yellowstone National Park</td>
<td>16,414</td>
</tr>
<tr>
<td>Sequoia National Park</td>
<td>2,900</td>
</tr>
<tr>
<td>Yosemite National Park</td>
<td>7,103</td>
</tr>
<tr>
<td>General Grant National Park</td>
<td>1,100</td>
</tr>
<tr>
<td>Mount Rainier National Park</td>
<td>2,068</td>
</tr>
<tr>
<td>Crater Lake National Park</td>
<td>2,600</td>
</tr>
<tr>
<td>Sequoia National Park</td>
<td>(1)</td>
</tr>
<tr>
<td>Dade Cave National Park</td>
<td>(1)</td>
</tr>
<tr>
<td>Yellowstone National Park</td>
<td>2,170</td>
</tr>
<tr>
<td>Total</td>
<td>61,335</td>
</tr>
</tbody>
</table>

1 No record.  2 Estimated.
### Automobile and motorcycle licenses issued during seasons, 1915–1919.

<table>
<thead>
<tr>
<th>Name of park</th>
<th>1915</th>
<th>1916</th>
<th>1917</th>
<th>1918</th>
<th>1919</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yellowstone</td>
<td>938</td>
<td>3,493</td>
<td>5,336</td>
<td>4,447</td>
<td>9,543</td>
</tr>
<tr>
<td>Sequoia 1</td>
<td>345</td>
<td>771</td>
<td>935</td>
<td>766</td>
<td>1,665</td>
</tr>
<tr>
<td>Yosemite</td>
<td>3,391</td>
<td>5,262</td>
<td>5,417</td>
<td>5,454</td>
<td>9,406</td>
</tr>
<tr>
<td>General Grant</td>
<td>1,694</td>
<td>1,790</td>
<td>2,267</td>
<td>2,300</td>
<td>2,982</td>
</tr>
<tr>
<td>Mount Rainier</td>
<td>3,283</td>
<td>2,973</td>
<td>2,506</td>
<td>7,338</td>
<td>8,949</td>
</tr>
<tr>
<td>Crater Lake</td>
<td>2,031</td>
<td>2,051</td>
<td>2,044</td>
<td>1,566</td>
<td>1,920</td>
</tr>
<tr>
<td>Mesa Verde</td>
<td>86</td>
<td>175</td>
<td>215</td>
<td>230</td>
<td>436</td>
</tr>
<tr>
<td>Glacier</td>
<td>67</td>
<td>551</td>
<td>1,292</td>
<td>1,066</td>
<td>2,945</td>
</tr>
</tbody>
</table>

**Total**: 12,609 345 15,530 23,523 233 38,580 222


2. Number of licenses formally reported to Washington, to and including Oct. 10, 1919.

3. Licenses required only for Giant Forest Road.

### Receipts collected from automobiles and motorcycles during seasons, 1915–1919.

| Name of park | 1915 | 1916 | 1917 | 1918 | 1919 *
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yellowstone</td>
<td>$7,070.57</td>
<td>$25,387.50</td>
<td>$39,945.00</td>
<td>$33,322.50</td>
<td>$71,387.50</td>
</tr>
<tr>
<td>Sequoia 1</td>
<td>1,185.56</td>
<td>1,600.00</td>
<td>2,294.00</td>
<td>1,520.00</td>
<td>4,134.50</td>
</tr>
<tr>
<td>Yosemite</td>
<td>15,457.71</td>
<td>19,886.00</td>
<td>26,600.00</td>
<td>27,888.00</td>
<td>25,474.00</td>
</tr>
<tr>
<td>General Grant</td>
<td>1,683.50</td>
<td>967.50</td>
<td>1,133.50</td>
<td>1,188.50</td>
<td>1,504.00</td>
</tr>
<tr>
<td>Mount Rainier</td>
<td>16,371.61</td>
<td>15,194.00</td>
<td>14,181.50</td>
<td>18,225.50</td>
<td>22,167.00</td>
</tr>
<tr>
<td>Crater Lake</td>
<td>2,165.00</td>
<td>4,402.00</td>
<td>2,506.00</td>
<td>4,092.50</td>
<td>7,991.50</td>
</tr>
<tr>
<td>Mesa Verde</td>
<td>85.07</td>
<td>95.50</td>
<td>184.00</td>
<td>338.00</td>
<td>674.00</td>
</tr>
<tr>
<td>Glacier</td>
<td>573.99</td>
<td>312.00</td>
<td>1,262.00</td>
<td>1,068.00</td>
<td>2,668.00</td>
</tr>
</tbody>
</table>

**Total**: 42,388.11 66,383.50 90,969.00 88,923.00 133,947.50


2. Number of licenses formally reported to Washington, to and including Oct. 10, 1919.

3. Licenses required only for Giant Forest Road.

### Private automobiles entering the national parks during seasons, 1916–1919.

| Name of park | 1916 | 1917 | 1918 | 1919 *
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yellowstone</td>
<td>3,445</td>
<td>4,708</td>
<td>4,734</td>
<td>10,737</td>
</tr>
<tr>
<td>Sequoia 1</td>
<td>766</td>
<td>2,534</td>
<td>1,627</td>
<td>2,853</td>
</tr>
<tr>
<td>Yosemite</td>
<td>4,043</td>
<td>6,521</td>
<td>7,621</td>
<td>12,109</td>
</tr>
<tr>
<td>General Grant</td>
<td>1,778</td>
<td>2,158</td>
<td>2,438</td>
<td>3,366</td>
</tr>
<tr>
<td>Mount Rainier</td>
<td>3,070</td>
<td>5,594</td>
<td>7,602</td>
<td>10,474</td>
</tr>
<tr>
<td>Crater Lake</td>
<td>2,649</td>
<td>2,756</td>
<td>3,105</td>
<td>4,637</td>
</tr>
<tr>
<td>Wind Cave 2</td>
<td>4,200</td>
<td>4,837</td>
<td>4,815</td>
<td>8,240</td>
</tr>
<tr>
<td>Mesa Verde</td>
<td>185</td>
<td>364</td>
<td>371</td>
<td>430</td>
</tr>
<tr>
<td>Glacier</td>
<td>902</td>
<td>1,211</td>
<td>1,085</td>
<td>1,697</td>
</tr>
<tr>
<td>Rocky Mountain 3</td>
<td>10,605</td>
<td>23,004</td>
<td>20,588</td>
<td>23,633</td>
</tr>
<tr>
<td>Grand Canyon 4</td>
<td>476</td>
<td>385</td>
<td>1,875</td>
<td>1,900</td>
</tr>
<tr>
<td>Lafayette 4</td>
<td>1,255</td>
<td>1,255</td>
<td>1,255</td>
<td>1,255</td>
</tr>
</tbody>
</table>

**Total**: 29,358 54,692 63,966 97,721

1. Automobiles entering parks with or without licenses, to and including Oct. 12, 1919.

2. License required only for Giant Forest Road.

3. No license required.

4. Estimated.
### National park and monument areas administered by the National Park Service in relation to the States and Territories in which they are located.

<table>
<thead>
<tr>
<th>State or Territory</th>
<th>Acres</th>
<th>Parks and monuments</th>
<th>Per cent.</th>
</tr>
</thead>
<tbody>
<tr>
<td>California</td>
<td>30,416,240</td>
<td>201,259</td>
<td>0.66</td>
</tr>
<tr>
<td>Colorado</td>
<td>36,921,619</td>
<td>207,870</td>
<td>0.56</td>
</tr>
<tr>
<td>Hawaii</td>
<td>65,041,109</td>
<td>1,091,800</td>
<td>1.68</td>
</tr>
<tr>
<td>Idaho</td>
<td>58,412,600</td>
<td>207,000</td>
<td>0.35</td>
</tr>
<tr>
<td>Maine</td>
<td>28,293,600</td>
<td>177,600</td>
<td>0.62</td>
</tr>
<tr>
<td>Montana</td>
<td>33,569,649</td>
<td>1,901,700</td>
<td>5.68</td>
</tr>
<tr>
<td>New Mexico</td>
<td>38,192,489</td>
<td>159,400</td>
<td>0.42</td>
</tr>
<tr>
<td>North Dakota</td>
<td>42,672,600</td>
<td>10,000</td>
<td>0.02</td>
</tr>
<tr>
<td>Ohio</td>
<td>34,636,450</td>
<td>663</td>
<td>0.002</td>
</tr>
<tr>
<td>Oregon</td>
<td>34,100,499</td>
<td>195,000</td>
<td>0.57</td>
</tr>
<tr>
<td>South Dakota</td>
<td>34,614,598</td>
<td>405</td>
<td>0.0002</td>
</tr>
<tr>
<td>Utah</td>
<td>34,366,797</td>
<td>7,200</td>
<td>0.021</td>
</tr>
<tr>
<td>Washington</td>
<td>24,775,040</td>
<td>171,700</td>
<td>0.66</td>
</tr>
<tr>
<td>Wyoming</td>
<td>26,004,160</td>
<td>1,904,522</td>
<td>7.17</td>
</tr>
</tbody>
</table>

1 Area of the Islands of Hawaii and Mani on which are located the Hawaii National Park.

### National park and monument areas administered by the National Park Service in relation to the public lands.

<table>
<thead>
<tr>
<th>State or Territory</th>
<th>Public lands</th>
<th>Parks and monuments</th>
<th>Relation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>74,128</td>
<td>122,872</td>
<td>0.60</td>
</tr>
<tr>
<td>Colorado</td>
<td>30,869,628</td>
<td>207,870</td>
<td>0.68</td>
</tr>
<tr>
<td>Florida</td>
<td>37,696,652</td>
<td>207,870</td>
<td>0.55</td>
</tr>
<tr>
<td>Hawaii</td>
<td>65,041,109</td>
<td>1,091,800</td>
<td>1.68</td>
</tr>
<tr>
<td>Idaho</td>
<td>58,412,600</td>
<td>207,000</td>
<td>0.35</td>
</tr>
<tr>
<td>Maine</td>
<td>28,293,600</td>
<td>177,600</td>
<td>0.62</td>
</tr>
<tr>
<td>Montana</td>
<td>33,569,649</td>
<td>1,901,700</td>
<td>5.68</td>
</tr>
<tr>
<td>New Mexico</td>
<td>38,192,489</td>
<td>159,400</td>
<td>0.42</td>
</tr>
<tr>
<td>North Dakota</td>
<td>42,672,600</td>
<td>10,000</td>
<td>0.02</td>
</tr>
<tr>
<td>Ohio</td>
<td>34,636,450</td>
<td>663</td>
<td>0.002</td>
</tr>
<tr>
<td>Oregon</td>
<td>34,100,499</td>
<td>195,000</td>
<td>0.57</td>
</tr>
<tr>
<td>South Dakota</td>
<td>34,614,598</td>
<td>405</td>
<td>0.0002</td>
</tr>
<tr>
<td>Utah</td>
<td>34,366,797</td>
<td>7,200</td>
<td>0.02</td>
</tr>
<tr>
<td>Washington</td>
<td>24,775,040</td>
<td>171,700</td>
<td>0.66</td>
</tr>
<tr>
<td>Wyoming</td>
<td>26,004,160</td>
<td>1,904,522</td>
<td>7.17</td>
</tr>
</tbody>
</table>

1 Includes vacant public lands, national parks and monuments, and national forests, but does not include military and Indian reservations, reclamation and power site withdrawals, etc.

1 July 1, 1919.

2 Includes 13,650 acres of United States public lands and 22,763 acres of lands purchased under Weeks Act.

3 Purchased under the Weeks Act.

4 Donated by the United States. Other donations of lands in national monument areas amount to $55,000.

Statement of appropriations made for, and received revenues from, the various national parks and national monuments, and expenditures made therefrom during the fiscal years 1914-1915, inclusive; also appropriations for the fiscal year 1926.

<table>
<thead>
<tr>
<th>Name of the national park</th>
<th>Appropriations</th>
<th>Revenues</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Appropriated</td>
<td>Expended</td>
</tr>
<tr>
<td>Hot Springs Reservation:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1914</td>
<td>$36,000.00</td>
<td>( )</td>
</tr>
<tr>
<td>1915</td>
<td>8,000.00</td>
<td>( )</td>
</tr>
<tr>
<td>1916</td>
<td>6,000.00</td>
<td>( )</td>
</tr>
<tr>
<td>1917</td>
<td>20,160.00</td>
<td>( )</td>
</tr>
<tr>
<td>1918</td>
<td>26,000.00</td>
<td>( )</td>
</tr>
<tr>
<td>1919</td>
<td>24,475.00</td>
<td>( )</td>
</tr>
<tr>
<td>1920</td>
<td>36,540.00</td>
<td>( )</td>
</tr>
<tr>
<td>1921</td>
<td>28,000.00</td>
<td>( )</td>
</tr>
<tr>
<td>1922</td>
<td>24,320.00</td>
<td>( )</td>
</tr>
<tr>
<td>1923</td>
<td>24,381.57</td>
<td>( )</td>
</tr>
</tbody>
</table>

1 Figures not available.

2 Proceeds from sale of Government lots (lot fund).

3 Expenditure from lot fund.

4 Includes $1,272.71 expended in making survey and preparation of plans, etc., for sewer system, city of Hot Springs.

5 Contributed by city of Hot Springs on account of sewer system, $14,20 returned to city.
MAP OF WESTERN PORTION OF THE UNITED STATES, SHOWING RELATION OF THE NATIONAL PARK AND MONUMENT AREAS TO THE SEVERAL STATES, THE PUBLIC LANDS, AND THE NATIONAL FORESTS.
<table>
<thead>
<tr>
<th>Name of the national park</th>
<th>Appropriations</th>
<th>Revenues</th>
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<tbody>
<tr>
<td></td>
<td>Appropriated</td>
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<tr>
<td>Hot Springs Reservation—Continued</td>
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<td>1919</td>
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</tbody>
</table>

1 Includes 50 cents expended on account of survey sewer system.
2 Made available during fiscal year 1920 by sundry civil act approved July 19, 1919 (Public No. 21, 60th Cong.).
3 Figures not available.
4 Administration and protection.
5 Marking unmonumented portions of park boundaries.
6 Appropriation of revenue for park purposes not authorized. Sundy civil act of June 12, 1917 (40 Stat., 152).
7 Unexpended balance of 1918 War Department appropriation of $20,000 made available under Interior Department during 1919. Sundy civil act of July 11, 1919 (40 Stat., 678).
8 For purchase of private holdings.
9 Appropriations without year, for examination of water supply for city of San Francisco.

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Statement of appropriations made for, and received revenues from, the various national parks and national monuments, etc.—Continued.

<table>
<thead>
<tr>
<th>Name of the national park</th>
<th>Appropriations</th>
<th>Revenues</th>
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<tbody>
<tr>
<td></td>
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<td>General Grant</td>
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<td>1920</td>
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<td>Mount Rainier</td>
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<td>Crater Lake</td>
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<td>1917</td>
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<tr>
<td>1920</td>
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</tbody>
</table>

1 Figures not available.
2 Expenditure of revenues for park purposes not authorized. Sundy civil act of June 12, 1917. (40 Stat., 152.)
3 Appropriation made for Mount Rainier prior to 1917.
4 Expenditure of revenues of Crater Lake Park for park purposes therein not authorized by statute.
5 Appropriation for Platte River prior to 1916 fiscal year. Land prior to creation of park included in Sulphur Springs Reservation.
6 Construction sanitary sewer, like amount being contributed by city of Sulphur, Okla.; $7,830.94 returned to city.
### DETAILED STATEMENT OF APPROPRIATIONS FOR NATIONAL PARKS AND NATIONAL MONUMENTS UNDER THE JURISDICTION OF THE SECRETARY OF THE INTERIOR, 1879-1920, INCLUSIVE.

#### NATIONAL PARK SERVICE

<table>
<thead>
<tr>
<th>Year</th>
<th>Appropriations</th>
<th>Revenues</th>
</tr>
</thead>
<tbody>
<tr>
<td>1917</td>
<td>National Park Service in the District of Columbia, deficiency act of Apr. 17, 1917 (40 Stats., 20)</td>
<td>$3,066.67</td>
</tr>
<tr>
<td>1918</td>
<td>National Park Service in the District of Columbia, surdry civil act of July 1, 1918 (40 Stats., 677)</td>
<td>17,000.00</td>
</tr>
<tr>
<td>1919</td>
<td>National Park Service in the District of Columbia, surdry civil act of July 1, 1919 (Public No. 21, 60th Cong.)</td>
<td>22,220.00</td>
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<tr>
<td>Total</td>
<td></td>
<td>62,036.67</td>
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#### SPRINGS RESERVATION, ARK.

<table>
<thead>
<tr>
<th>Year</th>
<th>Appropriations</th>
<th>Revenues</th>
</tr>
</thead>
<tbody>
<tr>
<td>1896</td>
<td>Improvement of Whittington Lake Reserve from proceeds of sale of lots included in above fund, 1892</td>
<td>$30,000.00</td>
</tr>
<tr>
<td>1896</td>
<td>To repay expenditures upon a sewer, 1896 act May 1, 1896 (39 Stats., 130)</td>
<td>5,000.00</td>
</tr>
<tr>
<td>1913</td>
<td>For survey for storm drainage and sanitary sewer system of Hot Springs, abutting Hot Springs Reservation, surdry civil act of Aug. 24, 1912 (37 Stats., 457)</td>
<td>5,000.00</td>
</tr>
</tbody>
</table>

#### APPROPRIATION FOR 1919 MADE UNDER THE NAME OF SIEUR DE MONTS NATIONAL MONUMENT.

- Appropriation for 1919 made under the name of Sullins Hill.
- Appropriation for 1919 made under the name of Wind Cave.

#### APPROPRIATION FOR 1919 MADE UNDER THE NAME OF WIND CAVE.

- Appropriation for 1919 made under the name of Wind Cave.
- Appropriation for 1919 made under the name of Sullins Hill.

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#### APPROPRIATION FOR 1919 MADE UNDER THE NAME OF WIND CAVE.

- Appropriation for 1919 made under the name of Sullins Hill.
- Appropriation for 1919 made under the name of Wind Cave.
1918. For the employment of a landscape engineer and such other expenses as may be required for the preparation of a practical and comprehensive plan, together with an accurate estimate of the cost thereof, for improving the Hot Springs Reservation, sundry civil act of June 12, 1917 (40 Stats., 105, 153) $10,000.00

### TITLE: IMPROVEMENT, HOT SPRINGS RESERVATION

- Specific appropriation by Congress from revenue fund:
  - Improvement of Hot Springs Creek, 1883, sundry civil act of Aug. 7, 1882 (22 Stats., 329) $33,744.78
- This amount accrued to the revenue fund from operation of the bathhouses by the Court of Claims receiver in 1878.

### TITLE: SALARIES AND EXPENSES, HOT SPRINGS RESERVATION

- Salaries and expenses, Hot Springs Commission, 1877, sundry civil act of Mar. 3, 1877 (19 Stats., 356) $27,500.00
- Same as above, deficiency act of Dec. 15, 1877 (20 Stats., 12) $15,000.00
- Same as above, act of Dec. 16, 1878 (20 Stats., 258) $27,500.00
- Same as above, deficiency act of Mar. 3, 1879 (20 Stats., 415) $12,000.00

Total $82,000.00

### TITLE: PROTECTION AND IMPROVEMENT, HOT SPRINGS RESERVATION

- Specific appropriations by Congress from moneys in Treasury not otherwise appropriated:
  - Improvement of Hot Springs Creek, 1884, sundry civil act July 7, 1884 (23 Stats., 206) $75,000.00
  - Same as above, 1886, sundry civil act Mar. 3, 1885 (23 Stats., 498) $8,000.00
  - Reservoirs, pumps, piping, and improvement of the free bathhouse, sundry civil act Oct. 2, 1885 (25 Stats., 527) $56,000.00
  - Improvement of the free bathhouse, 1890, deficiency act Apr. 4, 1890 (26 Stats., 40) $3,200.00
  - For mains, pipes, pumping engine, etc., 1891, deficiency act of Sept. 30, 1890 (26 Stats., 523) $5,000.00
  - Construction of roads, 1892, sundry civil act of Mar. 3, 1891 (26 Stats., 972) $5,000.00

Total $152,200.00

### TITLE: HOT SPRINGS RESERVATION

- Specific appropriations by Congress from moneys in Treasury not otherwise appropriated:
  - Repairs to roads, drives, etc., and remodeling free bathhouse, 1903, sundry civil act of June 28, 1902 (32 Stats., 456) $48,562.00
  - Repairs to roads, etc., and storage reservoir, 1904, sundry civil act of Mar. 3, 1903 (32 Stats., 1110) $90,500.00
  - Reimbursement of disbursing officer, 1904, deficiency act of Feb. 15, 1904 (32 Stats., 32) $500.00
  - Installation of electric motor for the free bathhouse, 1904, deficiency act of Apr. 27, 1904 (33 Stats., 400) $1,550.00
  - For gutters on mountain roads, 1905, sundry civil act of Apr. 28, 1904 (33 Stats., 496) $8,000.00
  - Filling lakes in Whittington Park, 1906, sundry civil act of Mar. 3, 1906 (33 Stats., 1177) $6,000.00
  - For labor, material, supervision, clearing site, and all other necessary expenses incident to the construction of a new administration and government free bathhouse building to cost not to exceed $190,000, sundry civil act of July 1, 1918 (40 Stats., 679) $140,000.00

Total $235,112.00

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Fig. 6.—All national parks, appropriations, revenues, and visitors.
REPORT OF DIRECTOR OF NATIONAL PARK SERVICE.

1886. Continuation of compensation, superintendent and employees, July 1 to 15, 1886, joint resolutions of July 1 and 15, 1886 (24 Stats., 343 and 345)$934.25


1888. Protection and improvement of the park (construction of roads and bridges under direction engineer officer detailed by Secretary of War), sundry civil act of Aug. 4, 1886 (24 Stats., 249)20,000.00

1894. For office of United States commissioner and jail, act of May 7, 1894, to protect birds and punish crimes in the park (28 Stats., 76)5,000.00

1895. Reimbursement of United States commissioner the amount paid for completion office and jail building, sundry civil act of Mar. 2, 1893 (28 Stats., 945)385.75

1902. Repairs to United States commissioner’s building, sundry civil act of Mar. 3, 1901 (31 Stats., 1162)450.00

1902. Administration and protection, sundry civil acts of Mar. 3, 1901 (31 Stats., 1163)5,000.00

1902. Surveying northern and western boundaries, sundry civil act of Mar. 3, 1901 (31 Stats., 1160)3,300.00

1903. Administration and protection, sundry civil act of June 28, 1902 (32 Stats., 456)5,000.00

1904. Administration and protection (including $2,500 for maintenance of buffalo), sundry civil act of Mar. 3, 1903 (32 Stats., 1118)7,780.44

1905. Administration and protection (including $2,500 for maintenance of buffalo), sundry civil act of Apr. 28, 1904 (33 Stats., 487)7,500.00

1906. Administration and protection (including $2,500 for maintenance of buffalo), sundry civil act of Mar. 3, 1905 (33 Stats., 1188)7,500.00

1907. Administration and protection (including $2,500 for maintenance of buffalo), sundry civil act of June 30, 1906 (34 Stats., 729)7,500.00

1908. Administration and protection (including $2,500 for maintenance of buffalo), sundry civil act of Apr. 4, 1907 (34 Stats., 1337)8,000.00

1909. Administration and protection (including $2,500 for maintenance of buffalo, and $2,500 for surveying and marking unencountered portions of park boundaries), sundry civil act of May 27, 1908 (35 Stats., 361)10,500.00

1910. Administration and protection (including $2,500 for maintenance of buffalo), sundry civil act of Mar. 4, 1909 (35 Stats., 990)8,000.00

1911. Administration and protection (including $2,500 for maintenance of buffalo), sundry civil act of June 25, 1910 (36 Stats., 745)8,500.00

1 Protection and improvement appropriations for the years 1888 to 1901, inclusive, were expended by the War Department.

1 Improvement appropriations of these years were expendable by the War Department.
1912. Administration and protection (including $3,000 for maintenance of buffalo), sundry civil act of Mar. 4, 1911 (36 Stats., 1420) $8,500.00
1913. Administration and protection (including $3,000 for maintenance of buffalo), sundry civil act of Aug. 24, 1912 (37 Stats., 400) 8,500.00
1914. Administration and protection (including $3,000 for maintenance of buffalo), sundry civil act of June 26, 1913 (38 Stats., 49) 8,500.00
1915. Administration and protection (including $3,000 for maintenance of buffalo), sundry civil act of Aug. 1, 1914 (38 Stats., 508) 8,500.00
1916. Administration and protection (including $3,000 for maintenance of buffalo), sundry civil act of Mar. 3, 1915 (38 Stats., 862) 8,500.00
1917. Administration and protection (including $3,000 for maintenance of buffalo), sundry civil act of July 1, 1916 (39 Stats., 307) 8,500.00
1918. Administration and protection (including $5,000 for maintenance of buffalo), sundry civil act of June 12, 1917 (40 Stats., 105, 151) 10,500.00
1919. Administration, protection, maintenance, and improvement (including $15,000 for maintenance of roads leading to park gateways through forest reserves east and south, $25,000 for repair of damage caused by flood waters to road leading through east forest reserve and park to Lake Hotel, $15,400 for widening approach roads, and $50,000 for a new road around the Gardiner Slide), sundry civil act of July 1, 1918 (40 Stats., 677-678) 34,920.00
1920. Resurfacing and finishing the belt line with oil macadam, the unexpended balance of the appropriation for the fiscal year 1919, under the War Department, made available for the fiscal year 1920, under the Interior Department, sundry civil act of July 1, 1918 (40 Stats., 678) 3,259.48

For reimbursement of the appropriation for Yellowstone National Park for the fiscal year 1920 on account of expenditures for fighting forest fires in the park, deficiency act of Nov. 4, 1919 (Public No. 73, 66th Cong.) 25,000.00

Total 1,001,187.46

UNDER WAR DEPARTMENT.

1888. Protection and improvement, sundry civil act of Mar. 3, 1887 (24 Stats., 331) $20,000.00
1889. Protection and improvement of park, sundry civil act of Oct. 2, 1888 (25 Stats., 334) 25,000.00
1890. Protection and improvement, sundry civil act of Mar. 2, 1889 (25 Stats., 907) 50,000.00
1891. Protection and improvement, sundry civil act of Aug. 30, 1890 (25 Stats., 399) 75,000.00
1892. Improvement of the park, sundry civil act of Mar. 3, 1891 (26 Stats., 977) 75,000.00
1893. Improvement of the park, sundry civil act of Aug. 5, 1892 (27 Stats., 370) 45,000.00
1894. Improvement of the park, sundry civil act of Mar. 3, 1893 (27 Stats., 508) 30,000.00
1895. Improvement of the park, sundry civil act of Aug. 18, 1894 (28 Stats., 409) 30,000.00

1 Improvement appropriations of these years were expendable by the War Department.
1915. Widening to not exceeding 18 feet and improving the surface of roads and for building bridges and culverts in the forest reserve leading out of the park from the east boundary to make such roads suitable and safe for animal-drawn and motor-propelled vehicles, sundry civil act of Aug. 1, 1914 (38 Stats., 633) .................................................. $30,000.00

1916. Maintenance and repair of improvements, sundry civil act of Mar. 3, 1915 (38 Stats., 454) .................................................. 125,000.00

1917. Maintenance and repair of improvements, sundry civil act of July 1, 1916 (39 Stats., 288) .................................................. 152,500.00

For completing the widening to not exceeding 18 feet of roadway and improving the surface of roads and for building bridges and culverts in the forest reserve leading out of the park from the east boundary, sundry civil act of July 1, 1916 (39 Stats., 289) .................................................. 6,000.00

1918. For resurfacing and for finishing the belt line with oil macadam, sundry civil act of June 12, 1917 (40 Stats., 105, 132) ................. 147,500.00

Total .................................................. 3,213,095.86

RECAPITULATION.
Appropriations under the Interior Department, 1879 to 1920, inclusive ....................... 1,001,187.46
Appropriations under the War Department, 1888 to 1918, inclusive .......................... 3,213,095.86
Total .................................................. 4,214,283.32

SEQUOIA NATIONAL PARK, CAL.
(From Sept. 25, 1890, to June 6, 1900, no appropriations for the park were made by Congress.)

1901. Protection and improvement, sundry civil act of June 6, 1900 (31 Stats., 618) .................. $10,000.00

1902. Protection and improvement, sundry civil act of Mar. 3, 1901 (31 Stats., 1162) ............ 10,000.00

1903. Protection and improvement, sundry civil act of June 28, 1902 (32 Stats., 458) ......... 10,000.00

1904. Protection and improvement, sundry civil act of Mar. 3, 1905 (32 Stats., 1119) .......... 10,000.00

1905. Protection and improvement, deficiency act of Mar. 3, 1909 (32 Stats., 1000) ............ $9,69

1906. Protection and improvement, sundry civil act of Apr. 28, 1904 (33 Stats., 487) ........... 10,000.00

Total .................................................. 372,849.69

YOSEMITE NATIONAL PARK, CALIF.
(From Oct. 1, 1890, to July 1, 1898, no appropriations for the park were made by Congress.)

1899. For improvement, sundry civil act of July 1, 1899 (30 Stats., 324) .................. $8,000.00

1900. For improvement, sundry civil act of Mar. 3, 1899 (30 Stats., 1100) .................. 4,000.00

1901. Protection and improvement, sundry civil act of June 6, 1900 (31 Stats., 618) ............ 4,000.00

1902. Protection and improvement, sundry civil act of Mar. 3, 1901 (31 Stats., 1162) ............ 4,000.00

1903. Protection and improvement, sundry civil act of Mar. 3, 1905 (32 Stats., 1119) ............ 4,000.00

1904. Protection and improvement, deficiency act of Mar. 3, 1909 (32 Stats., 1000) ............ 4,000.00

1905. Protection and improvement, sundry civil act of Apr. 28, 1904 (33 Stats., 487) ............ 4,000.00

1906. Protection and improvement, sundry civil act of Mar. 3, 1905 (33 Stats., 1188) ............ $10,000.00

1907. Protection and improvement, sundry civil act of June 30, 1908 (34 Stats., 1528) ............ 10,000.00

1908. Protection and improvement, sundry civil act of Mar. 4, 1907 (34 Stats., 1537) ............ 15,550.00

1909. Protection and improvement, sundry civil act of May 27, 1908 (35 Stats., 351) ............ 15,550.00

1910. Protection and improvement, sundry civil act of Mar. 4, 1909 (35 Stats., 960) ............ 15,550.00

1911. Protection and improvement, sundry civil act of June 25, 1910 (36 Stats., 745) ............ 15,550.00

1912. Protection and improvement, construction and repair of bridges, fences, and trails, sundry civil act of Mar. 4, 1911 (36 Stats., 1421) ............ 15,550.00

1913. Protection and improvement, construction and repair of bridges, fences, and trails, and improvement of roads other than toll roads, sundry civil act of Aug. 24, 1912 (37 Stats., 460) ............ 15,550.00

1914. Protection and improvement, construction and repair of bridges, fences, and trails, and improvement of roads other than toll roads, sundry civil act of June 29, 1913 (38 Stats., 49) ............ 15,550.00

1915. Protection and improvement, construction and repair of bridges, fences, and trails, and improvement of roads other than toll roads, sundry civil act of Aug. 1, 1914 (38 Stats., 649) ............ 15,550.00

1916. Protection and improvement, construction and repair of bridges, fences, and trails, and improvement of roads other than toll roads, including the purchase of site for ranger station not to exceed $500, sundry civil act of Mar. 3, 1915 (38 Stats., 845) ............ 15,550.00

1917. Protection and improvement, construction and repair of bridges, fences, and trails, and improvement of roads other than toll roads, sundry civil act of July 1, 1916 (39 Stats., 308) ............ 15,550.00

1918. For protection and improvement, construction and repair of bridges, fences, and trails, and improvement of roads other than toll roads, sundry civil act of July 1, 1916 (39 Stats., 308) ............ 22,300.00

1919. For protection and improvement, including not exceeding $12,000 for a bridge at old Marble Fork Bridge site, sundry civil act of July 1, 1915 (40 Stats., 678) ............ 30,510.00

1920. Protection and improvement, construction and repair of bridges, fences, and trails, improvement of roads other than toll roads, sundry civil act of July 12, 1919 (Public No. 21, 66th Cong.) ............ 35,000.00

Total .................................................. 372,849.69

1 Created by act of Oct. 1, 1890 (26 Stats., 650); boundaries changed by act of Feb. 7, 1905 (33 Stats., 1188), and joint resolution of June 11, 1906 (34 Stats., 831), the latter accepting recession of Yosemite Valley from the State of California.
<table>
<thead>
<tr>
<th>Year</th>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1904</td>
<td>Protection and improvement, sundry civil act of Mar. 3, 1903 (32 Stats., 1119)</td>
<td>$6,000.00</td>
</tr>
<tr>
<td>1904</td>
<td>Protection and improvement, sundry civil act of June 28, 1904 (33 Stats., 487)</td>
<td>$5,400.00</td>
</tr>
<tr>
<td>1904</td>
<td>Protection and improvement, sundry civil act of Apr. 28, 1904 (33 Stats., 487)</td>
<td>$3,000.00</td>
</tr>
<tr>
<td>1905</td>
<td>Protection and improvement, sundry civil act of June 25, 1905 (33 Stats., 1188)</td>
<td>$5,400.00</td>
</tr>
<tr>
<td>1909</td>
<td>Protection and improvement, sundry civil act of May 27, 1909 (34 Stats., 1397)</td>
<td>$5,000.00</td>
</tr>
<tr>
<td>1910</td>
<td>Protection and improvement, sundry civil act of Mar. 4, 1910 (35 Stats., 990)</td>
<td>$30,000.00</td>
</tr>
<tr>
<td>1910</td>
<td>Protection and improvement, sundry civil act of June 25, 1910 (35 Stats., 745)</td>
<td>$20,000.00</td>
</tr>
<tr>
<td>1910</td>
<td>For examination of water supply in the Yosemite National Park for the city of San Francisco, sundry civil act of June 25, 1910 (36 Stats., 745)</td>
<td>$12,000.00</td>
</tr>
<tr>
<td>1911</td>
<td>Protection and improvement, construction of fences and trails, and improvement of roads other than toll roads, sundry civil act of May 27, 1911 (36 Stats., 620)</td>
<td>$80,000.00</td>
</tr>
<tr>
<td>1913</td>
<td>Protection and improvement, construction of fences and trails, and improvement of roads other than toll roads, sundry civil act of Aug. 1, 1913 (37 Stats., 49)</td>
<td>$125,000.00</td>
</tr>
<tr>
<td>1913</td>
<td>Protection and improvement, construction of fences and trails, and improvement of roads other than toll roads, sundry civil act of Aug. 23, 1913 (37 Stats., 460)</td>
<td>$100,000.00</td>
</tr>
<tr>
<td>1916</td>
<td>Protection and improvement, construction of fences and trails, and improvement of roads other than toll roads, sundry civil act of Aug. 1, 1916 (38 Stats., 865)</td>
<td>$75,000.00</td>
</tr>
<tr>
<td>1916</td>
<td>To cover claim of Crane Co. for water-system supplies as reported in House Document 1578, Sixty-third Congress, third session, deficiency act of Mar. 4, 1915 (38 Stats., 1157)</td>
<td>$196.80</td>
</tr>
<tr>
<td>1917</td>
<td>Protection and improvement, construction of fences and trails, and improvement of roads other than toll roads, including not exceeding $500 for maintenance and repair of horse-drawn passenger-carrying vehicles, not exceeding $75,000 for grading in width not exceeding 20 feet El Portal-Yosemite road, and not exceeding $150,000 for installation of a hydroelectric power plant, sundry civil act of July 1, 1916 (39 Stats., 965)</td>
<td>$250,000.00</td>
</tr>
</tbody>
</table>

**Total:** $1,601,796.05

**Specific appropriations by Congress from the revenue fund of Yosemite Park.**

<table>
<thead>
<tr>
<th>Year</th>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1918</td>
<td>For protection and improvement, construction of fences and trails, and repair and reconstruction of El Portal-Yosemite road, sundry civil act of July 1, 1918 (40 Stats., 787)</td>
<td>$250,000.00</td>
</tr>
<tr>
<td>1918</td>
<td>For completion of the installation of the hydroelectric power plant, deficiency act of Mar. 28, 1918 (40 Stats., 49)</td>
<td>$3,500.00</td>
</tr>
</tbody>
</table>

**General Grant National Park, Calif.**

[From Oct. 1, 1890, to June 6, 1900, no appropriations for the park were made by Congress.]

<table>
<thead>
<tr>
<th>Year</th>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1901</td>
<td>Improvement of park, sundry civil act of June 6, 1900 (31 Stats., 618)</td>
<td>$2,500.00</td>
</tr>
<tr>
<td>1902</td>
<td>Protection and improvement, sundry civil act of Mar. 3, 1901 (31 Stats., 1162)</td>
<td>$2,500.00</td>
</tr>
<tr>
<td>1903</td>
<td>Protection and improvement, sundry civil act of Apr. 28, 1903 (32 Stats., 456)</td>
<td>$2,500.00</td>
</tr>
<tr>
<td>1904</td>
<td>Protection and improvement, sundry civil act of Mar. 3, 1904 (32 Stats., 1119)</td>
<td>$2,000.00</td>
</tr>
<tr>
<td>1904</td>
<td>For improvement of park in 1901, deficiency act of Mar. 3, 1903 (32 Stats., 1060)</td>
<td>$2,000.00</td>
</tr>
<tr>
<td>1905</td>
<td>Protection and improvement, sundry civil act of Apr. 28, 1905 (33 Stats., 990)</td>
<td>$2,000.00</td>
</tr>
<tr>
<td>1905</td>
<td>Protection and improvement, sundry civil act of Mar. 3, 1905 (33 Stats., 1397)</td>
<td>$2,000.00</td>
</tr>
<tr>
<td>1905</td>
<td>Protection and improvement, sundry civil act of June 23, 1913 (33 Stats., 729)</td>
<td>$2,000.00</td>
</tr>
<tr>
<td>1905</td>
<td>Protection and improvement, sundry civil act of June 30, 1915 (33 Stats., 49)</td>
<td>$2,000.00</td>
</tr>
<tr>
<td>1905</td>
<td>Protection and improvement, sundry civil act of Aug. 23, 1915 (33 Stats., 460)</td>
<td>$2,000.00</td>
</tr>
<tr>
<td>1906</td>
<td>Protection and improvement, sundry civil act of Aug. 24, 1916 (34 Stats., 49)</td>
<td>$2,000.00</td>
</tr>
<tr>
<td>1906</td>
<td>Protection and improvement, sundry civil act of Aug. 23, 1916 (34 Stats., 49)</td>
<td>$2,000.00</td>
</tr>
<tr>
<td>1906</td>
<td>Protection and improvement, sundry civil act of Aug. 23, 1916 (34 Stats., 49)</td>
<td>$2,000.00</td>
</tr>
<tr>
<td>1906</td>
<td>Protection and improvement, sundry civil act of Aug. 23, 1916 (34 Stats., 49)</td>
<td>$2,000.00</td>
</tr>
<tr>
<td>1911</td>
<td>Protection and improvement, sundry civil act of July 1, 1915 (36 Stats., 1157)</td>
<td>$2,000.00</td>
</tr>
<tr>
<td>1912</td>
<td>Protection and improvement, sundry civil act of Mar. 4, 1911 (36 Stats., 1421)</td>
<td>$2,000.00</td>
</tr>
<tr>
<td>1913</td>
<td>Protection and improvement, construction of fences and trails, and repair and reconstruction of El Portal-Yosemite road, sundry civil act of Aug. 24, 1912 (37 Stats., 490)</td>
<td>$2,000.00</td>
</tr>
<tr>
<td>1914</td>
<td>Protection and improvement, construction of fences and trails, and repair and reconstruction of roads, sundry civil act of June 25, 1915 (38 Stats., 49)</td>
<td>$2,000.00</td>
</tr>
<tr>
<td>1915</td>
<td>Protection and improvement, construction of fences and trails, and repair and reconstruction of roads, sundry civil act of Aug. 1, 1914 (38 Stats., 640)</td>
<td>$2,000.00</td>
</tr>
</tbody>
</table>

**Create**
1916. Protection and improvement, construction of fences and trails, and repairing and extension of roads, sundry civil act of Mar. 5, 1915 (35 Stats., 563) ................................................................. $2,000.00

1917. Protection and improvement, construction of fences and trails, and repairing and extension of roads, sundry civil act of July 1, 1916 (36 Stats., 899) ................................................................. 2,000.00

1918. For protection and improvement, construction of fences and trails, and repairing and extension of roads, sundry civil act of June 12, 1917 (40 Stats., 105, 162) ................................................................. 2,000.00

1919. For protection and improvement, construction of fences and trails, and repairing and extension of roads, sundry civil act of July 1, 1918 (40 Stats., 678) ................................................................. 4,500.00

1920. Protection and improvement, construction of fences and trails, and repairing and extension of roads, sundry civil act of July 19, 1918 (Public No. 21, 66th Cong.) ................................................................. 6,000.00

Total ................................................................. 13,500.00

Mount Rainier National Park, Wash.,

Under Interior Department.

1From Mar. 2, 1899, to June 30, 1906, no appropriations for the park were made by Congress.

1907. Protection and improvement, sundry civil act of June 30, 1906 (34 Stats., 729) ................................................................. $2,500.00

1908. Protection and improvement, sundry civil act of Mar. 4, 1907 (34 Stats., 1337) ................................................................. 3,000.00

1909. Protection and improvement, sundry civil act of May 27, 1908 (35 Stats., 551) ................................................................. 3,000.00

1910. Protection and improvement, sundry civil act of Mar. 4, 1909 (35 Stats., 991) ................................................................. 3,000.00

1911. Protection and improvement, sundry civil act of June 25, 1910 (36 Stats., 745) ................................................................. 3,000.00

1912. Protection and improvement, construction of bridges, fences, and trails, etc., sundry civil act of Mar. 4, 1911 (36 Stats., 1421) ................................................................. 5,000.00

1913. Protection and improvement, construction of bridges, fences, and trails, and improvement of roads, sundry civil act of Aug. 24, 1912 (37 Stats., 490) ................................................................. 20,000.00

1914. Protection and improvement, construction of bridges, fences, and trails, and improvement of roads, sundry civil act of June 23, 1913 (38 Stats., 50) ................................................................. 13,400.00

For survey for the extension of the present road from a point at or about Longmire Springs eastward to the eastern boundary line of the forest reserve surrounding the park and for survey of necessary trails, sundry civil act of June 23, 1913 (38 Stats., 50) ................................................................. 10,000.00

1915. Protection and improvement, construction of bridges, fences, and trails, and improvement of roads, sundry civil act of Aug. 1, 1914 (38 Stats., 649) ................................................................. 51,000.00

1916. Protection and improvement, construction of bridges, fences, and trails, and improvement of roads, sundry civil act of Mar. 3, 1915 (38 Stats., 863) ................................................................. 30,000.00

1917. Protection and improvement, construction of bridges, fences, and trails, and improvement of roads, sundry civil act of July 1, 1916 (39 Stats., 108) ................................................................. 30,000.00

1918. Protection and improvement, construction of bridges, fences, and trails, and improvement of roads, including not exceeding $1,250 for the purchase of a motor-driven vehicle and the maintenance and repair thereof, sundry civil act of June 12, 1917 (40 Stats., 105, 152) ................................................................. 75,000.00

Total ................................................................. 130,500.00

Mount Rainier National Park, Wash.

Under Interior Department.

1903. Protection and improvement, construction of bridges, fences, and trails, and improvement of roads, sundry civil act of Mar. 3, 1903 (32 Stats., 1131) ................................................................. $10,000.00

1904. Continuing construction wagon road, sundry civil act of Apr. 28, 1904 (33 Stats., 498) ................................................................. 30,000.00

1905. Continuing construction wagon road, sundry civil act of June 30, 1905 (34 Stats., 744) ................................................................. 30,000.00

1906. Construction wagon road, sundry civil act of July 1, 1906 (34 Stats., 729) ................................................................. 3,000.00

1907. Construction wagon road, sundry civil act of Mar. 4, 1907 (34 Stats., 1349) ................................................................. 50,000.00

1908. Construction wagon road, sundry civil act of May 27, 1908 (35 Stats., 365) ................................................................. 50,000.00

1909. Completion of wagon road, sundry civil act of Mar. 4, 1909 (35 Stats., 1005) ................................................................. 25,000.00

1910. Additional work upon wagon road, sundry civil act of June 25, 1910 (36 Stats., 725) ................................................................. 25,000.00

Total ................................................................. 240,000.00

Crater Lake National Park, Oreg.,

Under Interior Department.

1902 and 1903. Protection and improvement, deficiency act of July 1, 1902 (32 Stats., 571) ................................................................. $2,000.00

1904. Protection and improvement, sundry civil act of Mar. 5, 1904 (32 Stats., 1119) ................................................................. 2,000.00

1905. Protection and improvement, sundry civil act of Apr. 28, 1905 (33 Stats., 487) ................................................................. 3,000.00

1906. Protection and improvement, sundry civil act of Mar. 3, 1906 (33 Stats., 1188) ................................................................. 3,000.00

1907. Protection and improvement, sundry civil act of June 30, 1907 (34 Stats., 729) ................................................................. 3,000.00

1908. Protection and improvement, sundry civil act of April 4, 1908 (34 Stats., 365) ................................................................. 3,000.00

1909. Protection and improvement, sundry civil act of May 27, 1909 (35 Stats., 745) ................................................................. 3,000.00

1910. Protection and improvement, sundry civil act of Oct. 22, 1910 (35 Stats., 1237) ................................................................. 7,315.00

1911. Protection and improvement, sundry civil act of June 25, 1911 (36 Stats., 1421) ................................................................. 3,000.00

1912. Protection and improvement, sundry civil act of April 4, 1912 (36 Stats., 390) ................................................................. 3,000.00

1913. Protection and improvement, sundry civil act of Aug. 24, 1913 (36 Stats., 690) ................................................................. 3,000.00

1Created by act of May 22, 1902 (32 Stat., 202).

2Created by act of Mar. 2, 1899 (30 Stats., 903).
1914. Protection and improvement and repairing and extension of roads, sundry civil act of June 23, 1913 (38 Stats., 50)...

1915. Protection and improvement and repairing and extension of roads, sundry civil act of Aug. 1, 1914 (38 Stats., 649)...

1916. Protection and improvement and repairing and extension of roads, sundry civil act of Mar. 3, 1915 (38 Stats., 883)...

1917. Protection and improvement and repairing and extension of roads, sundry civil act of July 1, 1916 (38 Stats., 398)...

1918. Protection and improvement and repairing and extension of roads, sundry civil act of June 12, 1917 (40 Stats., 105, 132)...

1919. For protection and improvement and repairing and extension of roads, sundry civil act of July 1, 1918 (40 Stats., 679)...

1920. Protection and improvement and repairing and extension of roads, sundry civil act of July 19, 1919 (Public No. 21, 66th Cong.)...

Total 128,345.00

UNDER WAR DEPARTMENT.

1910. Surveying, locating, and preparing plans and estimates for roads and trails in the park, sundry civil act of June 25, 1910 (39 Stats., 725)...

1913. Construction of wagon road and necessary bridges through park, with system of tanks and water-supply pipes for sprinkling, sundry civil act of Aug. 24, 1912 (37 Stats., 460)...

1914. Construction of wagon road and necessary bridges through park, with system of tanks and water-supply pipes for sprinkling, sundry civil act of Aug. 24, 1912 (37 Stats., 460)...

1915. Construction of wagon road and necessary bridges through park, with system of tanks and water-supply pipes for sprinkling, sundry civil act of Aug. 24, 1912 (37 Stats., 460)...

1916. For construction and maintenance of a wagon road and the necessary bridges through park, with system of tanks and water-supply pipes, sundry civil act of July 1, 1916 (39 Stats., 259)...

1917. For construction of a wagon road and the necessary bridges through park, with system of tanks and water-supply pipes for sprinkling, also for maintenance, repair, and operation of two horse-drawn passenger-carrying vehicles, sundry civil act of July 1, 1916 (39 Stats., 259)...

1918. For continuation of a wagon road and the necessary bridges through the park, together with a system of tanks and water-supply pipes for sprinkling (H. Doc. 328, 62d Cong., 2d sess.), and for maintenance, repair, and operation of two horse-drawn passenger-carrying vehicles, sundry civil act of June 12, 1917 (40 Stats., 105, 132)...

1919. For construction and maintenance of a wagon road and the necessary bridges through the park, together with a system of tanks and water-supply pipes for sprinkling, sundry civil act of July 1, 1918 (40 Stats., 639)...

Total 420,000.00

RECAPITULATION.

Appropriations under the Interior Department, 1902 to 1920, Inclusive 128,345.00

Appropriations expended under the War Department, 1910 to 1919, Inclusive 420,000.00

Total 548,345.00

1 Created by acts of July 1, 1902 (32 Stats., 641), and Apr. 21, 1904 (33 Stats., 220); same changed by joint resolution of June 29, 1906 (34 Stats., 537).
2 Created by act of Jan. 9, 1903 (32 Stats., 765).
1916. Protection and improvement, sundry civil act of Mar. 3, 1915 (35 Stats., 365) — 2,500.00
1917. Protection and improvement, sundry civil act of July 1, 1916 (39 Stats., 308) — 2,500.00
1918. For improvement and protection, sundry civil act of June 12, 1917 (40 Stats., 105, 152) — 2,500.00
1919. For improvement and protection, sundry civil act of July 1, 1918 (40 Stats., 679) — 4,000.00
1920. For improvement and protection, sundry civil act of July 19, 1919 (Public No. 21, 69th Congress) — 4,000.00

Total — 44,900.00

**UNDER DEPARTMENT OF AGRICULTURE.**

1913. For the establishment of a national game preserve, to be known as the Wind Cave National Game Preserve, upon the land embraced within the boundaries of the Wind Cave National Park, in the State of South Dakota, for a permanent national range for a herd of buffalo to be presented to the United States by the American Bison Society, and for such other native American game animals as may be placed therein. The Secretary of Agriculture is authorized to acquire by purchase or condemnation such adjacent lands as may be necessary for the purpose of assuring an adequate permanent water supply, and to inclose the said game preserve with a good and substantial fence and to erect thereon all necessary sheds and buildings for the proper care and maintenance of the said animals, to be available until expended, Agricultural act of August 10, 1912 (37 Stats., 293) — $25,000.00

**RECAPITULATION.**

Appropriations under the Interior Department, 1904 to 1920, inclusive — 44,900.00
Appropriation expended under the Department of Agriculture, appropriated for the fiscal year 1913 and made available until expended — 26,000.00

Total — 70,900.00

**SULLYS HILL PARK, N. DAK.**

UNDER THE DEPARTMENT OF THE INTERIOR.

[From June 2, 1904, to June 30, 1913, no appropriations for the park were made by Congress.] 1914. For examination and leasing, etc., of coal lands in the park, sundry civil act of June 25, 1910 (36 Stats., 745) — 20,000.00

UNDER DEPARTMENT OF AGRICULTURE.

1915. For the improvement of the game preserve in the park, Agricultural appropriation act of June 30, 1914 (38 Stats., 434) — 5,000.00
1916. For the improvement of the game preserve in the park, including construction of fences, sheds, buildings, corrals, roads, and other structures which may be necessary, Agricultural appropriation act of Mar. 4, 1915 (38 Stats., 1105) — 5,000.00

Total — 10,000.00

**GLACIER NATIONAL PARK, MONT.**

1917. For the improvement of the game preserve in the park, including construction of fences, sheds, buildings, corrals, roads, and other structures which may be necessary, Agricultural appropriation act of Aug. 11, 1916 (39 Stats., 1870) — $5,000.00

1918. For the maintenance and improvement of the game preserves in Sullys Hill National Park, including the construction of all fences, sheds, buildings, corrals, roads, and other structures which may be necessary, in addition to the amount heretofore appropriated, available until expended, Agricultural appropriation act of Mar. 4, 1917 (39 Stats., 1105) — 5,000.00

Total — 20,000.00

**RECAPITULATION.**

Appropriations under the Interior Department, fiscal year 1914 — 500.00
Appropriations expended under the Department of Agriculture, 1914 to 1918, inclusive — 20,000.00

Total — 20,500.00

**MESA VERDE NATIONAL PARK, COLO.**

1908. Protection and improvement, sundry civil act of Mar. 4, 1907 (34 Stats., 1337) — $7,500.00
1909. Protection and Improvement, sundry civil act of May 27, 1908 (35 Stats., 304) — 7,500.00
1910. Protection and improvement, sundry civil act of Mar. 4, 1909 (35 Stats., 900) — 7,500.00
1911. Protection and improvement, inclusive of $12,500 reserved within appropriation for construction of main wagon road through the park, sundry civil act of June 25, 1910 (36 Stats., 745) — 20,000.00
For examination and leasing, etc., of coal lands in the park, deficiency act of June 25, 1910 (36 Stats., 796) — 2,000.00
1912. Protection and improvement, sundry civil act of Mar. 4, 1911 (36 Stats., 1421) — 7,500.00
1913. Protection and improvement, sundry civil act of Aug. 24, 1912 (37 Stats., 400) — 15,000.00
1914. Protection and improvement, sundry civil act of June 23, 1913 (38 Stats., 351) — 10,000.00
1915. Protection and improvement, sundry civil act of Aug. 1, 1914 (38 Stats., 649) — 10,000.00
1916. Protection and improvement, sundry civil act of Mar. 3, 1915 (38 Stats., 863) — 10,000.00
1917. Protection and improvement, sundry civil act of July 1, 1916 (39 Stats., 305) — 10,000.00
1918. Protection and improvement, sundry civil act of June 12, 1917 (40 Stats., 103, 152) — 10,000.00
1919. For protection and improvement, sundry civil act of July 1, 1918 (40 Stats., 678-9) — 18,000.00
1920. Protection and improvement, sundry civil act of July 19, 1919 (Public No. 21, 69th Cong.) — 11,000.00

Total — 146,000.00

*Funds for the maintenance and further improvement of this game preserve are allotted each year from lump-sum appropriations for the Biological Survey, Department of Agriculture.

*Created by Executive proclamation of June 2, 1904, under the act approved Apr. 27, 1904 (33 Stats., 319).
1912. For administration and improvement, construction of roads, bridges, telephone lines, and repair of roads, trails, and bridges (appropriation made immediately available), sundry civil act of Mar. 4, 1913 (38 Stats., 1421) \(\text{\$60,200.00}\)

1913. For administration and improvement, construction of roads, bridges, telephone lines, and repair of roads, trails, and bridges, sundry civil act of July 18, 1913 (37 Stats., 490) \(\text{\$75,000.00}\)

1914. For administration and improvement, construction and repair of roads, bridges, telephone lines, and repair of roads, trails, and bridges, sundry civil act of June 23, 1914 (38 Stats., 49) \(\text{\$100,000.00}\)

1915. For administration and improvement, construction and repair of roads, trails, bridges, and telephone lines, sundry civil act of Aug. 1, 1914 (38 Stats., 648-649) \(\text{\$75,000.00}\)

1916. For administration and improvement, construction and repair of roads, trails, bridges, and telephone lines, sundry civil act of Mar. 3, 1915 (38 Stats., 862-863) \(\text{\$75,000.00}\)

1917. For administration and improvement, construction and repair of roads, trails, bridges, and telephone lines, including $10,000 reimbursement to Great Northern Railway Co. for repair of 32 miles of roads in the Blackfeet Indian Reservation, sundry civil act of July 1, 1916 (39 Stats., 907-908) \(\text{\$110,000.00}\)

1918. For administration and improvement, construction and repair of roads, trails, bridges, and telephone lines, including necessary repairs to the roads from Glacier Park station through the Blackfeet Indian Reservation to various points in the boundary line of the park, and for the purchase and maintenance of horse-drawn and motor-driven passenger-carrying vehicles for the use of the supervisor and employees in connection with general park work, sundry civil act of June 12, 1917 (40 Stats., 105, 151) \(\text{\$115,000.00}\)

1919. For administration and improvement, including necessary repairs to the roads from Glacier Park station through the Blackfeet Indian Reservation to various points in the boundary line of Glacier National Park, sundry civil act of July 1, 1918 (40 Stats., 678) \(\text{\$80,000.00}\)

1920. For administration and improvement, including necessary repairs to the roads from Glacier Park station through the Blackfeet Indian Reservation to various points in the boundary line of Glacier National Park, sundry civil act of July 19, 1919 (Public No. 21, 66th Cong.) \(\text{\$85,000.00}\)

For reimbursement of the appropriation for Glacier National Park for fiscal year 1920 on account of expenditures for fighting forest fires in the park, $40,000; for construction of a bridge over Flathead River at Belton, Mont., $12,000; deficiency act of Nov. 4, 1919 (Public No. 73, 66th Cong.) \(\text{\$62,000.00}\)

Total \(\text{\$799,200.00}\)

**ROCKY MOUNTAIN NATIONAL PARK, CO.**

1915. For protection and improvement, deficiency appropriation act of Mar. 4, 1915 (38 Stats., 1148) \(\text{\$8,000.00}\)

1916. For protection and improvement, sundry civil act of Mar. 3, 1915 (38 Stats., 863) \(\text{\$8,000.00}\)

1917. For protection and improvement, sundry civil act of July 1, 1916 (39 Stats., 308) \(\text{\$10,000.00}\)

1918. For protection and improvement, sundry civil act of June 12, 1917 (40 Stats., 105, 152) \(\text{\$10,000.00}\)

1919. For protection and improvement, sundry civil act of July 1, 1918 (40 Stats., 679) \(\text{\$10,000.00}\)

1920. Protection and improvement, sundry civil bill of July 19, 1919 (Public No. 21, 66th Cong.) \(\text{\$10,000.00}\)

Total \(\text{\$51,000.00}\)

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1 Created by act of Mar. 20, 1915 (38 Stats., 798).


3 Created by act of Feb. 26, 1919 (40 Stats., 1178).

4 Appropriated under the name of Sieur de Monts National Monument.

5 Set apart from public domain under act of June 8, 1906 (34 Stats., 225).
1889. To enable the Secretary of the Interior to repair and protect the Ruin of Casa Grande, situate in Pinal County, near Florence, Ariz., $2,000; and the President is authorized to reserve from settlement and sale the land on which said ruin is situated and so much of the public land adjacent thereto as in his judgment may be necessary for the protection of said ruin and of the ancient city of which it is a part. Sundry civil act approved Mar. 2, 1889 (25 Stats., 939, 961) $2,000

For the pay of a custodian of Casa Grande Ruin, funds have been allotted from the appropriation "For necessary expenses of survey, appraisal and sale, and pay of custodians of abandoned military reservations, including a custodian of the Ruin of Casa Grande," contained in sundry civil acts, as follows:

1893. Act approved Aug. 5, 1892 (27 Stats., 349, 370) $480
1894. Act approved Mar. 3, 1893 (27 Stats., 572, 593) $480
1895. Act approved Aug. 18, 1894 (28 Stats., 910, 938) $480
1896. Act approved June 11, 1896 (29 Stats., 413, 434) $480
1898. Act approved June 4, 1897 (30 Stats., 1133, 1160) $662
1903. Act approved June 28, 1902 (32 Stats., 419, 454) $900

By this same act there was also appropriated for repair and protection of the Ruin of Casa Grande, $2,000.

1894. Act approved Mar. 3, 1903 (32 Stats., 1083, 1117) $900
1895. Act approved Apr. 28, 1904 (33 Stats., 452, 485) $900
1896. Act approved Mar. 3, 1905 (33 Stats., 1156, 1186) $900
1897. Act approved June 30, 1906 (34 Stats., 697, 729) $900
1898. Act approved Mar. 4, 1907 (34 Stats., 1295, 1310) $900
1909. Act approved July 1, 1908 (36 Stats., 1373, 1407) $900
1910. Act approved Mar. 4, 1909 (36 Stats., 588, 610) $900
1911. Act approved June 25, 1910 (36 Stats., 703, 741) $900
1912. Act approved Mar. 4, 1911 (36 Stats., 1363, 1417) $900
1913. Act approved Aug. 24, 1912 (37 Stats., 417, 457) $900
1914. Act approved June 25, 1913 (38 Stats., 95, 47) $900
1915. Act approved Aug. 1, 1914 (38 Stats., 609, 645) $900
1916. Act approved Mar. 3, 1915 (38 Stats., 825, 856) $900
1917. Act approved July 1, 1916 (39 Stats., 262, 301) $900
1918. Act approved June 12, 1917 (40 Stats., 165, 144) $900
1919. Act approved July 1, 1918 (40 Stats., 659) $900

Total $24,282

UNDER THE SMITHSONIAN INSTITUTION.

Appropriations were made in sundry civil acts "For the protection of Casa Grande Ruin in Pinal County, near Florence, Ariz., and for excavation on the reservation, to be expended under the supervision of the secretary of the Smithsonian Institution," as follows:

1907. Act approved June 30, 1906 (34 Stats., 697, 729) $3,000
1908. Act approved Mar. 4, 1907 (34 Stats., 1295, 1310) $3,000

Total $6,000
APPENDIX D.

LEGISLATION.

Legislation affecting the national parks, enacted by Congress since date of the second annual report.

Legislation affecting the national parks, enacted by the States.

Executive orders relating to national parks, issued since date of the second annual report.

Senate and House of Representatives reports on pending legislation affecting the national parks made since date of the second annual report.

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LEGISLATION.

An act to authorize the sale of certain lands at or near Yellowstone, Mont., for hotel and other purposes (40 Stats., 1152).

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of the Interior be, and hereby is, authorized to sell and convey to Oregon Short Line Railroad Company, a corporation organized under the laws of the State of Utah and authorized to do business in the State of Montana, its successors and assigns, for hotel and other purposes, and at a price to be fixed by appraisement at not less than $25 per acre, and under such terms, conditions, and regulations as the Secretary of the Interior may prescribe, the following described lands, situated in Gallatin County, Montana: Lot three and the northeast quarter of the southwest quarter of section thirty-four, in township thirteen south, of range five east, Montana principal meridian, including the area at present covered by the right of way for the wye tracks of said Oregon Short Line Railroad Company; also all that portion of the southeast quarter of the northwest quarter of said section thirty-four lying south of the right of way and station grounds of said company, the entire tract above described consisting of eighty-eight and two one-hundredths acres; the right of way and station grounds of said Oregon Short Line Railroad Company and the right of way for the wye tracks of said company being designated in the filing map of the Yellowstone Park Railroad Company filed with the Secretary of the Interior, the land described being within the boundaries of the Madison National Forest: Provided, however, That any hotel erected on said lands shall be operated by the said Oregon Short Line Railroad Company, or its successors in interest, under such rules and regulations as the Secretary of the Interior may prescribe for the conduct and operation of hotels within the Yellowstone National Park.

Approved, January 25, 1919.

An act to establish the Grand Canyon National Park in the State of Arizona (40 Stat, 1175.)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there is hereby reserved and withdrawn from settlement, occupancy, or disposal under the laws of the United States and dedicated and set apart as a public park for the benefit and enjoyment of the people, under the name of the "Grand Canyon National Park," the tract of land in the State of Arizona particularly described by and included within metes and bounds as follows, wit:

Beginning at a point which is the northeast corner of township thirty north, range one east, of the Gila and Salt River meridian, Arizona; thence west on township line between townships thirty and thirty-one north, range one east, to section corner common to sections one and two, township thirty north, range one east, and thirty-five and thirty-six, township thirty-one north, range one east; thence north on section lines to the intersection with Tobocoby Spring-Rowe Well Road; thence northwesterly along the northwesterly side of said Tobocoby Spring-Rowe Well Road, passing and in relation to United States Geological Survey bench marks stamped "Canyon" and numbered 6340, 6355, 6372, 6412, 6302, 6144, and 6129, through townships thirty-one and thirty-two north, ranges one east and one and two west, to its intersection with the section line between sections nine and sixteen in township thirty-two north, range two west; thence west along the section lines through townships thirty-two north, ranges two and three west, to its intersection with upper westerly rim of Cataract Canyon; thence northwesterly along upper rim of Cataract Canyon, crossing Hualapai Canyon and continuing northwesterly along said upper rim to its intersection with range line, township thirty-three north, between ranges four and five west; thence north on said range line, townships thirty-three and thirty-four north, ranges four and five west, to north bank of the Colorado River; thence northeasterly along the north bank of the Colorado River to
Sec. 2. That the administration, protection, and promotion of said Grand Canyon National Park shall be exercised, under the direction of the Secretary of the Interior, by the National Park Service, subject to the provisions of the Act of August twenty-fifth, nineteen hundred and sixteen, entitled “An Act to establish a National Park Service, and for other purposes”: Provided, That all concessions for hotels, camps, transportation, and other privileges of every kind and nature for the accommodation or entertainment of visitors shall be let at public bidding to the best and most responsible bidder.

Sec. 3. That nothing herein contained shall affect the rights of the Havasupai Tribe of Indians to the use and occupancy of the bottom lands of the Canyon of Catarpact Creek as described in the Executive order of March third, eighteen hundred and eighty-two, and the Secretary of the Interior is hereby authorized, in his discretion, to permit individual members of said tribe to use any or all of said park for agricultural purposes.

Sec. 4. That nothing herein contained shall affect any valid existing claim, location, or entry under the land laws of the United States, whether for homestead, mineral, right of way, or any other purpose whatsoever, or shall affect the right and authority of the county of Coconino, in the State of Arizona, to levy and collect tolls for the passage of live stock over and upon the Bright Angel Toll Road and Trail, and the Secretary of the Interior is hereby authorized to negotiate with the said county of Coconino for the purchase of said Bright Angel Toll Road and Trail and all rights therein, and report to Congress at as early a date as possible the terms upon which the property can be procured.

Sec. 5. That whenever consistent with the primary purposes of said park the Act of February fifteenth, nineteen hundred and one, applicable to the locations of rights of way in certain national parks and the national forests for irrigation and other purposes, and subsequent Acts shall be and remain applicable to the lands included within the park. The Secretary of the Interior may, in his discretion and upon such conditions as he may deem proper, issue patents or rights of way for railways upon the lands within said park.

Sec. 6. That whenever consistent with the primary purposes of said park the Secretary of the Interior is authorized, under general regulations to be prescribed by him, to permit the prospecting, development, and utilization of the mineral resources of said park upon such terms and for specified periods, or other structure shall be erected on the park lands lying between said privately owned lands and the rim.

Sec. 7. That, whenever consistent with the primary purposes of said park, the Secretary of the Interior is authorized to permit the utilization therein which may be necessary for the development and maintenance of a Government reclamation project.

Sec. 8. That where privately owned lands within the said park lie within three thousand feet of the rim of the Grand Canyon no boundary line upon such privately owned lands shall be erected on the park lands lying between said privately owned lands and the rim.

Sec. 9. The Executive order of January eleventh, nineteen hundred and eight, creating the Grand Canyon National Monument, is hereby revoked and repealed, and such parts of the Grand Canyon National Game Preserve, designated under...
An Act To establish the Lafayette National Park in the State of Maine (40 Stats., 1178).

That the tracts of land, easements, and other real estate heretofore known as the Sieur de Monts National Monument, situated on Mount Desert Island, in the county of Hancock and State of Maine, established and designated as a national monument under the Act of June eighth, nineteen hundred and six, entitled “An Act for the preservation of American antiquities,” by presidential proclamation of July eighth, nineteen hundred and sixteen, is hereby declared to be a national park and dedicated as a public park for the benefit and enjoyment of the people under the name of the Lafayette National Park, under which name the aforesaid national park shall be entitled to receive and to use all moneys heretofore or hereafter appropriated for Sieur de Monts National Monument.

SEC. 2. That the administration, protection, and promotion of said Lafayette National Park shall be exercised under the direction of the Secretary of the Interior by the National Park Service, subject to the provision of the Act of August twenty-sixth, nineteen hundred and sixteen, entitled “An Act to establish a National Park Service, and for other purposes,” and Acts additional thereto or amendatory thereof.

SEC. 3. That the Secretary of the Interior is hereby authorized, in his discretion, to accept in behalf of the United States such other property on said Mount Desert Island, including lands, easements, buildings, and moneys, as may be donated for the extension or improvement of said park.

Approved, February 26, 1919.

An Act to repeal the last proviso of section four of an act to establish the Rocky Mountain National Park, in the State of Colorado, and for other purposes, approved January twenty-sixth, nineteen hundred and fifteen (40 Stat., 1271).

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the last proviso of section four of an act entitled “An Act to establish the Rocky Mountain National Park, in the State of Colorado, and for other purposes,” approved January twenty-sixth, nineteen hundred and fifteen, which is in the words and figures following:

"Provided, That no appropriation for the maintenance, supervision, or improvement of said park in excess of $10,000 annually shall be made unless the same shall have first been expressly authorized by law," be, and the same is hereby, repealed.

Approved, March 1, 1919.

Excerpts from "An act making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and twenty, and for other purposes." 

DEPARTMENT OF THE INTERIOR.

NATIONAL PARKS.

National Park Service: Director, $4,500; assistant director, $2,500; chief clerk, $2,000; editor, $2,000; draftsman, $1,800; clerks—two of class three, two of class two, one $1,020, two at $800 each, messenger, $900; in all, for park service in the District of Columbia, $22,220.

Crater Lake National Park, Oregon: For protection and improvement, construction and repair of roads, $6,000.

Grand Canyon National Park, Arizona: For construction of fences and trails, and repairing and extension of roads, $8,000.

Glacier National Park, Montana: For administration and improvement, construction of roads, trails, bridges, and telephone lines and the repair thereof, including necessary repairs to the roads from Glacier Park Station through the Blackfeet Indian Reservation to various points in the boundary line of the Blackfeet Indian Reservation, $38,225.

General Grant National Park, California: For protection and improvement, construction of fences and trails, and repairing and extension of roads, $6,000.

Yellowstone National Park, Wyoming: For administration, protection, maintenance, and improvement, including not to exceed $7,500 for maintenance of the road in the forest reserve leading out of the park from the east boundary, not to exceed $7,500 for maintenance of the road in the forest reserve leading out of the park from the south boundary, not to exceed $15,000 for a bridge over the Buffalo Fork of the Snake River on the Lander approach, not to exceed $7,600 for the purchase, operation, maintenance, and repair of motor-propelled passenger-carrying vehicles, and including feed for buffalo and other animals and buffalo keepers, $355,500, to be expended by and under the direction of the Secretary of the Interior: Provided, That not exceeding $2,000 may be expended for the removal of snow from any of the roads for the purpose of opening them in advance of the tourist season.

Yosemite National Park, California: For protection and improvement, construction and repair of bridges, fences, and trails, and improvement of roads other than toll roads, including not exceeding $2,500 for purchase, maintenance, operation, and repair of horse-drawn and motor-driven passenger-carrying vehicles, including the use of the superintendent and employees in connection with general park work, not exceeding $85,000.

Approved, July 19, 1919 (41 Stat., 204).
An act to cede to the United States exclusive jurisdiction over Yosemite National Park, Sequoia National Park, and General Grant National Park, in the State of California.

The people of the State of California do enact as follows:

Section 1. Exclusive jurisdiction shall be and the same is hereby ceded to the United States over and within all of the territory which is now or may hereafter be included in those several tracts of land in the State of California set aside and dedicated for park purposes by the United States as "Yosemite National Park," "Sequoia National Park," and "General Grant National Park," respectively; saving, however, to the State of California the right to serve civil or criminal process within the limits of the aforesaid parks in suits or prosecutions for or on account of rights acquired, obligations incurred, or crimes committed in said State outside of said parks; and saving further to the said State the right to tax persons and corporations, their franchises and property on the lands included in said parks, and the right to fix and collect license fees for fishing in said parks; and saving also to the persons residing in any of said parks now or hereafter the right to vote at all elections held within the county or counties in which said parks are situate: Provided, however, That Jurisdiction shall not vest until the United States through the proper officer notifies the State of California that they assume police jurisdiction over said parks.

Approved, April 15, 1919.

An act to amend chapter 173, laws of the Fifteenth Legislative Assembly of the State of Montana, relating to the general fish and game laws, by adding thereto section 5A.

Be it enacted by the Legislative Assembly of the State of Montana:

Sec. 1. That chapter 173 of the laws of the Fifteenth Legislative Assembly of the State of Montana, be and the same is hereby amended by adding thereto a section numbered 5A, as follows:

Sec. 5A. All licenses issued under the provisions of the act shall have printed upon the face thereof in large black-faced type the following words: "This license does not authorize the holder to hunt within the boundaries of any National Park within the State of Montana."

Sec. 2. All acts and parts of acts in conflict herewith are hereby repealed.

Sec. 3. This act shall be in full force and effect from and after its passage and approval.

Approved March 6, 1919.

EXECUTIVE ORDER.

MONTANA.

Under authority of the act of Congress approved June 23, 1910 (36 Stat., 487), as amended, by the act of August 24, 1912 (37 Stat., 497), and subject to the conditions therein expressed, and the provisions of existing power site withdrawals, it is hereby ordered that the public lands in the following described areas in the State of Montana be, and the same are hereby, temporarily withdrawn in aid of legislation to secure the use of the lands as a game preserve: In T. 7 S., R. 7 E., sec. 29, 30, and that part of sec. 32 north and east of the Yellowstone River; in T. 8 S., R. 7 E., secs. 1, 2, lots 6, 7, 10, 11, and E 1/2 of sec. 8, lots 1, 2, 3, 7 and 8 of sec. 4, E 1/2 of sec. 10, secs. 11 to 16, inclusive; 21 to 28, inclusive; secs. 35 and 36; in T. 9 S., R. 7 E., secs. 1, 2, 11 and 12; in T. 8 S., R. 8 E., secs. 7, 8, 17, 18, 19, 20, 29, 30, 31 and 32; in T. 9 S., R. 8 E., secs. 5 to 18, inclusive, and 20 to 24, inclusive; in T. 9 S., R. 9 E., secs. 7, 8, 9, and 16 to 21, inclusive; Montana principal meridian.

THE WHITE HOUSE, Feb'y, 1919.

Woodrow Wilson.

[No. 3053.]

REPORT OF DIRECTOR OF NATIONAL PARK SERVICE.

STATE LEGISLATION.

CALIFORNIA.

A bill to add certain lands to the Sequoia National Park, California, and to change the name of said park to Roosevelt National Park.

THE AREA INCLUDED IN THE PARK.

The land which this bill proposes to add to the Sequoia National Park (265 square miles at present) lies north and east of the park and is easily accessible by trail from the Giant Forest. It comprises a large area of mountain-top country approximating 1,383 square miles, making a total area of 1,600 square miles. Its eastern boundary of about 70 miles is the very crest of the Sierra Nevada Mountains, including Mount Whitney, whose elevation of 14,501 feet is the loftiest in the United States. Along this magnificent crest lies a massing of mountain peaks of indescribable grandeur. Mount Whitney is no towering elevation, but merely a granite climax; its peak is a little higher than its neighbors, that is all.

Eastward from this crest descend superbly tumbled slopes rich in the grandest scenery of America and the world, merging, below the timber line, into innumerable lake-studded valleys which converge into the extraordinary valleys of the Kings and the Kern Rivers. Two branches of the Kings River flow through valleys destined, when known, to a celebrity second only to Yosemite Valley; one of these is the Tehipite Valley, the other the Kings River Canyon. These lie north of the Sequoia National Park, while on its east lies still another valley of future world celebrity, the Kern Canyon.

This area, which, united with the present Sequoia National Park, would make a "Greater Sequoia" of 1,600 square miles, constitutes a total of supreme scenic magnificence. It would make a national park unexcelled even in America for sublimity and uniqueness anywhere for rich variety. It is penetrated by trails and afforded, with its three foaming rivers, its thousands of streams, its hundreds of lakes, its splendid forests, occasional meadows, castellated valleys, inspiring passes, and lofty glacier-shouldered summits, the future camping-out resort of many thousands yearly.

The Tehipite Valley and the Kings River Canyon, which are more accessible now than the Kern Canyon, have striking nobility of scenery. The walls of both are as sheer as and are often loftier than Yosemite's. The rivers which flow through them are glacier-run torrents of innumerable cascades and waterfalls, lined to the edge with forests and full of fighting trout.

Both valleys are guarded, like Yosemite, with gigantic rocks. The Tehipite Dome in the Tehipite Valley and the Grand Sentinel in the Kings River Canyon must be classed with Yosemite's greatest. The Tehipite Valley has grandeur for its keynote, as the Yosemite Valley has supreme beauty. The Kings River Canyon, with Paradise Valley a few miles upstream, is destined, at no great lapse of time, to become the summer resort of innumerable campers.
The public land proposed to be added to Sequoia National Park by these measures will never be valuable for any other than park purposes. Cattle are grazed on the mountain meadows during part of the year, but the administration of these meadows as part of the park will not interfere with the exercise of grazing privileges for many years to come. Small tracts of land here and there will be fenced for pasturage of live stock used by tourists.

In this connection some remarks submitted in the House by Hon. Frederick H. Gillett on January 14, 1919, have the value of personal testimony:

Mr. Chairman, I simply wish to inculcate the statement which the gentleman from California has just made, that the region is one of the most magnificent in the country, and what is more, the region is the home of the late President, Theodore Roosevelt. He sought among the great mountain ranges of the West, and the mountain ranges of the West of the West, and he found this region. It is the home of some of the loveliest and most magnificent scenery in this country.

In proposing the amendment on January 13, 1919, Senator Phelan spoke as follows:

The region is not accessible longer than four months of the year. The snowfall is heavy in winter. It closes the passes early in autumn and opens them by its disappearance late in the year. It is magnificent as it is presented to the beholder, and it can be visited and enjoyed by the lover of the mountains, it is a forbidding land at all other times.

There is some merchantable timber on the outskirts of the territory covered by this bill, and it is needed in the most magnificent works of the Rocky Mountain Railroad to protect the trestles that must be built in order to complete the scenic features of the park. Part of this timber is of the giant Sequoia species, which is used for the great trees standing in the great groves in the mountains, and now being cut. It is unnecessary to remark that this timber should be safeguarded forever.

Section 3 of the pending bill would permit the location of mining claims in the enlarged park. I would suggest, however, that this section be amended to read as follows: "The mining claims described in any act modifying or enlarging the Sequoia National Park shall be subject to the laws now applicable to the lands hereby added to said park.

It does not appear advisable to open the present park to prospecting for minerals. Under section 2 of the bill, water power and grazing permits may be granted where the property is not needed for the public uses of the region. It is the opinion that this is detrimental to the primary purpose for which the park was created. This section refers to lands under the act of August 3, 1905, section 3465, which in section 3 specifically provides that nothing therein shall affect the act of February 15, 1901, 30 Stat. 1201, which establishes the National Park.

There is some merchantable timber on the outskirts of the territory covered by this bill, and it is needed in the most magnificent works of the Rocky Mountain Railroad to protect the trestles that must be built in order to complete the scenic features of the park. Part of this timber is of the giant Sequoia species, which is used for the great trees standing in the great groves in the mountains, and now being cut. It is unnecessary to remark that this timber should be safeguarded forever.

The legislation embodied in this bill has the approval of the Interior Department as set forth in the following letter, addressed to the chairman of the Committee on Public Lands of the Senate:

To the Honorable Chairman Committee on Public Lands, United States Senate:

My Dear Senator: I have your request for a report on S. 2021, "A bill to add certain lands to Sequoia National Park."

Sequoia National Park as now constituted was set apart in 1890 to preserve several magnificent groves of giant Sequoia trees (sequoia washing machinaria), of which the Giant Forest, is to-day the chief feature of interest to the visitor. The territory hereunder proposed is the mountainous region of which the Giant Forest is a part.

The Secretary of the Interior, Hon. Franklin K. Lane, and the director of the National Park Service, Stephen T. Mather, urge not only the enlargement of the Sequoia National Park but that it be named in honor of the late and well-beloved President and man, Theodore Roosevelt.

With respect to the proposed change in the name of the park the committee is unanimously in its favor. They believe it to be extremely fitting that this great park, which includes some of the most magnificent scenery in this country, should serve as a national monument to a great American.

The legislation embodied in this bill has the approval of the Interior Department as set forth in the following letter, addressed to the chairman of the Committee on Public Lands of the Senate:

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CHANGE NAME OF SEQUOIA NATIONAL PARK TO ROOSEVELT NATIONAL PARK.

February 12, 1919.—Committed to the Committee of the Whole House on the state of the Union and ordered to be printed.

Mr. Ferris, from the Committee on the Public Lands, submitted the following report (to accompany S. 2021).

The Committee on the Public Lands, to whom was referred Senate bill 2021, having had the same under consideration, respectfully submit the following report:

Amend the bill by striking out all after the enacting clause and inserting in lieu thereof the following:

That the name of the Sequoia National Park, Cal., is hereby changed to the Roosevelt National Park, in honor of Theodore Roosevelt, late President of the United States.

Amend the title so as to read: "To change the name of Sequoia National Park to Roosevelt National Park, in honor of Theodore Roosevelt, late President of the United States."

The bill as it passed the Senate proposes to add thereto 1,335 square miles or about 250,000 acres. There are within the present boundaries of the Sequoia National Park 235 square miles or about 30,000 acres.

There is some controversy between the Department of the Interior and the Department of Agriculture as to the proper boundaries for the proposed addition to the Sequoia National Park.

Therefore the Committee struck out all of the proposed addition and limited the scope of the bill simply to changing the name of the Sequoia National Park to Roosevelt National Park in honor of the late Theodore Roosevelt.

The Committee on the Public Lands will be pleased to have the Department of Agriculture submit such suggestions as this department may see fit to offer.

The bill provides for the establishment of a Commission to this popularize the park and increase its attractiveness, and would be a source of great gratification to the millions of admirers of the late President, and would be a proper recognition and tribute to his life and memory.

Mr. Ferris, from the Committee on the Public Lands, submitted the following report.

The Secretary of the Interior, to whom was referred Senate bill 10929, a bill to add certain lands to Sequoia National Park.

The bill has passed the Senate. The present session will soon draw to a close.

The Committee have been petitioned and solicited from every corner of the country to report this bill. No one bill that has been before the Committee on the Public Lands in recent years has received such uniform interest.

There will be those who will object to this proposed change and feel that it is a sentimental matter. There will be others who will object to it for reasons of their own.

To the majority of your Committee on the Public Lands it was thought to be a proper recognition.

To the Committee of the Whole House on the state of the Union it was thought to be a proper recognition.

Mr. Ferris, from the Committee on the Public Lands, submitted the following report (to accompany S. 2021).

The Secretary of the Interior, to whom was referred Senate bill 2021, a bill to add certain lands to Sequoia National Park.

The bill provides for the establishment of a Commission to popularize the park and increase its attractiveness, and would be a source of great gratification to the millions of admirers of the late President, and would be a proper recognition and tribute to his life and memory.

Copies of reports from the departments are attached herewith and made a part of the report.

Franklin K. Lane, Secretary.
161,000 acres. It is proposed, under H. R. 30929, to extend the boundaries of this park so as to embrace an area of approximately 1,027,000 acres by adding thereto approximately 866,000 acres now in the Sequoia and Sierra National Forests.

In brief, the bill proposes to extend the national park eastward across the Kern River and thence north along the divide to the crest of the Sierra Nevada Mountains, and northeasterly along the crest of the Sierras, a distance of approximately 74 miles as the crow flies, from Kern Peak to a point designated on the map as Pine Flat. It is understood that only the lands east of the road which now extends from the Kern River near the present southern boundary of the present park northward across Kings River just below the junction of the South Fork of Kings River and the Kern River shall be added to the park. Following the divide through the Kings River and on east to the South Fork of Kings River to the head of the North Fork, and then by various meanders to Florence Creek, the bill proposes to add these areas to the park which is properly drawn along the present south boundary and the apex at Pine Creek Pass.

As it is proposed to transfer from the national forest to the national park an area known to contain considerable bodies of timber, aggregating, it is estimated, some 250,000,000 feet of lumber, it is important to the local communities (and as the bill states) that the future use of these lands be given very careful consideration in planning for the administration of the area and in determining whether or not it should be transferred from the national forest.

The presence of these important natural resources now under use by the local communities, and the bearing which this proposal has on the forest reserves that are chiefly valuable for the purpose of timber production, will require that the present transfer be retained and administered with a view to make them available for the instruction and entertainment of the public. This is in the best interest of the country.

At the same time, this area marked is known to contain considerable bodies of timber, aggregating, it is estimated, some 250,000,000 feet of lumber, it is important to the local communities (and as the bill states) that the future use of these lands be given very careful consideration in planning for the administration of the area and in determining whether or not it should be transferred from the national forest.

The immense area which it is proposed to transfer from the national forest to the national park is known to contain a huge area of meadowlands, and it is important that it be retained and administered with a view to make them available for the instruction and entertainment of the public.

Without regard to partisanship, we regard Roosevelt as a western man. He lived part of the time in the West. He took a great interest in it. He is the kind of man that popular sentiment elevates to the dignity of a public figure, and he is the kind of man that the people of the West have come to respect and to love, and that the people of the West have come to respect and to love, and that will make him in course of time the real boys' hero, and there is no truer fame than that.

Now I say that this is a good time to dedicate this area as a national park, and it is very appropriate that that area be named the United States Roosevelt National Park.
protecting from destruction the timber growing thereon. The latter act expressly stated that the lands would be set aside as a forest reservation. Some of the lands so reserved were subsequently incorporated in the Sequoia National Park, which now has an area of approximately 161,000 acres. It is proposed, in S. 215, to extend the boundaries of this park so as to embrace an area of approximately 1,027,000 acres by adding thereto approximately 866,000 acres now in the Sequoia National Forests.

In brief, as stated by the Secretary of Agriculture, the bill proposes to extend the national park eastward across the Kern River to Kern Peak, thence north along divides to the crest of the Sierra Nevada Mountains, and northward and westward along the crest of the Sierras, a distance of approximately 100 miles, as the crow flies, from Kern Peak to a point designated on the map as Pine Creek Pass. The bill would also change the boundary by extending the west boundary of the present park northward across Kings River just north of the junction of the South Fork and Middle Fork, and thence by various meanders to Pine Creek Pass, the whole having the general form of a triangle, with the base resting along the present south boundary and the apex at Pine Creek Pass.

Of the park thus proposed, Hon. Franklin K. Lane, Secretary of the Interior, says in his letter of May 13, 1919, to the chairman of the House Committee on the Public Lands, reported in full in the minority report:

"... the proposed increase is stated in the report to be based on the fact that those from the East who have personally visited this region is Hon. Frederick Gillett, of Massachusetts, distinguished Member of this House. Speaking of the magnificent scenic worth of the proposed enlargement is not disputed anywhere. The action of the majority of the committee in abandoning entirely the proposed increase is stated in the report to be based on the fact that there is some controversy between the Department of the Interior and the Department of Agriculture as to the proper boundaries. The controversy in question does not appear to be serious, and so far as any lack of unity exists it only refers to minor details of the project and does not in any way relate to the merits of the great project itself. The Department of Agriculture, which has had the question before it for considerable time, asks delay to permit a field examination to pass on questions of boundaries. Having stated that the immense area to be transferred from the jurisdiction of the Forest Service in the Department of Agriculture to the National Park Service in the Interior Department "is known to contain a number of scenic features of first-rate importance * * * which should be retained and administered with a view to make them available for the instruction and entertainment of the public," the Secretary of Agriculture then states:

"... the area which it is proposed to transfer from the national forest to the national park is known to contain a number of scenic features of first-rate importance, the most notable being Mount Whitney and the canyon of the South Fork of Kings River. These areas are especially adapted for the purpose of making the future park a great pleasure ground for those who shall be granted permission to visit there, and are likely to become as celebrated by those from the East who have personally visited this region is Hon. Frederick Gillett, of Massachusetts, distinguished Member of this House. Speaking of the magnificent scenic worth of the proposed enlargement is not disputed anywhere. The action of the majority of the committee in abandoning entirely the proposed increase is stated in the report to be based on the fact that there is some controversy between the Department of the Interior and the Department of Agriculture as to the proper boundaries. The controversy in question does not appear to be serious, and so far as any lack of unity exists it only refers to minor details of the project and does not in any way relate to the merits of the great project itself. The Department of Agriculture, which has had the question before it for considerable time, asks delay to permit a field examination to pass on questions of boundaries. Having stated that the immense area to be transferred from the jurisdiction of the Forest Service in the Department of Agriculture to the National Park Service in the Interior Department "is known to contain a number of scenic features of first-rate importance * * * which should be retained and administered with a view to make them available for the instruction and entertainment of the public," the Secretary of Agriculture then states:

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scenic worth of the section, and the statement that “this area is known to contain considerable bodies of timber aggregating, it is estimated, some 2,000,000,000 feet, as well as a large area of grazing land now in use under National Forest Regulations, which is important to the local communities.”

As to the timber estimate, even if correct, the amount is not sufficiently large to be of controlling importance in connection with the inclusion of the 1,200 square miles of natural scenery. As to grazing lands, not only is the availability of this great area for that purpose very limited, but the inclusion of the region in a national park does not necessarily interfere with such use, so far as nature permits. To quote again from Secretary Lane’s report:

"There is little opportunity for commercial development of this region. Much of it is far above timber line, and practically no part of it lies below the 7,000-foot contour line. It is useless for farming purposes, although the mountain meadows are largely utilized for stock grazing during the summer months.”

The region is not accessible longer than four months of the year. The snowfall is heavy, and the passes can only be traversed in winter. A strength of the region appears late in the spring. Magnificent as it is in the summer months, when this region can be seen by the lover of the mountains, it is a forbidding land at many other times.

There is some merchantable timber on the outskirts of the territory covered by this bill, but it should be preserved to protect the watersheds of the rivers and creeks and to complete the scenic features of the park. Part of this timber is of the giant Sequoia species, two fine groves of these great trees standing only a short distance from areas now being cut over. It is unnecessary to remark that this timber should be safeguarded forever.

Before the committee, Director Mather stated:

"There is danger that private rights may be acquired in strategic portions of this territory, owing to the fact that such uses are being made of the land. These might become involved by operation of the act of February 15, 1901 (31 Stat., 680)."

Director Mather states (hearing, p. 11):

"We have brought out clearly that we had no intention of interfering with reasonable use rights, but that we do propose to plan relatively small fenced pastures for the benefit of tourists. We recognize that the cattlemen have certain rights in that section. They have their drift fences, telephone lines, and their little cabins and it would be a mistake to wipe them out. We have no such intentions. Our treatment of cattlemen was best shown by the way we took care of them in the Yosemite and 1918 National Park. Last season, when, at the Secretary’s request, we gave them large privilege of using those parks as a war measure.

Furthermore, the Interior Department is on record in the letter of Acting Secretary Vogelsang (p. 7 of the committee hearings):

"The lands proposed to be added to Sequoia National Park are to be administered under the national park service act of August 25, 1916, and you will recall that this law specifically authorizes the granting of permits for the grazing of live stock in the national parks where such use is not detrimental to the primary purpose for which these reservations were established.

Among the most active advocates of the measure are some of those who have heretofore had the largest grazing interests in the region affected.

"There is danger that private rights may be acquired in strategic portions of this territory, owing to the fact that such rights are now obtainable within national forests. For example, the land near the mouth of the Kings River, some part of the Paradise Valleys, and other Yosemite-like valleys, to be acquired by private interests to the exclusion of the public would be a serious national loss. At the present time, fortunately, there are comparatively few private holdings in the region.

THE CHANGE OF NAME.

If Congress sees fit to change the Sequoia National Park as herein suggested, the name “Sequoia,” characteristic and fitting for the existing park, ceases to be so and a new name is proper. It is easy to foresee, however, that always the name “Sequoia” will attach to the giant-tree region in the park.
To commemorate that great spirit that has gone from us this great park should be created and given the name "Roosevelt." It will be one of the world's greatest parks. The man who bore the name proposed for it was one of the world's greatest for all time.

[Excerpt from Congressional Record, January 13, 1919.]

SENATE.

The Roosevelt National Park.

Mr. PHELAN. Mr. President, I have introduced a bill in this body, Senate bill 2021, which provides for the creation of a national park in California, to embrace the famous Kings River Canyon and groves of giant trees, admittedly the most surprising and wonderful stretches of the national domain, open to all the people at all seasons of the year for health, recreation, and aesthetic gratification. The amendment I now move provides that this area shall be, when created into a park, designated in honor of our late and beloved President, the Roosevelt National Park. I have consulted the Secretary of the Interior, Hon. Franklin K. Lane; Stephen T. Mather, the Superintendent of National Parks; and Representative Elston, of California, who are all of one mind on this subject—that no more fit designation could be made.

Theodore Roosevelt was early identified with the West, and the West of the West. He sought among the great mountain ranges and the vast expanse of the prairie a field for his abounding energy. From his narrow environment of city streets and congested population he naturally sought expansion. The liberalizing influences of the western life nationalized him, prepared him, as it were, for the larger tasks which he was destined to pursue. I cannot imagine a more fitting memorial for a man of his tastes, courage, generous nature, and love of the beautiful than the wild, rugged, and sublime scenery embraced in central California. Here is the Kings River Canyon, than which no equal area on earth is its superior in natural wonders. The story of William Tell might apply with equal pertinence to Theodore Roosevelt, who learned his love of liberty from his love of nature, and like the mountain streams, plowed the valleys without asking leave, or like the mountain peaks, wore their caps of snow in the very presence of the regal sun. This park is bounded by the crests of the high Sierra, and cut through and cut by Nature from altitudes only possible in California. Here are the giant trees that lift their heads far above the inclosing fog, erect amidst tempests, resplendent in the light of day. California—a State richly endowed by nature—can dedicate no finer monument to the memory of Roosevelt than this, the choicest of her natural gifts.

The PRESIDENT. The amendment will be referred to the Committee on Public Lands.

[Excerpt from Congressional Record, January 14, 1919.]

HOUSE OF REPRESENTATIVES.

Mr. Elston. Mr. Chairman, I simply wish to detain the House for a moment to make mention of a bill which I introduced on yesterday following the introduction in the Senate of a similar bill by Senator Pohon, of California. It has for its object the changing of the name of Sequoia National Park in California to "Roosevelt National Park."

The suggestion was made by Mr. Lane and by Mr. Mather, the Director of National Parks. The proposed park is an enlargement of the smaller park heretofore called the Sequoia National Park. The greater park, when it is authorized by Congress, will include some wonderful scenic features; not only the giant grove of Sequoia gigantea, the largest trees of the world, but it will also include the great canyon of the Kern and Kings Rivers, as well as the tremendous Alpine Meadows; and it will also include the highest point of continental United States, Mount Whitney. I think it is extremely fitting that this great park, which includes some of the most magnificent scenic features in the world, should be named after Theodore Roosevelt. It has in many of its aspects the grand features which are characteristic of Roosevelt himself.

I thought it proper to direct the attention of the House to the fact that this bill has been introduced and may come up for consideration before long. (Applause.)

Mr. Gillette. Mr. Chairman, I simply wish to indorse the statement which the gentleman from California has made. Three years ago I went through this Sequoia National Park and the Kings and Kern Valleys that he speaks of. We went in, out of the reach of the telegraph or the mail, with a pack train and I spent there two of the most interesting and healthful weeks of my life. I do not suppose it is possible to compare different beauties of nature according to their relative excellence, but if there is any finer scenery in the world than this I should like to see it. But until I have seen it I shall be skeptical about it and be satisfied with the wonderful picturesqueness and variety of the valleys and mountains and streams of this extraordinary region. It does not seem to me it was useful for anything except a great camping-out place for the American people. Possibly a few sure-footed animals might get grazing there, but it was apparently created as a grand aggregation of scenic beauty, where tired men could refresh and enjoy himself. As the gentleman from California (Mr. Elston) has said, it is very desirable that the present Sequoia Park should be enlarged so as to include this neighboring tract of wonderful scenery, and nothing could be more appropriate than to name the whole after such a lover of nature as Theodore Roosevelt. (Applause.)

[House Report No. 938, Sixty-fifth Congress, Third Session.]

ADDITION OF CERTAIN LANDS IN WYOMING TO THE YELLOWSTONE NATIONAL PARK.

January 16, 1919.—Committee to the Committee of the Whole House on the state of Union and ordered to be printed.

Miss Rankin, from the Committee on the Public Lands, submitted the following report (to accompany H. R. 13350).

The Committee on Public Lands having considered H. R. 13350, a bill to add certain lands in Wyoming to the Yellowstone National Park, directed the report (to accompany H. R. 13350) without amendment and with the recommendation that it be passed.

At the time the Yellowstone National Park was established, comparatively little was known in regard to the general region outside of the locality of Yellowstone Park, the Grand Canyon, and the Missouri Basin and the mountain passes. The region was unexplored and had never been carefully mapped. The boundaries as established included the then known features of interest, but were necessarily artificial rather than natural.

As time passed, it came to be generally recognized by those familiar with the region and interested in the maintenance of this remarkable section of our country as a great national resort and pleasure ground, that the park should be extended to the south and southeast, in order to include the remarkable scenic features so located as to be logical and essential features of the park and with a view of establishing in that section the natural boundaries of this remarkable region of mountains and lakes, geysers, waterfalls, and canyons.

While Nature has fixed and established these natural boundaries, there has been some difference of opinion as to the limits which should be fixed for the park extension. Continued discussion of the subject and repeated examinations by officials of the Interior and Agricultural Departments, and conferences with those locally and generally interested in the subject, has finally resulted in a practically unanimous agreement on the boundaries described in this bill.

The addition proposed is approximately 60 miles in extreme length east and west, immediately south of the present park boundary, and approximately 20 miles in extreme width north and south along the summit of the Teton Range. The added area is about 6 miles wide north and south on the Wyoming boundary and nearly 20 miles wide east of Jackson Lake and along the Buffalo Fork of the Snake River.

The lands added to the park embrace an area of 406,600 acres, or 1,265 square miles, as compared with the present area of 2,142,720 acres, or 3,348 square miles. Of the area proposed to be added to the park 1,885 acres are patented, and there are pending entries of various kinds covering 2,704 acres. There are also 1,683 acres of school lands belonging to the State of Wyoming, but these

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lands have all been offered by the State as the basis of pending indemnity school selections and will pass into the ownership of the Government as these selections are approved.

All of the lands proposed to be added to the park are now in forest reserves, and all but a limited portion of them are in State game reserves. The lands proposed to be included have been utilized to but a very limited extent for the grazing of live-stock, as under the terms of the bill the Secretary of the Interior is authorized to issue permits for the grazing of live stock, not in excess of the limited grazing which has heretofore been allowed and under proper restriction. The bill also makes provision for the grazing, under proper restrictions, of the number of live stock now in the lands owned by the State, the Indian, the Federal, and all but a limited portion of them are in State game reserves. The lands proposed to be included area "as they have been accustomed to graze in past or as may be reasonably necessary to the use and utilization of their lands."

The important outstanding features of the area added to the park are the Jackson Hole, the cluster of lakes at the foot of the Teton Range, the Thoroughfare Basin area, constituting the headwaters of the Yellowstone River, the Continental Divide, and the Two Ocean Pass, and the eastern slope of the majestic Teton Range. The tall, steeply alpine range within the boundaries of the United States, whose sheer glistening polished peaks rise to an elevation of more than 14,000 feet above sea level. The addition of these areas to the park bring within its boundaries these game sections and wonderful scenic features necessary to round out and perfect the park as the greatest of our national parks and game preserves.

There is appended to, and made a part of this report, reports of the Secretary of the Interior and the Secretary of Agriculture, approving and recommending the passage of the bill. Also a statement prepared by the Interior Department giving a list and the status of patented land, pending entries, and pending indemnity school bases.

DEPARTMENT OF THE INTERIOR.
Washington, December 21, 1915.

DEAR MR. FERRIS: I have received your request of December 17 for a report on H. R. 13350, a bill to add certain lands to the Yellowstone National Park. This measure proposes to add to the Yellowstone National Park a part of the Jackson Hole region of Wyoming and the adjacent south of the park, and the headwaters of the Yellowstone River, including Thoroughfare Basin south and southeast of the park.

Col. Graves has reported in favor of making the addition. The majestic Teton Mountains, rising abruptly above the valley, with a series of lakes lying along the base of the chief mountain mass, constitute a scenic feature of unusual interest. Its close proximity to the Grand Teton and Mount Moran, rise nearly 14,000 feet above the sea and 7,000 feet above the lakes and forests at their bases. The Teton are a sublime example of what one writer has called the "complete the spectacle. Together these regions are not only wonderfully contrasted and profoundly spectacular: they are also highly educational. Apart from the magnificent of this controlling flavor, however, the proposed addition is of the first importance. The mountains are in the Rocky Mountains, yet it is in no sense typical of the Rockies. It is an acclivity, in advance of state of as a result of the great drive and erosion; its outlines tend toward rolling levels. In the proposed addition the Teton Mountains are in the typical volcanic region in an advanced stage of decline; its lava cones are lowered by erosion. The Continental Divide, and the headwaters of the Yellowstone River, are in the Rocky Mountains, yet it is in no sense typical of the Rockies. It is an acclivity, in advance of state of as a result of the great drive and erosion; its outlines tend toward rolling levels. The proposed addition the Teton Mountains are in the typical volcanic region in an advanced stage of decline; its lava cones are lowered by erosion. The Continental Divide, and the headwaters of the Yellowstone River, constitute a scenic feature of unusual interest. Its close proximity to the Yellowstone River, together with the numerous lakes and streams in its vicinity, constitute a natural objective for visitors to the park and for the development as a part of Yellowstone Park. The addition of the Teton Mountains would fit in with contemplated plans for the conservation of the herds of elk in that region.

Furthermore, it should be observed that Congress has already recognized that the land for the great elk herd, which inhabits the park and the surrounding territory, is reasonably necessary to the use and utilization of their lands."

As far as I am aware, there is no critical the form or substance of the bill, and I recommend that it be taken up for early consideration with a view to its passage in the near future. It is exceedingly meritorious.

Cordially yours,

D. H. FOSTON, Secretary.

DEPARTMENT OF AGRICULTURE.
Washington, December 21, 1915.

DEAR MR. FERRIS: Receipt is acknowledged of a copy of the bill H. R. 13350, to add certain lands to the Yellowstone National Park. As you have doubtless observed, this bill amends the Yellowstone Park Act of 1916, and the Secretary of the Interior, Col. Graves, has made a visit to the region to form a personal judgment of the proposed addition. The Secretary of the Interior has no criticism to make of the form or substance of the bill, and I recommend that Congress may desire to make.

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Total number acres patented entries: 1,889.18
In T. 47 N., R. 118 W.: 
- 324

In T. 45 N., R. 115 W.: 
- 324

In T. 45 N., R. 118 W.: 
- 324

In T. 47 N., R. 116 W.: 
- 324

In T. 46 N., R. 109 W.: 
- 324

In T. 47 N., R. 109 W.: 
- 324

In T. 47 N., R. 117 W.: 
- 324

In T. 45 N., R. 111 W.: 
- 324

In T. 46 N., R. 109 W.: 
- 324

In T. 48 N., R. 114 W.: 
- 324

In T. 46 N., R. 118 W.: 
- 324

In T. 47 N., R. 118 W.: 
- 324

In T. 48 N., R. 115 W.: 
- 324

SUMMARY.

Present area of park, 2,348 square miles.
Proposed addition, 2,665 square miles.
Total area, 4,613 square miles.

STATUS OF LANDS.

Patented entries, 1,889.18
Pending entries, 2,704.44
Lands offered as base for pending indemnity school selections, 1,638.75
Total alienations (to accompany H. R. 13659).

Mr. Houston, from the Committee on the Territories, submitted the following report (to accompany H. R. 13659).

The Committee on the Territories, having under consideration H. R. 13659, a bill to authorize the governor of the Territory of Hawaii to acquire privately owned lands and rights of way within the boundaries of the Hawaii National Park, recommend that the same be amended by inserting in section 1, line 4, after the word "authorized," the words "subject to the approval of the Secretary of the Interior;" and also in same line, after the word "purchase," strike out the comma and insert the words "except by purchase"; and that the bill as so amended do pass.

We submit herewith letters from the Secretary of the Interior to Delegate Kalanianaole and to the chairman of this committee, as follows:

DEPARTMENT OF THE INTERIOR.
Washington, January 3, 1919.

My dear Mr. Kalanianaole: When I was in Hawaii last summer I had some conferences with the trustees of the Bishop estate, who control most of the privately owned land in the Kalapana section of the Hawaii National Park, for the purpose of effecting some arrangement with these gentlemen whereby all or a major portion of this private property might be acquired by the Federal Government for park purposes. You will recall that the organic act establishing the Hawaii National Park, the act of August 1, 1916 (39 Stat., 432), contains the following provisions in section 4:

"Provided, That no appropriation shall be made for the improvement or maintenance of said park until proper conveyance shall be made to the United States for the benefit of the persons or corporations whose lands are included in the park, nor shall any appropriation be made for the improvement of said park in excess of $10,000 annually unless the same shall have first been expressly authorized by law; and provided further, That no appropriation shall be made for the improvement or maintenance of said park until proper conveyance shall be made to the United States of such perpetual easements and rights of way over private lands within the exterior boundaries of said park as the Secretary of the Interior shall find necessary to make said park reasonably accessible in all its parts, and said Secretary shall when such easements and rights of way have been conveyed to the United States report the same to Congress."

Until the requirements of the last proviso are met, it is clear that we can make no progress in the development of the park as a tourist resort, or even give it adequate protection from depredations upon its natural features. I have therefore, with the representatives of the Bishop estate resulted in an offer by these trustees to convey the larger part of their holdings, including the portion of the Kilauea Crater land owned by the estate, to the Territory of Hawaii, subject to the approval of the Secretary of the Interior; and the bill to authorize the governor of the Territory to proceed with the pending exchange.

I am writing a similar letter to Senator Pittman. Cordially, yours,

Hon. J. Kuhio Kalanianaole,
Chairman of the Committee on the Territories.

I have no criticism to make on the form and substance of the bill, and I recommend that it be taken up for early consideration with a view to its passage in the near future.

Cordially, yours,

Franklin K. Lane, Secretary.

THE SECRETARY OF THE INTERIOR.
Washington, January 26, 1919.

My dear Mr. Houston: I have your letter of January 15, requesting a report on H. R. 13659, "A bill to authorize the governor of the Territory of Hawaii to acquire privately owned lands and rights of way within the boundaries of the Hawaii National Park to the Kittiwake section of the Hawaii National Park, the act of August 1, 1916 (39 Stat., 432), contains the following provisions in section 4:

"Provided, That no appropriation shall be made for the improvement or maintenance of said park until proper conveyance shall be made to the United States for the benefit of the persons or corporations whose lands are included in the park, nor shall any appropriation be made for the improvement of said park in excess of $10,000 annually unless the same shall have first been expressly authorized by law; and provided further, That no appropriation shall be made for the improvement or maintenance of said park until proper conveyance shall be made to the United States of such perpetual easements and rights of way over private lands within the exterior boundaries of said park as the Secretary of the Interior shall find necessary to make said park reasonably accessible in all its parts, and said Secretary shall when such easements and rights of way have been conveyed to the United States report the same to Congress."

Until the requirements of the last proviso are met, it is clear that we can make no progress in the development of the park as a tourist resort, or even give it adequate protection from depredations upon its natural features. I have therefore, with the representatives of the Bishop estate resulted in an offer by these trustees to convey the larger part of their holdings, including the portion of the Kilauea Crater land owned by the estate, to the Territory of Hawaii, subject to the approval of the Secretary of the Interior; and the bill to authorize the governor of the Territory to proceed with the pending exchange.

I am writing a similar letter to Senator Pittman. Cordially, yours,

Hon. W. C. Houston, Chairman of the Committee on the Territories.

Franklin K. Lane, Secretary.

HAWAII NATIONAL PARK.

February 21, 1919.—Committed to the Committee of the Whole House on the state of the Union and ordered to be printed.
From the representation made in these letters it is manifest that authority should be given for the exchange of lands owned by the Territory for the lands lying within the boundaries of the Hawaii National Park or that the governor be authorized to accept for the Territory gifts of land lying within the boundaries of the park, in order that complete ownership of the area within the boundaries of the park should be obtained and that all necessary easements and rights of way may be obtained. Under the terms of this bill no outlay of money will be made by the Government or the Territory for securing the title to the lands within the boundaries of the park.

[Senate Report No. 757, Sixty-fifth Congress, third session.]

HAWAII NATIONAL PARK.

February 25, 1919.—Ordered to be printed.

Mr. Saulsbury, from the Committee on Pacific Islands and Porto Rico, submitted the following report (to accompany S. 5323).

The Committee on Pacific Islands and Porto Rico, to whom was referred the bill of the Secretary of the Interior to secure these private holdings so that active administration of the Hawaii National Park, having considered the same, report thereon with a recommendation that the bill do pass.

A letter from the Secretary of the Interior, under date of February 12, 1919, is appended hereto and made a part of this report.

DEPARTMENT OF THE INTERIOR.

Washington, February 12, 1919.

MY DEAR MR. HOUSTON: I have your letter of January 15. requesting a report on S. 5323, “A bill to authorize the governor of the Territory of Hawaii to acquire privately owned lands and rights of way within the boundaries of the Hawaii National Park,” whereby all or the major portion of this private property might be acquired by the Federal Government for park purposes.

My conferences with the representatives of the Bishop estate resulted in an offer by these trustees to convey the larger part of their, you will remember, is the Kilauea section of the Hawaii National Park, for the purpose of securing some arrangement with these gentlemen whereby all or the major portion of this private property might be acquired by the Federal Government for park purposes.

The act of August 1, 1916, establishing the park provides that no appropriation shall be made for the improvement or maintenance of said park until proper conveyance has been made to the United States of such perpetual easements and rights of way over private lands within the exterior boundaries of said park as the Secretary of the Interior shall find necessary to make said park reasonably accessible in all its parts, and said Secretary shall, when such easements and rights of way have been conveyed to the United States, report the same to Congress.

Until the requirements of the last proviso are met, it is clear that we can make no progress in the development of the park as a tourist resort, or even give it adequate protection from depredations upon its natural features. These obstacles I wish to remove as soon as possible.

My conferences with the representatives of the Bishop estate resulted in an offer by these trustees to convey the larger part of their holdings, including a part of the Kilauea Crater owned by the estate, to the Territory of Hawaii, for later dedication by the Federal Government as a part of the Hawaii National Park. The Department of the Interior reports to the Territory that it is prepared to take this land for the purpose of securing the land for the park, but will require some assurance that it will be done in such a manner as to enable the United States to acquire title thereto.

The department is much interested in this bill, as the organic act establishing the Hawaii National Park contains the proviso in section 4 that no appropriation shall be made for the improvement or maintenance of the park until proper conveyance shall have been made to the United States of such perpetual easements and rights of way over private lands within the exterior boundaries of said park as are necessary to make the reservation secure. The Department of the Interior finds necessary to make it reasonably accessible in all its parts.

I am transmitting herewith a form of bill which will relieve the existing situation, and I would be grateful if you would introduce the measure and have it referred to this department by the Committee on Territories in order that a report may be submitted on the bill at an early date.

Cordially yours,

FRANKLIN K. LANE, Secretary.

Hon. W. C. HOUSTON, Chairman Committee on the Territories, House of Representatives.

Franklin K. Lane, Secretary.

DEPARTMENT OF THE INTERIOR.

Washington, January 30, 1919.

MY DEAR MR. KALANIANAOLE: When I was in Hawaii last summer I had some conferences with these gentlemen whereby all or the major portion of this private property might be acquired by the Federal Government for park purposes.

The Committee on Territories, to whom was referred the bill of the Secretary of the Interior to secure these private holdings so that active administration of the Hawaii National Park, having considered the same, report thereon with a recommendation that the bill do pass.

A letter from the Secretary of the Interior, under date of February 12, 1919, is appended hereto and made a part of this report.

HAWAII NATIONAL PARK.

July 21, 1919.—Committed to the Committee of the Whole House on the state of the Union and ordered to be printed.

Mr. Dowell, from the Committee on the Territories, submitted the following report (to accompany H. R. 3654), a bill to authorize the governor of the Territory of Hawaii to acquire privately owned lands and rights of way within the boundaries of the Hawaii National Park, after consideration, recommend that the bill do pass.

This bill is the same as S. 5323 of the Sixty-fifth Congress, which was passed by the Senate on February 25, 1919. It is also substantially the same as H. R. 13699, which was recommended by the Committee on the Territories at the last Congress, and the purpose of the bill is to authorize the governor of Hawaii to acquire approximately 14,000 acres of land and rights of way within the boundaries of the Hawaii National Park, now owned by the Bishop estate, in order that complete ownership of the area within the boundaries of the park should be obtained and that all necessary easements and rights of way may be obtained.

The evidence before the committee estimates the value of the land to be acquired at about $50,000.

We also transmit herewith letters from the Secretary of the Interior to the Delegate from Hawaii, Hon. J. Kuhiol Kalanianaole, and to Hon. W. C. Houston, chairman of the Committee on the Territories at the last session of Congress, and also to the honorable Chairman of the Committee on the Territories, Hon. Charles F. Curly, as follows:

DEPARTMENT OF THE INTERIOR.

Washington, January 30, 1919.

MY DEAR MR. KALANIANAOLE: When I was in Hawaii last summer I had some conferences with these gentlemen whereby all or the major portion of this private property might be acquired by the Federal Government for park purposes.

My conferences with the representatives of the Bishop estate resulted in an offer by these trustees to convey the larger part of their holdings, including a part of the Kilauea Crater owned by the estate, to the Territory of Hawaii, for later dedication by the Federal Government as a part of the Hawaii National Park. The Department of the Interior reports to the Territory that it is prepared to take this land for the purpose of securing the land for the park, but will require some assurance that it will be done in such a manner as to enable the United States to acquire title thereto.

The department is much interested in this bill, as the organic act establishing the Hawaii National Park contains the proviso in section 4 that no appropriation shall be made for the improvement or maintenance of said park until proper conveyance has been made to the United States of such perpetual easements and rights of way over private lands within the exterior boundaries of said park as are necessary to make the reservation secure. The Department of the Interior finds necessary to make it reasonably accessible in all its parts.

I am transmitting herewith a form of bill which will relieve the existing situation, and I would be grateful if you would introduce the measure and have it referred to this department by the Committee on Territories in order that a report may be submitted on the bill at an early date.

I am transmitting herewith a form of bill which will relieve the existing situation, and I would be grateful if you would introduce the measure and have it referred to this department by the Committee on Territories in order that a report may be submitted on the bill at an early date.

Cordially yours,

FRANKLIN K. LANE, Secretary.

Hon. J. Kuhiol Kalanianaole, Chairman Committee on the Territories, House of Representatives.

Franklin K. Lane, Secretary.
Under the terms of this bill no outlay of money will be made by the Government or the Territory for securing the title to the lands within the boundaries of the park.

The bill was referred to the Department of the Interior, and the Secretary of that department furnished the committee with the following report thereon:


My DEAR Mr. CURRY: I have your request of June 14 for report on H. R. 3064, "to authorize the Governor of the Territory of Hawaii to acquire privately owned lands and establish a park at the Kilauea section of the Hawaiian National Park." This bill is identical with S. 4252 of the Sixty-fifth Congress, as that measure was passed by the Senate on February 25, 1910. It is also identical with H. R. 15599 of the last Congress. I am heartily in favor of this proposed legislation, and I trust that it will be passed at an early date.

The act of August 1, 1916, establishing the park, provides that no appropriation shall be made for its maintenance or improvement until proper conveyances shall be executed, or until the Secretary of the Interior shall have received the title to the Federal Government's interest in any private lands within the exterior boundaries of said park as the Secretary of the Interior shall find necessary to the development and protection of the park. Until the requirements of this provision are met no progress can be made in the development of the park, nor can any protection be afforded.

The bill under consideration is designed to enable the Department of the Interior to secure the title to the private lands so that active administration of the park may be assumed, and my visit to Hawaii last summer convinced me of the importance of this step. The bill as presently constituted includes in the park, as it is now constituted, two areas of land, of which one is on the island of Hawaii and includes the craters of the volcano Kilauea, and the other is a large tract within the summit of Mauna Loa; the third tract is on the island of Maui, and embraces the great extinct crater Haleakala.

The organic act establishing the park provides for the acceptance by the Federal Government of a tract of land containing the Kilauea and Mauna Loa sections of the park; this tract, which is to be used as a right of way for an automobile road to be built after a survey of the road has been made.

In the Kilauea section of the park there are approximately 30,000 acres of privately owned land that belong to the Bishop estate and a large part of the Haleakala section is private property. At the time the park was created there were approximately 7,000 acres of privately owned land in the Mauna Loa section, but recently these lands have been donated to the Federal Government.

In the Kilauea and Haleakala sections it will not be necessary to acquire all of the private holdings, but in order to carry out the purposes of Congress in establishing the park it is necessary that some large tracts be acquired and also a number of important tracts of land are necessary for roads.

The Secretary of the Interior seeks to acquire these tracts of land for the exchange with the owners of the private lands that the Government seeks to acquire are willing to exchange their property for the federal lands.

Hon. C. F. CURRY.

House of Representatives, United States.

We also submit a statement of Hon. J. K. Kukanilau, Delegate in Congress from Hawaii, in support of this bill as follows:

I favor the passage of bill H. R. 3064 and ask early attention to same.

There are many private lands which means are provided to acquire the privately owned lands within the park boundaries as set out in the law creating the Hawaiian National Park, inasmuch as the provisions of the act may be carried out with the approval of the Director of National Parks by agreements with proprietors sufficient to make the areas in said park public land. Such tracts of land, as is now the case, are of great beauty and of immense value to the Territory of Hawaii and the United States.

From the above correspondence it is clear the Secretary of the Interior not only highly recommends the passage of this bill as fair and reasonable but deems it necessary in order to develop and properly protect the National Park of Hawaii.

June 20, 1919.—Ordered to be printed.

Mr. Smoot, from the Committee on Public Lands, submitted the following report (to accompany S. 425) to establish the Zion National Park in the State of Utah, having had the same under consideration, report thereon without amendment and with the recommendation that the bill do pass.

The bill was referred to the Department of the Interior, and the Secretary of that department furnished the committee with the following report thereon:


My DEAR SENATOR: I have your request of June 5 for report on S. 425, a bill to establish the Zion National Park in the State of Utah. As this bill is identical with S. 5039 of the Sixty-fifth Congress, I am enclosing a copy of my favorable report on that measure for your consideration. I have no additional information to add to that report. I regard this park project as being in every respect worthy of early favorable consideration by the members of this body.

Cordially yours,

FRANKLIN K. LANE, Secretary.
Mr. Mays, from the Committee on the Public Lands, submitted the following report (to accompany S. 425):

The Committee on the Public Lands, to whom was referred the bill (S. 425) to establish the Zion National Park in the State of Utah, having had the same under consideration, report thereon without amendment and with the recommendation that the bill do pass.

Within the past year the State of Utah has completed an excellent motor road from Salt Lake City to Zion Canyon, a distance of over 300 miles. The Government has just constructed a bridge over the Virgin River within the proposed park and constructed an automobile road within the reserve. The State has made a good road from Los Angeles to Salt Lake City, and the Government has just completed a road from the proposed park to that city. The bill of the Sixty-fifth Congress, I am enclosing a copy of my favorable report on that measure.

From an archaeological point of view it is highly important that the Government should preserve this important source of scientific research. Along the perpendicular sides of these great gorges are the homes of the prehistoric cliff dwellers of this land. It will be agreed that the preservation of these ruins, if properly handled, is a matter of national concern and should be in the hands of the Government.

The bill was referred to the Department of the Interior, and the Secretary furnished the Senate committee with the following report thereon:

DEPARTMENT OF THE INTERIOR.

Washington, June 12th, 1919.

My Dear Senator: I have your request of June 5th for report on S. 425, a bill to establish the Zion National Park in the State of Utah. As this bill is identical with S. 5039 of the Sixty-fifth Congress, I am enclosing a copy of my favorable report on that measure for the use of the committee. I have no additional information or suggestions to add to that report. I regard this park project as being in every respect worthy of early favorable consideration of Congress.

Cordially yours,

Franklin K. Lane, Secretary.

DEPARTMENT OF THE INTERIOR.

Washington, December 27th, 1919.

My Dear Senator: I have your request of November 22nd for a report on S. 5039, "A bill to establish the Zion National Park in the State of Utah." This bill is identical with S. 5039 of the Sixty-fifth Congress, and the Secretary furnished the Senate committee with the following report thereon:

My Dear Senator: I have your request of November 22nd for a report on S. 5039, "A bill to establish the Zion National Park in the State of Utah." This bill is identical with S. 5039 of the Sixty-fifth Congress, and the Secretary furnished the Senate committee with the following report thereon:

Within the past year the State of Utah has completed an excellent motor road from Salt Lake City to Zion Canyon, a distance of over 300 miles. The Government has just constructed a bridge over the Virgin River within the proposed park and constructed an automobile road within the reserve. The State has made a good road from the proposed park to the entrance of the park. The bill of the Sixty-fifth Congress, I am enclosing a copy of my favorable report on that measure.

From an archaeological point of view it is highly important that the Government should preserve this important source of scientific research. Along the perpendicular sides of these great gorges are the homes of the prehistoric cliff dwellers of this land. It will be agreed that the preservation of these ruins, if properly handled, is a matter of national concern and should be in the hands of the Government.

The bill was referred to the Department of the Interior, and the Secretary furnished the Senate committee with the following report thereon:

DEPARTMENT OF THE INTERIOR.

Washington, June 12th, 1919.

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Cordially yours,

Franklin K. Lane, Secretary.

DEPARTMENT OF THE INTERIOR.

Washington, December 27th, 1919.

My Dear Senator: I have your request of November 22nd for a report on S. 5039, "A bill to establish the Zion National Park in the State of Utah." This bill is identical with S. 5039 of the Sixty-fifth Congress, and the Secretary furnished the Senate committee with the following report thereon:

Within the past year the State of Utah has completed an excellent motor road from Salt Lake City to Zion Canyon, a distance of over 300 miles. The Government has just constructed a bridge over the Virgin River within the proposed park and constructed an automobile road within the reserve. The State has made a good road from Los Angeles to Salt Lake City, and the Government has just completed a road from the proposed park to that city. The bill of the Sixty-fifth Congress, I am enclosing a copy of my favorable report on that measure.

From an archaeological point of view it is highly important that the Government should preserve this important source of scientific research. Along the perpendicular sides of these great gorges are the homes of the prehistoric cliff dwellers of this land. It will be agreed that the preservation of these ruins, if properly handled, is a matter of national concern and should be in the hands of the Government.

The bill was referred to the Department of the Interior, and the Secretary furnished the Senate committee with the following report thereon:

DEPARTMENT OF THE INTERIOR.

Washington, June 12th, 1919.

My Dear Senator: I have your request of June 5th for report on S. 425, a bill to establish the Zion National Park in the State of Utah. As this bill is identical with S. 5039 of the Sixty-fifth Congress, I am enclosing a copy of my favorable report on that measure for the use of the committee. I have no additional information or suggestions to add to that report. I regard this park project as being in every respect worthy of early favorable consideration of Congress.

Cordially yours,

Franklin K. Lane, Secretary.
BIBLIOGRAPHIES.

Bibliography of books and magazine articles on national park subjects. October 1, 1918, to September 30, 1919.

Bibliography of books, Government reports, and magazine articles on Grand Canyon National Park.

Bibliography of books and magazine articles on Lafayette National Park.
BIBLIOGRAPHY OF BOOKS AND MAGAZINE ARTICLES ON NATIONAL PARK SUBJECTS, OCTOBER 1, 1918, TO SEPTEMBER 30, 1919, INCLUSIVE.

BOOKS.


MAGAZINE ARTICLES.

CRATER LAKE.


GLACIER.


"Frontispiece, full page and captions. Mountain Sheep. 4 pp., Outing, vol. 73, No. 2, November, 1918.


GRAND CANYON.


REPORT OF DIRECTOR OF NATIONAL PARK SERVICE.

MOUNT RAINIER.


ROCKY MOUNTAIN.


Four pictures in green tint with captions (full page) Rocky Mountain National Park, November, 1918.
REPORT OF DIRECTOR OF NATIONAL PARK SERVICE.


YOSEMITE.


YOSEMITE.


"Why not see America this Summer?" Pictorial, p. 187, Ladies' Home Journal, vol. 36, No. 4, April, 1919.


"Year-round Yosemite Highway Object of New Association of Road Enthusiasts." By Rudolph Sterreichs. Motor Land (formerly California Motorist), vol. IV, No. 4, April, 1919, pp. 9-10.

REPORT OF DIRECTOR OF NATIONAL PARK SERVICE.


OTHERS ON THE SOUTHWEST.


PROPOSED NATIONAL PARKS.

"Mount Evans Addition to Rocky Mountain National Park.


PROPOSED RESERVATION ON LAKE SUPERIOR.


PROPOSED REDWOOD PARK.


"Fishing Facts in Redwood Realm." By E. Oliver Putnam. Illustrated. Pp. 5-8, Outing, vol. 74, No. 1, April, 1919.
**BIBLIOGRAPHY OF BOOKS, GOVERNMENT REPORTS, AND MAGAZINE ARTICLES ON GRAND CANYON NATIONAL PARK.**


Bell, William A. "New Tracks in North America" (a journal of travel and adventure whilst engaged in the survey for a southern railroad to the Pacific Ocean during 1877-78, pp. 595). New York, Scribner, 1879.

Borchardt, W. "How Death Valley was Named" (Stories of the Old West). By Frederick. P. 30-34, illustrated. Saturday Evening Post, vol. 190, No. 3, July 19, 1919.


Bourke, John G. "On the Border with Crook." Scribner's, 1869.


Cooke, Col. P. St. George. "March from Santa Fe to San Diego, Calif.


"The Last of the Plainsmen." Illustrated from photographs by the author. Price, $3.50.


"The Last of the Plainsmen." Illustrated from photographs by the author. Price, $3.50.


"The Last of the Plainsmen." Illustrated from photographs by the author. Price, $3.50.


"The Last of the Plainsmen." Illustrated from photographs by the author. Price, $3.50.


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APPENDIX F.

NATIONAL PARK PUBLICATIONS.

- Free publications ................................................................. 351
- Publications sold by Superintendent of Documents .................. 352
- Topographic maps sold by United States Geological Survey ........ 354
- Railroad Guide Books sold by Superintendent of Documents ....... 355
- United States Railroad Administration booklets ....................... 356

349
NATIONAL PARK PUBLICATIONS.

[Mailed free of charge upon application to the Director of the National Park Service, Washington, D. C.]

Contains summary of the operation and development of the national parks for current year, photographs of more important improvements, reports of park superintendents, national park and monument statistics, etc.


Contains description and maps of the sand dunes, the history of the project, and the hearings held in Chicago October 30, 1916.

Contains descriptions of the most important features of the principal national parks.

Information circulars containing data regarding hotels, camps, points of interest, bibliography, maps, regulations, etc., about each of the following national parks:
- Yellowstone
- Yosemite
- Mount Rainier
- Crater Lake
- Mesa Verde
- Sequoia and General Grant
- Hot Springs Reservation
- Glacier
- Rocky Mountain
- Wind Cave
- Grand Canyon (in course of preparation)

Information circulars relating to national monuments:
- General Information regarding Casa Grande National Monument, Arizona.
- General Information regarding the National Monuments. (Edition exhausted.)
Contains brief descriptions of the national monuments, administered by the Department of the Interior, the Department of Agriculture, and the War Department (excepting Casa Grande, Verendrye, and Katmai National Monuments).

Map showing all national parks and national monuments, administered by the National Park Service, with railroad connections.

Automobile road and trail map of each of the following national parks:
- Yellowstone
- Yosemite
- Mount Rainier
- Sequoia and General Grant
- Crater Lake
- Glacier
- Rocky Mountain
- Grand Canyon (in course of preparation)

The following-named publications relating to Lafayette National Park (formerly Sieur de Monts National Monument):
- Announcement by the Government of the creation of the Sieur de Monts National Monument by Presidential Proclamation on July 8, 1916.
- Addresses at meeting held at Bar Harbor on August 22, 1916, to commemorate the establishment of the Sieur de Monts National Monument.
The Sieur de Monts National Monument as a Bird Sanctuary.
The Coastal Setting, Rocks and Woods of the Sieur de Monts National Monument.
An Acadian Plant Sanctuary.
The Acadian Forest.


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PAMPHLETS.

General.


Contains a discussion of the national-park problems by officers of the Government and other persons.


Contains a general resume of the geologic forces that have been active in the Yellowstone National Park.

Proceedings of the [Second] National Park Conference Held at Yosemite National Park, October 14, 15, and 16, 1912. 146 pages. 15 cents.

Contains a detailed account of the structure and of the objects found in it.


Contains directions for climbing principal mountains of the Rocky Mountain Park region. For beginners as well as experienced mountaineers.


Contains a detailed account of the forest cover and of the principal species.


The Birds, by Florence Merriam Bailey; The Mammals, by Vernon Bailey; The Geysers, by Walter Harvey Weed. 1912. 32 pages, including 23 illustrations. 10 cents.

In this pamphlet is a description of the geologic forces that have been active in the Yellowstone National Park.


Rapids of the Yellowstone. By J. S. Diller. 5 cents.

Contains a detailed account of the geologic and scenic features of Lassen Volcanic National Park.

Mesa Verde National Park.


Contains a detailed account of the structure and of the objects found in it.


Contains a detailed account of the structure and of the objects found in it.

Excavation and Repair of Sun Temple. By J. W. Fewkes. 1916. 32 pages, including 18 illustrations. 15 cents.

Mount Rainier National Park.


Contains a detailed account of the structure and of the objects found in it.

Mount Rainier and Its Glaciers. By E. F. Matthews. 1914. 48 pages, including 26 illustrations. 15 cents.

Geologic Story of Rocky Mountain National Park. By Willis T. Lee, Ph. D. 1917. 80 pages, 45 plates, 6 text figures. 30 cents.

Contains a detailed description of the park and its various geologic and scenic features.


Contains a general account of the glaciers of Mount Rainier and of the development of the glaciers and basins surrounding the peak.

Rocky Mountain National Park.


Contains a general account of the geologic forces that have been active in the Yellowstone National Park.

Sequoia and General Grant National Parks.

Yosemite National Park.


Contains a description of the forces which have produced the geysers.
Contains descriptions of the fossil forests of the Yellowstone National Park and an account of their origin.

Contains descriptions of the species and lists of streams where found.

Yosemite National Park.

Contents of the forest cover and of the principal species.

Contains a description of the forest cover and of the principal species.

Limiting meridians, 122° and 122° 16'. Size, 19 by 22 inches. Scale, 1:62,500, or about 1 mile to 1 inch. Contour interval, 100 feet. Price, 10 cents.

Contains a description of the general features of the Sierra Nevada and the Yosemite National Park and an account of the origin of the Yosemite and Hetch Hetchy Valleys.

Panoramic Views.
(The panoramic views listed below are based on accurate surveys and give an excellent idea of the configuration of the surface as it would appear to a person flying over it. The meadows and valleys are painted in light green, the stream and lakes in light blue, the cliffs and ridges in combinations of color, and the roads in light brown. The lettering is printed in light brown and is easily read at close inspection, but merges into the other colors when the sheet is held at some distance.)

Panoramic view of Crater National Park. 16½ x 18 inches, scale 1 mile to the inch. 25 cents.
Panoramic view of Yosemite National Park. 18½ x 18 inches, scale 3 miles to the inch. 25 cents.
Panoramic view of Glacier National Park. 18½ x 21 inches, scale 3 miles to the inch. 25 cents.
Panoramic view of Mount Rainier National Park. 20 x 19 inches, scale 1 mile to the inch. 25 cents.
Panoramic view of Yellowstone National Park. 18 x 21 inches, scale 3 miles to the inch. 25 cents.
Panoramic view of Mesa Verde National Park. 22½ x 19 inches, scale three-fourths mile to the inch. 25 cents.
Panoramic view of Rocky Mountain National Park. 14 x 17½ inches, scale 2 miles to the inch. 25 cents.

Topographic Maps Sold by the U. S. Geological Survey.
(The maps listed below may be purchased from the Director of the United States Geological Survey, Washington, D. C. Remittances should be made by money order or in cash. Personal checks cannot be accepted. A discount of 40 per cent is allowed on all orders for maps amounting to $5 net or more.

National Parks.

Crater Lake National Park, Oreg. Limiting parallels, 42° 48' and 43° 04'. Limiting meridians, 122° and 122° 16'. Size, 19 by 22 inches. Scale, 1:62,500, or about 1 mile to 1 inch. Contour interval, 50 feet. Price, 10 cents.
General Grant National Park, Cal. Shown on the Tehopite map. Scale, 1:125,000, or about 2 miles to 1 inch. Contour interval, 100 feet. Price, 10 cents.
Glacier National Park, Mont. Shown on the Tehopite map. Scale, 1:125,000, or about 2 miles to 1 inch. Contour interval, 100 feet. Price, 10 cents.

Panoramic view of Yellowstone National Park, Wyo.-Mont.-Idaho. Limiting parallels, 44° 08' 17" and 46° 01' 53". Limiting meridians, 119° and 111° 05' 56". Size, 32 by 36 inches. Scale, 1:125,000, or about 2 miles to 1 inch. Contour interval, 100 feet. Price, 25 cents.
Yosemite National Park, Calif. The park limits established by acts of Congress are shown in cools. Limiting parallels, 37° 42' and 37° 47' 05". Limiting meridians, 119° 30' and 119° 43' 40". Scale, 1:24,000, or about 24 inches to 1 mile. Contour interval, 50 feet. Price, 10 cents.

National monuments.

Casa Grande National Monument, Ariz. The northern part of this area is shown on the Sacaton map. Scale, 1:62,500, or about 1 mile to 1 inch. Contour interval, 50 feet. Price, 10 cents.
Devils Tower National Monument, Wyoming. Shown on Devils Tower map. Scale, 1:125,000, or about 2 miles to 1 inch. Contour interval, 50 feet. Price, 10 cents.
Muir Woods National Monument, California. Shown on Tamalpais map. Scale, 1:62,500, or about 1 mile to 1 inch. Contour interval, 25 feet. Price, 10 cents.

Railroad Guidebooks.
(Sold by Superintendent of Documents. Remittances for publications listed below should be made to the Superintendent of Documents, Government Printing Office, Washington, D. C. by money order or in cash. Checks and postage stamps cannot be accepted.)

In the Geological Survey bulletins listed below are described the geography, geology, history, and natural resources of the regions traversed by the principal transcontinental railways. Every effort has been made to make the volumes interesting as well as accurate. Matter slightly more detailed or technical than that in the body.
of the text has been separated as footnotes, and a glossary has been provided for such geologic terms as it was necessary to use. The more important sources of geologic information on the region are listed in the back, and a table showing the principal divisions of geologic time appears on the backs of the title pages.


This volume deals with the country along the Northern Pacific Railroad from St. Paul to Seattle and along the branch line to Yellowstone Park. It is the purpose of this volume to answer some of the questions which these views from the cars, windows evoke, to tell what the rocks are and how they got there, to explain the effect of earth movements upon them, to show how that conspicuous element in scenery which we call topography is the result of a long succession of geologic events—brief, to tell the story of the mountains, valleys, and plains. It does not stop there, however. It connects this record of the prehistoric past with the present march of western progress and development by showing the relation of geologic processes to natural resources of various kinds; it describes the utilization of these resources and tells how man has turned them to account.


A handbook for the traveler which deals not only with the geology but with the natural resources, history, and development of the country along the Union Pacific System between Omaha and San Francisco. It shows how differences in scenery and climate depend upon past geologic events and dispels the monotony of the great plains by taking the traveler back to times when these regions supported a vegetation very different from their present scanty covering and were inhabited by animals of strange forms and large size. The scenery of the mountains acquires additional interest from the explanation of the earth movements and the resulting rock structures to which fundamentally the mountain forms are due.


This guide describes the country along the Atchison, Topeka & Santa Fe Railroad from Kansas City to Los Angeles. Although the description of the rocks and their relations and the scenic features form a large proportion of the matter, nearly every page gives information as to notable historic events, industrial resources, plants, and animals. The story of the Indians, past and present, especially the characteristic Pueblo tribes, is told in some detail. Many of the facts regarding the rocks are here presented for the first time. The book contains numerous views of prominent scenic features and pictures of restoration of some of the very remarkable animals whose bones are found in the clays.


A manual for the traveler between Seattle or Los Angeles and San Francisco, which describes in clear, simple language the geography, geology, history, and natural resources of the region visible from the car windows. Geology is made interesting to the reader by an avoidance of details and by the selection for treatment of the features that are likely to attract the eye. Care is taken also to point out the connection between the story of the earth and the present human activity in the region. The book is divided into two parts, one dealing with the route from Seattle to San Francisco and one with the route from Los Angeles to San Francisco.

UNITED STATES RAILROAD ADMINISTRATION BOOKLETS.

(The following booklets issued by the United States Railroad Administration can be obtained free of charge upon application to the manager, Bureau of Service, National Parks and Monuments, 646 Transportation Building, Chicago, Ill.)

Crater Lake National Park (Oregon).
Glacier National Park (Montana).
Grand Canyon National Park (Arizona).
Hawaiian Islands.
Hot Springs National Park (Arkansas).
Mesa Verde National Park (Colorado).
Mount Rainier National Park (Washington).
Petrified Forest National Monument (Arizona).
Rocky Mountain National Park (Colorado).
Sequoia and General Grant National Parks (California).
Yellowstone National Park (Wyoming).
Yosemite National Park (California).
Zion National Monument (Utah).

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AN ACT TO ESTABLISH A NATIONAL PARK SERVICE, AND FOR OTHER PURPOSES.

(39 Stat., 535.)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there is hereby created in the Department of the Interior a service to be called the National Park Service, which shall be under the charge of a director, who shall be appointed by the Secretary and who shall receive a salary of $4,500 per annum. There shall also be appointed by the Secretary the following assistants and other employees at the salaries designated: One assistant director, at $2,500 per annum; one chief clerk, at $2,000 per annum; one draftsman, at $1,800 per annum; one messenger, at $600 per annum; and, in addition thereto, such other employees as the Secretary of the Interior shall deem necessary: Provided, That not more than $8,100 annually shall be expended for salaries of experts, assistants, and employees within the District of Columbia not herein specifically enumerated unless previously authorized by law. The service thus established shall promote and regulate the use of the Federal areas known as national parks, monuments, and reservations hereinafter specified by such means and measures as conform to the fundamental purpose of the said parks, monuments, and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.

SEC. 2. That the director shall, under the direction of the Secretary of the Interior, have the supervision, management, and control of the several national parks and national monuments which are now under the jurisdiction of the Department of the Interior, and of the Hot Springs Reservation in the State of Arkansas, and of such other national parks and reservations of like character as may be hereafter created by Congress: Provided, That in the supervision, management, and control of national monuments contiguous to national forests the Secretary of Agriculture may cooperate with said National Park Service to such extent as may be requested by the Secretary of the Interior.

SEC. 3. That the Secretary of the Interior shall make and publish such rules and regulations as he may deem necessary or proper for the use and management of the parks and national monuments under the jurisdiction of the National Park Service, and any violations of any of the rules and regulations authorized by this Act shall be punished as provided for in section fifty of the Act entitled "An Act to codify and amend the penal laws of the United States," approved March fourth, nineteen hundred and nine, as amended by section six of the Act of June twenty-fifth, nineteen hundred and ten (Thirty-sixth United States Statutes at Large, page eight hundred and fifty-seven). He may also, upon terms and conditions to be fixed by him, sell or dispose of timber in those cases where in his judgment the cutting of such timber is required in order to control the attacks of insects or diseases or otherwise conserve the scenery or the natural or historic objects in any such park, monument, or reservation. He may also in his discretion for the destruction of such animals and of such plant life as may be detrimental to the use of any of said parks, monuments, or reservations. He may also grant privileges, leases, and permits for the use of land for the accommodation of visitors in the various parks, monuments, or other reservations herein provided for, but for periods not exceeding twenty years; and no natural curiosities, wonders, or objects of interest shall be leased, rented, or granted to anyone on such terms as to interfere with free access to them by the public: Provided, however, That the Secretary of the Interior may, under such rules and regulations and on such terms as he may prescribe, grant the privilege to graze live stock within any national park, monument, or reservation herein referred to when in his judgment such use is not detrimental to the primary purpose for which such park, monument, or reservation was created, except that this provision shall not apply to the Yellowstone National Park.
SEC. 4. That nothing in this Act contained shall affect or modify the provisions of the Act approved February fifteenth, nineteen hundred and one, entitled "An Act relating to rights of way through certain parks, reservations, and other public lands."


AN ACT FOR THE PRESERVATION OF AMERICAN ANTIQUITIES.

(34 Stat. 225.)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That any person who shall appropriate, excavate, injure, or destroy any historic or prehistoric ruin or monument, or any object of antiquity, situated upon lands owned or controlled by the Government of the United States, without the permission of the Secretary of the department of the Government having jurisdiction over the lands on which said antiquities are situated, shall upon conviction, be fined in a sum of not more than $500 or be imprisoned for a period of not more than ninety days, or shall suffer both fine and imprisonment, in the discretion of the court.

Provided, That when such objects are situated upon a tract covered by a bona fide unperfected claim or held in private ownership, the tracts, or so much thereof as may be necessary for the proper care and management of the object, may be relinquished to the Government, and the Secretary of the Interior is hereby authorized to accept the relinquishment of such tracts in behalf of the Government of the United States.

SEC. 3. That permits for the examination of ruins, the excavation of archaeological sites, and the gathering of objects of antiquity upon the lands under their respective jurisdictions may be granted by the Secretaries of the Interior, Agriculture, and War to institutions which they may deem properly qualified to conduct such examination, excavation, or gathering, subject to such rules and regulations as they may prescribe: Provided, That when such objects are situated upon a tract covered by a bona fide unperfected claim or held in private ownership, the tracts, or so much thereof as may be necessary for the proper care and management of the object, may be relinquished to the Government, and the Secretary of the Interior is hereby authorized to accept the relinquishment of such tracts in behalf of the Government of the United States.

SEC. 2. That the President of the United States is hereby authorized, in his discretion, to declare by public proclamation historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest that are situated upon the lands owned or controlled by the Government of the United States to be national monuments, and may reserve as a part thereof parcels of land, the limits of which in all cases shall be confined to the smallest area compatible with the proper care and management of the objects to be protected: Provided, That when such objects are situated upon a tract covered by a bona fide unperfected claim or held in private ownership, the tracts, or so much thereof as may be necessary for the proper care and management of the object, may be relinquished to the Government, and the Secretary of the Interior is hereby authorized to accept the relinquishment of such tracts in behalf of the Government of the United States.

SEC. 4. That nothing in this Act contained shall affect or modify the provisions of the Act approved February fifteenth, nineteen hundred and one, entitled "An Act relating to rights of way through certain parks, reservations, and other public lands."


Statement of National Park Policy.

DEPARTMENT OF THE INTERIOR,
Washington, May 13, 1918.

DEAR MR. MATHER: The National Park Service has been established as a bureau of this department just one year. During this period our efforts have been chiefly directed toward the building of an effective organization while engaged in the performance of duties relating to the administration, protection, and improvement of the national parks and monuments, as required by law. This constructive work is now completed. The new Service is fully organized; its personnel has been carefully chosen; it has been conveniently and comfortably situated in the new Interior Department Building; and it has been splendidly equipped for the quick and effective transaction of its business.

For the information of the public an outline of the administrative policy to which the new Service will adhere may now be announced. This policy is based on three broad principles: " First, that the national parks must be maintained in absolutely unimpaired form for the use of future generations as well as those of our own time; second, that they are set apart for the use, observation, health, and pleasure of the people; and third, that the national interest must dictate all decisions affecting public or private enterprise in the parks."

Every activity of the Service is subordinate to the duties imposed upon it to faithfully preserve the parks for posterity in essentially their natural state. The commercial use of these reservations, except as specially authorized by law, or such as may be incidental to the accommodation and entertainment of visitors, will not be permitted under any circumstances.

In all of the national parks except Yellowstone you may permit the grazing of cattle in isolated regions not frequented by visitors, and where no injury to the natural features of the parks may result from such use. The grazing of sheep, however, must not be permitted in any national park.

In leasing lands for the operation of hotels, camps, transportation facilities, or other public service under strict Government control, concessioners should be confined to tracts no larger than absolutely necessary for the purposes of their business enterprises.

You should not permit the leasing of park lands for summer homes. It is conceivable, and even exceedingly probable, that within a few years under a policy of permitting the establishment of summer homes in national parks, these reservations might become so generally settled as to exclude the public from convenient access to their streams, lakes, and other natural features, and thus destroy the very basis upon which this national playground system is being constructed.
You should not permit the cutting of trees except where timber is needed in the construction of buildings or other improvements within the park and can be removed without injury to the forests or disfigurement of the landscape, where the thinning of forests or cutting of vistas will improve the scenic features of the parks, or where their destruction is necessary to eliminate insect infestations or diseases common to forests and shrubs.

In the construction of roads, trails, buildings, and other improvements, particular attention must be devoted always to the harmonizing of these improvements with the landscape. This is a most important item in our program of development and requires the employment of trained engineers who either possess a knowledge of landscape architecture or have a proper appreciation of the esthetic value of park lands. All improvements will be carried out in accordance with a preconceived plan developed with special reference to the preservation of the landscape, and comprehensive plans for future development of the national parks on an adequate scale will be prepared as funds are available for this purpose.

Wherever the Federal Government has exclusive jurisdiction over national parks it is clear that more effective measures for the protection of the parks can be taken. The Federal Government has exclusive jurisdiction over the national parks in the States of Arkansas, Oklahoma, Wyoming, Montana, Washington, and Oregon, and also in the Territories of Hawaii and Alaska. We should urge the cession of exclusive jurisdiction over the parks in the other States, and particularly in California and Colorado.

There are many private holdings in the national parks, and many of these seriously hamper the administration of these reservations. All of them should be eliminated as far as it is practicable to accomplish this purpose in the course of time, either through congressional appropriation or by acceptance of donations of these lands. Isolated tracts in important scenic areas should be given first consideration, of course, in the purchase of private property.

Every opportunity should be afforded the public, wherever possible, to enjoy the national parks in the manner that best satisfies the individual taste. Automobiles and motorcycles will be permitted in all of the national parks; in fact, the parks will be kept accessible by any means practicable.

All outdoor sports which may be maintained consistently with the observation of the safeguards thrown around the national parks by law will be heartily indorsed and aided wherever possible. Mountain climbing, horseback riding, walking, motoring, swimming, boating, and fishing will ever be the favorite sports. Winter sports will be developed in the parks that are accessible throughout the year. Hunting will not be permitted in any national park.

The educational, as well as the recreational, use of the national parks should be encouraged in every practicable way. University and high-school classes in science will find special facilities for their vacation-period studies. Museums containing specimens of wild flowers, shrubs, and trees, and mounted animals, birds, and fish native to the parks, and other exhibits of this character will be established as authorized.

Low-priced camps operated by concessioners should be maintained, as well as comfortable and even luxurious hotels wherever the volume of travel warrants the establishment of these classes of accommodations. In each reservation, as funds are available, a system of free camp sites will be cleared, and these grounds will be equipped with adequate water and sanitation facilities.

As concessions in the national parks represent in most instances a large investment, and as the obligation to render service satisfactory to the department at carefully regulated rates is imposed, these enterprises must be given a large measure of protection, and, generally speaking, competitive business should not be authorized where a concession is meeting our requirements, which, of course, will as nearly as possible coincide with the needs of the traveling public.

All concessions should yield revenue to the Federal Government, but the development of the revenues of the parks should not impose a burden upon the visitor.

Automobile fees in the parks should be reduced as the volume of motor travel increases.

For assistance in the solution of administrative problems in the parks relating both to their protection and use the scientific bureaus of the Government offer facilities of the highest worth and authority. In the protection of the public health, for instance, the destruction of insect pests in the forests, the care of wild animals, and the propagation and distribution of fish, you should utilize their hearty cooperation to the utmost.

You should utilize to the fullest extent the opportunity afforded by the Railroad Administration in appointing a committee of western railroads to inform the traveling public how to comfortably reach the national parks; you should diligently extend and use the splendid cooperation developed during the last three years among chambers of commerce, tourist bureaus, and automobile highway associations for the purpose of spreading information about our national parks and facilitating their use and enjoyment; you should keep informed of park movements and park progress, municipal, county, and State, both at home and abroad, for the purpose of adapting, whenever practicable, the world's best thought to the needs of the national parks. You should encourage all movements looking to outdoor living. In particular, you should maintain close working relationship with the Dominion parks branch of the Canadian department of the interior and assist in the solution of park problems of an international character.

The department is often requested for reports on pending legislation proposing the establishment of new national parks or the addition of lands to existing parks. Complete data on such park projects should be obtained by the National Park Service and submitted to the department in tentative form of report to Congress.

In studying new park projects you should seek to find scenery of supreme and distinctive quality or some natural feature so extraordinary as to be of national interest and importance. You should seek distinguished examples of typical forms of world architecture, such, for instance, as the Grand Canyon, as exemplifying the highest accomplishment of stream erosion, and the high, rugged portion of Mount Desert Island as exemplifying the oldest rock forms in America and the luxuriance of deciduous forests.

The national park system as now constituted should not be lowered in standard, dignity, and prestige by the inclusion of areas
which express in less than the highest terms the particular class or kind of exhibit which they represent.

It is not necessary that a national park should have a large area. The element of size is of no importance as long as the park is susceptible of effective administration and control.

You should study existing national parks with the idea of improving them by the addition of adjacent areas which will complete their scenic purposes or facilitate administration. The addition of the Tetons to the Yellowstone National Park, for instance, will supply Yellowstone’s greatest need, which is an uplift of glacier-bearing peaks; and the addition to the Sequoia National Park of the Sierra summits and slopes to the north and east, as contemplated by pending legislation, will create a reservation unique in the world, because of its combination of gigantic trees, extraordinary canyons, and mountain masses.

In considering projects involving the establishment of new national parks or the extension of existing park areas by delimitation of national forests, you should observe what effect such delimitation would have on the administration of adjacent forest lands, and, wherever practicable, you should engage in an investigation of such park projects jointly with officers of the Forest Service, in order that questions of national park and national forest policy as they affect park projects jointly with officers of the Forest Service, in order that questions of national park and national forest policy as they affect the lands involved may be thoroughly understood.

Cordially, yours,

FRANKLIN K. LANE, 
Secretary.

Mr. STEPHEN T. MATHER, 
Director, National Park Service.
placer claims to one C. Frank Doebler, who he understands has conveyed to the
behalf. Dated March 29, 1919, in which he states that he has disposed of his interest in
& Co. and others. With these papers is a letter signed by said Cameron and
number of copies of assay certificates purported to have been made by J. Bishop
of Malvern, Pennsylvania, who represent himself to be the secretary and treas­
for August 10, 1915, before the register and receiver; that on August 5, 1915,
he was proceeding in the court in good faith and upon reason­
deposits. The movant also urges in support of his motion that at the time the
claims contain valuable platinum deposits, because of which they were pur­
tained by decision dated November 14, 1916 (46 L. D., 195). By decision dated
February 6, 1917 (48 L. D., 20), the decision in the Nichols and Smith case of
October 24, 1916, was reversed and the authority of the Land Department to
inquire into the question of the validity of mining the platinum in the de­
notwithstanding the locators have not applied for patent, was sustained. The
decision of the Court of Appeals became final, no appeal therefrom having been
taken by the defendant, the latter's motion for a continuance being upon an
thorough mistake of his counsel and that it was his purpose to appeal therefrom.

Action on the contest record having been suspended by order of this court of
December 13, 1915, because of said suit in the Supreme Court of the State of
Columbia after the decision of the Court of Appeals had become final
by office letter “FS” of February 11, 1918, the suspension was removed and
you were directed to proceed with the case. The movant complains that this
action, without giving notice to him, but since the hearing had been closed,
as aforesaid, there was no reason for giving the defendants notice unless the
case was to be reopened for the taking of further evidence, which was not con­
templated. In his affidavit filed with the supplemental showing in support of the motion
to reopen the hearing, the defendant Cameron alleges that about 16 years ago
Dr. C. T. Henning examined the deposits on the claims and took samples and
reported that the claims contained platinum, and that in 1917 J. M. Boutwell, an eminent mining engineer,
took samples from the property which were assayed by said J. Bishop & Company
and gave results of 0.09, 0.26, and 0.24 ounces of platinum per ton; that in 1918
A. C. Simidina, a mining engineer, took samples from the property which were
analyzed by the Ohs & Company, and which results were as follows: 0.09, 0.26,
and 0.24 ounces of platinum per ton; that in the summer and fall of 1917 said J. M. Boutwell
and the affiant spent altogether seven weeks on the property and took in the
charge that the land is nonmineral in character and that no discovery of
mineral had been made on any of said claims, have been established thereby.
It is not necessary, therefore, to consider the charge questioning the bona fides
of said claims.

Considering the motion to reopen the hearing, it appears from the record that
the notice of the hearing was given by your office on June 18, 1915, settling the same
for July 6, 1915, before Judge Smith, in which, among other things, the
Cameron filed a plea to the jurisdiction of the Land Department, and on the day
of the hearing moved for a continuance on account of absent witnesses. He also insisted on his plea to the jurisdiction, citing in its support a decision rendered by Judge Smith in the
Cy Smith case, wherein it was held that the Land Department was without
jurisdiction to proceed against mining locations where no application for patent
was pending. On the same day he filed a bill in equity before the United States
district judge at Pittsburgh, seeking to enjoin the register and receiver from
proceeding with the hearing. On being advised of the court proceedings, the
hearing was continued to August 12, 1915, at which time the parties appeared
and the motion for a continuance was denied and the defendant was ordered to
the jurisdiction of the Land Department overruled, and after the evidence in sup­
port of the charges was completed, as aforesaid, the hearing was continued
and took the place of the district court had been introduced in the action.

The statement of the results obtained from the samples furnished by said Boutwell
in 1917 and 1918 shows that only J. Bishop & Company were able to obtain appreciable platinum results, ranging from 2.400 ounces per ton down to nothing.

Counsel for the movant calls attention to the difference between the results
obtained by the assayers, especially those of Ledoux and Company of New
York. Counsel contends that the results of the assays that were made
obtained by J. Bishop & Company, and filed an affidavit by Charles H. Kerck
of the J. Bishop & Company Platinum Works, in which it is asserted that the
platinum could not be obtained by gravity concentration, the ordinary method of
and that his company has processes only for the recovery of platinum in the
recovery of platinum in the deposits in question which he believes makes

by the General Engineering Company, of Salt Lake City, giving
samples by the same company shows one result of 7.07 ounces, one of 0.16,
less than 300 samples analyzed show "nil" or "trace". Another certificate of
samples assayed by Van Schulz and Lowe, of Denver, show no platinum in
all but one sample, which gives 0.17 ounce per ton. An­
other certificate of the J. Bishop & Company Platinum Works shows platinum in
practically all of the 38 samples assayed, ranging from 0.05 to 0.20 ounces
per ton, or an average of probably about 0.10 ounce per ton. Another certifi­
cot of the J. Bishop & Company Platinum Works, shows 9.3 as an average, and
the remainder either "blank" or "trace". Another certificate of 36
samples by the same company shows one result of 7.07 ounces, one of 0.16,
and some of the lower results, and a number of samples without results.

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obtained by the assayers, especially those of Ledoux and Company of New
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and that his company has processes only for the recovery of platinum in the
recovery of platinum in the deposits in question which he believes makes
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recovery of platinum in the deposits in question which he believes makes
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Counsel for the movant calls attention to the difference between the results
obtained by the assayers, especially those of Ledoux and Company of New
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experiences of his company has proved that the usual methods of assayers will
not work entirely successful with the ores from these claims, and that the
method used by him was devised after failure to recover platinum by the
usual methods. The showing of platinum in the claims made by the movant in
support of his motion rests entirely upon the results obtained by said Bishop &
Company, and is contradicted by the results obtained by Smith, Emery & Com-
pany, Lédoix & Company, Van Schulz & Lowe, and Black & Deason, of Salt
Lake City. In addition a number of assays have been made by the U. S.
Geological Survey. A report dated February 24, 1919, by F. L. Ransome of that
bureau has been furnished by the director. In this Dr. Ransome reports that he
made some examination in the summer of 1918 on the claims, carefully choosing
two samples as representative of the alleged ore, each of which he divided into
three parts, one being assayed by the Bureau of the Mint, one by the Bureau
of Standards, and the third in the laboratory of the United States Geological
Survey. Only a very inconsequential amount of platinum was found by the
assayers. In the conclusion of his report Dr. Ransome says:
As a result of these investigations it may be safely stated that the supposed platinum
deposits in the Grand Canyon do not contain platinum. Certainly not enough to be of
any value. The claim that the platinum is present in some form that would prevent
its detection by the various methods in the three Government laboratories mentioned
may be dismissed as an absurdity. A metal in colloidal solution is merely in such a
very fine state of division that it remains in suspension in a clear or opalescent liquid.
Its chemical properties, however, are not changed by transformation to the colloidal
state, and there is no difficulty in precipitating the metal from a colloidal solution by
using the proper treatment.

In connection with the data filed with the motion to reopen the hearing the
Director of the United States Geological Survey has supplied a signed copy of
a report of John M. Boutwell, made under date of March 18, 1919, to the United
States Platinum Company, in which he states that he had studied the ground
geologically, the possible ore-bearing formations having been systematically
sampled, 273 samples taken and assayed in duplicate or triplicate, special chemi-
cal work done and duplicate concentration tests made; that in all this work the
utmost practicable endeavor had been made according to the best known prac-
tice to secure correct results as a basis for ascertaining the truth. Concluding
he says—
These results show that platinum ore has not been found in the ground examined in
form and grade of commercial value.

In his letter transmitting the copy he states—
This is the first and sole report on the Indian Gardens property in Grand Canyon,
Aria. This action is also in accordance with agreement between the owners and myself.

This report is given consideration especially because it was upon the repre-
sentations of the movant that he had employed said Boutwell to make a
thorough examination of the claims and desired to have the results of such
examination considered, that action on the hearing record has been postponed
for several months. In view of the representations as to the qualifications of
this engineer and the character and extent of the investigation of the deposits
on the claims made by him, his conclusion that the land contains no platinum
values is convincing and entitled to great weight.

Considering the facts shown by the record as made up, the showing submitted
by the movant, the published report of Dr. Ransome as information furnished
by the U. S. Geological Survey, a coordinate bureau of the Department, and
the report of said Boutwell, also furnished by that Bureau, no sufficient reason
for reopening the hearing to allow additional evidence to be submitted and
thereby delay final action on the case, is found. On the contrary, I am con-
vincing that a further hearing would only delay final action in the case. The
land is now within the Grand Canyon National Park, under Act of Congress
approved February 26, 1919 (Public No. 277). The act creating the park does
not prevent development of any valuable mineral deposits that may be dis-
covered thereon, provision being made (Sec. 6),
That whenever consistent with the primary purposes of said park, the Secretary of
the Interior is authorized, under general regulations, to be prescribed to him, to permit
the prospecting, development, and utilization of the mineral resources of said park upon
such terms and for specified period or otherwise, as he may deem to be for the best inter-
est of the United States.

The motion to reopen the hearing is accordingly denied. Your decision is
affirmed, and the said alleged locations and each of them are hereby adjudged
to be null and void and of no effect, that the land covered by said locations was
not excepted from the reservations creating the Grand Canyon National Monu-
ment, and the Grand Canyon National Park, and said lands will be administered
as a part of said park, if this decision becomes final.

Thirty days from notice will be allowed the claimants within which to file
appeal herefrom.

Very respectfully,
CLAY TALLMAN,
Commissioner.
OUR NATIONAL PARKS IN WINTER.

It is commonly assumed that the national parks of the United States serve their recreational purpose only in the summer time. Winter conditions are supposed to render them inaccessible, for the most part, and even where accessible the rigors of winter are supposed to be so severe as to preclude all possible enjoyment. This is a mistaken idea. Nearly all of the national parks furnish in winter scenes of striking beauty and sublimity such as are found in no other season of the year; and while it is not always easy to reach these scenes, owing to the depth of snow and the lack of transportation, it is the emphatic and universal testimony of those who have visited the parks in winter that the extra exertion required is far more than repaid by the splendid exhilaration of the trip and the superb views which are afforded.

The Hot Springs Reservation, in Arkansas, is, of course, readily accessible, and fulfills the same health-restoring mission in winter as in summer.

The Grand Canyon National Park, in Arizona, is also easily reached, and has almost as many visitors during the winter months as during the summer. Snow is practically unknown in the depths of the canyon, and while it occasionally falls along the rim, there is never a sufficient quantity to interfere with one’s full enjoyment of the magnificent views which have caused the Grand Canyon to be worthily rated as “the first wonder of the world.”

Lafayette National Park, on Mount Desert Island, off the coast of Maine, is likewise easily reached under ordinary winter conditions; and while there are some days when the thermometer records a low temperature, and while many of the roads and trails through the park are of necessity left unbroken through the winter, there are so many interesting natural phenomena and so many opportunities for winter sports in great variety that the park bids fair, in coming days, to be recognized as a winter resort possessing exceptional attractions.

Yellowstone National Park, in Wyoming, is heavily snowbound during winter, and a tour of the park can be made only on snowshoes or, under favorable conditions, on horseback. Those who have visited the park in winter, however, have come back with thrilling tales of indescribable beauty, especially in connection with the hot springs and geysers, where Jack Frost exhibits some of the most fascinating specimens of his handiwork. The Grand Canyon of the Yellowstone, too, is a snowy fairyland, while the bands of elk which come down from the mountains to feed in the park offer many novel and picturesque sights.

Glacier National Park, in Montana, is another snowy wilderness in wintertime; but whoever has the opportunity and the courage to accompany one of the park rangers on one of his winter trips will find ample reward in beholding scenes of grandeur which outrival in impressiveness anything which the summer season yields.
As a rule the snowfall in the Rocky Mountain National Park, in Colorado, is very slight, except upon the highest ranges, and the winter temperature is mild. Estes Park, the main entrance to the reservation, can always be reached by automobile, and some of the hotels keep open through the winter. Already there has been a considerable development in the way of winter sports—skating, skiing, snowshoeing, tobogganing, etc.—within the park, and this development promises to be greatly enlarged in the near future. Needless to say the Continental Divide has unsuspected glories to reveal to those who know the mountains only in the summer aspect. See Enos Mills's stories of his winter experiences on Longs Peak.

Mesa Verde National Park, in Colorado, is somewhat off the main lines of travel, east and west; but there is no reason why its delightful scenery and the fascinating mystery of its prehistoric cliff dwellings may not be enjoyed in winter as well as in summer.

Mount Rainier National Park, in Washington, is rapidly coming to be known as a treasure house of wonder and beauty in the wintertime. The snowfall is usually very heavy, but the National Park Inn can be reached by automobile in four or five hours from Tacoma or Seattle, and from this as headquarters various excursions may be taken on snowshoes or skis to points of supreme interest and beauty. Except when there is a severe wind, the temperature is mild and genial; overcoats and gloves are oftentimes unnecessary, and there is a tonic in the air which dwellers on the lowlands know nothing of whatever. The trip to Paradise Inn, 5 miles up the mountain, is especially to be recommended. The trail runs through an evergreen forest which, under the decoration of the snow, abounds in views of exquisite charm, with new and then glimpses of the superb peaks of the Tatoosh Range and the Great Mountain itself, clad in robes of uttermost purity—a spectacle of combined majesty and beauty unsurpassed anywhere on the continent. Paradise Inn does not claim "to be open" in the winter but visitors can be accommodated here, and a single night spent at this altitude (5,500 feet above the sea), with its attendant glories of sunset and sunrise is an adventure never to be forgotten. Last Christmas time 55 members of "The Mountaineers"—an outdoor club of Seattle—reached Camp Muir, at an elevation of 10,000 feet on the mountain—a holiday trip of intense enjoyment and inspiration.

Crater Lake National Park, in Oregon, also has a heavy snowfall, yet the lake rarely, if ever, freezes over. The same scenes of wonder and beauty which enchant the visitor in summer time are found here in winter, with the added glory of the snow. The distance of Crater Lake from ordinary travel routes operates against its popularity as a winter resort; but those who have succeeded in penetrating to its snowy fastness have returned enthusiastic over the pleasures of the trip and the sublime scenic views which formed its climax.

The forests of the Sequoia and General Grant National Parks in California present views of rare beauty in their winter dress. The big trees, yellow pines, sugar pines, silver firs, incense cedars, etc., bear their snowy burdens most gracefully, and one feels a new sense of reverence in wandering beneath the fretted domes of their interlacing branches so exquisitely adorned.
ASSOCIATED MOUNTAINEERING CLUBS OF NORTH AMERICA.¹

American Alpine Club.

President, Charles E. Fay, Tufts College, Mass.
Secretary, R. H. Chapman, 2029 Q Street, Washington, D. C.
Treasurer, B. F. Seaver, 14 Wall Street, New York.
Librarian, Le Roy Jeffers, 476 Fifth Avenue, New York.
Membership.—Active, 88; honorary, 11; total, 99.
Dues.—Annual, $5; life, $50.
Organized 1902. Annual meeting held in Philadelphia, New York, or Boston in December or January.
Publications.—Alpina Americana, supplied by Williams & Wilkins Co., 2419 Greenmount Avenue, Baltimore, Md., at $0.85 a copy. No. 1, J. N. Le Conte, High Sierra of California, 1907; No. 2, C. E. Fay, Canadian Rocky Mountains, 1911; No. 3, A. H. Brooks, Mountain Exploration in Alaska, 1914; By-laws and register.
The club’s collection of mountaineering books and photographs is deposited with the New York Public Library, at 476 Fifth Avenue.

American Forestry Association, 1410 H Street NW., Washington, D. C.

Secretary, Percival S. Ridsdale, 1410 H Street NW., Washington.
Treasurer, J. E. Jenks, 1410 H Street NW., Washington.
Membership.—Annual, subscribing, contributing, sustaining, life, patron. Total, 15,000.
Dues.—Subscribing, $3; contributing, $10; sustaining, $25; life, $100; patron, $1,000.
Organized 1882. Annual meeting in January.
Publication.—American Forestry (monthly), edited by P. S. Ridsdale, $3 a year. Free to members. Devoted to trees, parks, flowers, birds, and kindred subjects.
The association is working for the conservation and protection of the forests, flowers, and birds of the United States and Canada, and for a National Forest policy which will insure a production equal to national needs.

American Game Protective Association, 2271 Woolworth Building, New York City.

President, John B. Burnham, 233 Broadway, New York.
Vice president, E. A. Quarles, 233 Broadway, New York.
Secretary and treasurer, G. M. Fayles, 233 Broadway, New York.
Dues.—Member, $1 plus subscription to any one of several leading sportsmen’s magazines, which carry monthly a department of wild-life conservation propaganda furnished by the association; club member (for organizations), $5; associate member, $25; sustaining member, $100; life member, $250; patron, $1,000; founder, $2,500.
Organized 1911. Annual meeting first Monday and Tuesday in March.
Publication.—Bulletin (quarterly), edited by R. P. Holland. Free to members.

¹ Data assembled by Le Roy Jeffers, secretary, 476 Fifth Avenue, New York City.
American Museum of Natural History, Seventy-seventh Street and Central Park West, New York City.

President, H. F. Osborn, Seventy-seventh Street and Central Park West. Vice presidents, C. H. Dodge, J. P. Morgan. Director, F. A. Lucas, Seventy-seventh Street and Central Park West. Secretary, Adrienne Iselin, Seventy-seventh Street and Central Park West. Treasurer, H. P. Davison, Seventy-seventh Street and Central Park West. Librarian, R. W. Tower, Seventy-seventh Street and Central Park West. Membership—Annual, 29,066; associate, 512; sustaining, 5; life, 785; fellow, 46; patron, 113; associate benefactor, 21; associate founder, 10; founder, 1; benefactor, $25,000; benefactor, $50,000; fellow, $500; patron, $1,000; associate benefactor, $10,000; associate founder, $50,000; benefactor, $100,000.

Publications.—Natural History (October to May), edited by Miss M. C. Dickerson, $2 a year; scientific publications comprising memoirs, bulletin, anthropological papers, monographs. Popular publications, comprising handbooks, leaflets, general guide; annual report.

The library of the American Museum consists of about 70,000 volumes on natural history, ethnology, and travel, and is located on the fifth floor of the museum building.

Adirondack Camp and Trail Club, Lake Placid Club, New York.


Alpine Club of Canada,1 Banff, Alberta, Canada.


Victor Tormento, 234 Markham Street.


Calgary.—Chairman, T. B. Moffat; secretary, L. C. Wilson, 111 Eighth Avenue East, Edmonton.—Chairman, A. S. Matheson; secretary, Miss K. Sharpe, 23 Rene Le Marchand.

 Vander.—Chairman, Rev. A. H. Sovereign; secretary, Miss A. C. Laird, 1053 Nicola Street.

Vancouver Island.—Chairman, R. D. McCaw; secretary, Miss J. L. McCulloch, 912 Linden Avenue, Victoria.

New York.—Chairman, B. F. Seaver; secretary, Miss C. B. Himan, 189 Summit Avenue, Summit, N. J.


1 Not a member of the association.
British Columbia Mountaineering Club, Vancouver, British Columbia, Canada.

President, C. J. Henry, 724 Keith Road East, North Vancouver, B. C.
Vice presidents, Miss C. E. Lover, 1121 Melville Street, Vancouver; W. A. Munday, 224 Twenty-ninth Avenue East, Vancouver.
Secretary, Mrs. H. H. Conley, Post Office Box 1223, Vancouver, B. C.
Treasurer, L. C. Ford, Post Office Box 1223, Vancouver, B. C.
Membership—Active, 90; honorary, 3; total, 93.
Annual dues, $2.
Organized 1907. Annual meeting, Third Monday in March.
Club Cabin—On western slope of Grouse Mountain, reached via North Vancover Ferry.
Outings—Week end and holiday climbing trips.
1919 outing, August 9 to 24, probably near Anderson Lake, in the Lillooet district. Expense from Vancouver, $35 to $40.

Colorado Mountain Club, Denver, Colo.

President, G. C. Barnard, 615 Seventeenth Street, Denver.
Vice president, H. F. Brooks, 1732 Welton Street, Denver.
Secretary, R. H. Harvey, 3120 West Twenty-third Avenue, Denver.
Treasurer, R. B. Rockwell, 513 California Building, Denver.
Membership—Regular, 142; qualified, 308; honorary, 2; total, 447.
Annual dues, $3.
Organized 1892. Annual meeting third Friday in January.
Publications—Trail and Timberline (monthly), edited by Miss Annette Badgley.
Club room at the Public Library, Denver.
Outings—Saturday and Sunday walks and holiday excursions. Annual snowshoe ski trip in February at Fern Lodge, Rocky Mountain National Park.
1919 outing, August 11 to 23, at Wild Basin, Rocky Mountain National Park.
Expense from Denver, $40.90, or $3 per day in camp.

Field and Forest Club, Boston, Mass.

President, W. E. Nutting, 100 Franklin Street, Boston, Mass.
Vice presidents, S. A. Cummings, 64 Long Wharf, Boston; S. R. Porter, 18 Tarleton Road, Newton, Center, Mass.
Recording secretary, Miss A. B. Drohne, 229 Center Street, Dorchester, Mass.
Corresponding secretary, Miss A. P. French, 56 Tenamson Street, Somerville, Mass.
Treasurer, O. H. Kent, 79 Center Street, Dorchester, Mass.
Membership—Active, 626. Entrance fee and dues, $10; nonresident, $6; life, $50.
Organized 1904. Annual meeting, second Monday in November.
Publications—Monthly calendar; Yearbook.
Pequot Bungalow on south shore of Pequot Lake, Canton, Mass.
Outings—Saturdays, holidays; fall and winter excursions to the White Mountains.
1919 outings—July 5 to 19 at Eastville Inn, Martha's Vineyard, Mass.; expense at hotel $16 up per week. September 13 to 27 at Mount Crescent House, Randolph, N. H.; expense at hotel, $14 up per week.

Forest Service, United States Department of Agriculture, 930 F Street NW., Washington, D. C.

Forester and Chief, Henry S. Graves, 930 F Street NW., Washington.
Associate Forester, A. F. Potter, 930 F Street NW., Washington.
Organized 1905. Regular staff, 3,500.
Administers 151 national forests, 11 national monuments, and 3 national game preserves through seven district headquarters located at Missoula, Mont., Denver, Colo, Albuquerque, N. Mex., Ogden, Utah, San Francisco, Calif., Portland, Ore., and Washington, D. C.

Branches of the service—Silviculture, grazing lands, research, engineering, acquisition of lands.
Publications: Bulletins and maps of many of the forests containing information for mountain travelers and campers. Specify the region desired.

Geographic Society of Chicago, Chicago, Ill.

President, F. T. West, 68 Division Street, Chicago.
Vice Presidents, Frank Hamlin, W. S. Monroe, J. T. Chamberlin.
Recording Secretary, Mrs. B. B. Bohn, 10080 Prospect Avenue, Chicago.
Domestic Corresponding Secretary, Mrs. L. R. Frazeur, 814 South Michigan Avenue, Chicago.
Treasurer, O. M. Schantz, 10 South La Salle Street, Chicago.
Membership—Resident, 666; life, 38; patrons, 8; nonresident, 15; honorary, 7; total, 729.
Entrance fee and dues—Resident, $10; nonresident, $8.
Annual dues—Resident, $5; nonresident, $3; life, $100.
Organized 1886. Annual meeting, second Friday in May.
Publications: Bulletin on Geographic Studies, University of Chicago Press; Yearbook.
The society holds monthly and special meetings with lectures, conducts monthly excursions, and usually a western trip in the summer.


President, W. E. Lingelbach, 4304 Osage Avenue, Philadelphia.
Vice Presidents, H. G. Bryant, 1213 Walnut Street, Philadelphia; L. W. Miller, 520 South Broad Street, Philadelphia.
Recording Secretary, J. E. Buckenham, M. D., Municipal Hospital, Philadelphia.
Domestic Corresponding Secretary, P. J. Sartain, M. D., 2006 Walnut Street, Philadelphia.
Treasurer, W. K. Haupt, 104 South Fourth Street, Philadelphia.
Membership—Active, 886; nonresident, 94; life, 50; corresponding, 20; honorary, 5; total, 1,018.
Entrance fee and dues—Active, $10; nonresident, $2.
Annual dues—Active, $5; nonresident, $2; life, $100.
Organized 1885. Annual meeting, first Wednesday in May.
Library of travel and reference at rooms of the society, 400 Witherspoon Building.
Outings, afternoon and all-day walks in the spring and autumn.

Green Mountain Club, (Inc.), 35 Mead Block, Rutland, Vt.

President, C. P. Cooper, 300 West Street, Rutland, Vt.
Vice President, L. J. Paris, 324 South Union Street, Burlington, Vt.
Clerk, G. E. Chalmers, 35 Mead Block, Rutland, Vt.
Corresponding Secretary, T. S. Dean, Masonic Temple, Burlington, Vt.
Treasurer, E. S. Marsh, Brandon, Vt.
McLam.

July 12 to 13.

Portland.

walks and climbing excursions on the various islands.

has about 175 miles of trails, and erects shelters in Vermont.

380

Publication.—Yearbook, edited by E. B. Webster, $0.50.

Lodge on slopes of Mt. Angeles.

Membership.—Active, 96; honorary, 5; total, 101.

Treasurer, Frank Dann, Port Angeles, Wash.

Annual dues, $3; life, $25.

Organized 1910. Annual meeting, second Wednesday in January. The club has about 175 miles of trails, and erects shelters in Vermont.


Hawaiian Trail and Mountain Club, Honolulu, Hawai'i.

President, W. F. Frear, Honolulu, Hawai'i.

Vice-president, J. S. Donagho, Honolulu, Hawai'i.

Secretary-treasurer, A. H. Ford, Honolulu, Hawai'i.

Organized 1914. Annual meeting, third Wednesday in January. The club constructs and maintains mountain trails, and conducts Sunday walks and climbing excursions on the various islands.

Klahhane Club, Port Angeles, Wash.

President, E. B. Webster, Port Angeles, Wash.

Vice-President, Miss Helen Hanson, Port Angeles, Wash.

Secretary, Miss Ruth Lee, Port Angeles, Wash.

Treasurer, Frank Dann, Port Angeles, Wash.

Membership.—Active, 86; honorary, 5; total, 101.

Entrance fee and dues, $2; annual dues, $1.

Organized 1914. Annual meeting, third Wednesday in January.

Publication, Yearbook, edited by E. B. Webster, $0.50.

Lodge on slopes of Mt. Angeles.

Outings, Saturdays and Sundays.

1919 outing, August 16 to 24 in the Olympic Mountains. Expense, $15.

Mazamas, 322 Chamber of Commerce Building, Portland, Oreg.

President, E. C. Courson, 658 Lovejoy Street, Portland.

Vice President, Miss H. E. Monroe, 1431 East Salmon Street, Portland.

Recording Secretary, Miss Jean Richardson, 31 East Nineteenth Street, Portland.

Corresponding Secretary, Mrs. B. M. Carl, 629 East Ash Street, Portland.

Treasurer, Miss Marion Schneider, 200 Hamilton Avenue, Portland.

Membership.—Active, 266; life, 4; honorary, 5; total, 411.

Annual dues, $3; life, $50.

Organized 1894. Annual meeting, first Monday in October.

Publication, Mazama (annually), edited by G. W. Wilder, $0.50.

Club rooms and library, 322 Chamber of Commerce Building.

Mazama exhibit in Oregon Building, Fifth and Oak Streets, Portland.


1919 outing, August 2 to 17, on the south side of Mount Rainier, near Paradise Valley. Expense from Portland, $48 ($38 to nonmembers).
REPORT OF DIRECTOR OF NATIONAL PARK SERVICE.

New York Zoological Society, 111 Broadway, New York City.

Vice presidents, Madison Grant, 111 Broadway, New York; E. K. Sturgis, 30 Bronck street, New York.
Secretary, Madison Grant, 111 Broadway, New York.
Treasurer, P. R. Pyne, 20 Exchange Place, New York.
Director of the Zoological Park, W. T. Hornaday, One Hundred and eightieth fifth street and Southern Boulevard, Bronx.
Director of the Aquarium, C. H. Townsend, Battery Park.
Membership—Annual, 1498; sustaining, 12; fellows, 32; corresponding, 8; honorary, 7; life, 306; patrons, 32; associate founders, 9; founders, 15; founders in perpetuity, 18; benefactors, 7; total, 2298.
Dues—Annual, $10; life, $200; patrons, $1,000; associate founders, $250; founders, $5,000; founders in perpetuity, $10,000; benefactors, $25,000.
Founded 1888. Annual meeting, second Tuesday in January.
Publications—Zoological Society Bulletin (bi-monthly), edited by E. R. Sauborn, $1 a year; Zoologica (irregular), 25 cents a copy; Zoopathologica (irregular), 25 cents a copy; Tropical wild life in British Guiana, by William Beebe and others, $3; A monograph of the pheasants, by William Beebe, 4 volumes, $3; Our vanishing wild life, by W. T. Hornaday, $1.50; Popular official guide to the New York Zoological Park, by W. T. Hornaday, 30 cents; Annual report.
The library of the society is located in the Administration Building at the Zoological Park, One Hundred and eighty-and-fifth street and Southern Boulevard. It contains about 3,500 volumes, including zoological travel and exploration, and all branches of natural history.

Prairie Club, Chicago, Ill.

President, J. A. Russell, 1361 East Fifty-seventh street, Chicago.
Vice president, J. R. Bentley. 6732 Perry avenue, Chicago; Miss Josephine Pech, 4040 Prairie avenue, Chicago.
Secretary-treasurer, J. E. Bayrd, 1541 Monadnock block, Chicago.
Membership—Active, 474; associate, 120; honorary, 9; total, 803.
Entrance fee and dues—Active, $4; associate, $1.
Annual dues—Active, $2; associate, $1.
Organized 1908. Annual meeting, first Thursday in December.
Beach House, on the lake shore of the Dune country in northern Indiana, reached by Illinois Central Railroad to Pullman, and Chicago, Lake Shore & South Bend electric to Tementon.
Outings—Saturdays, weeks ends, and frequent excursions.
1919 camp, August 24 to 28, at Schroeder, Minn., on Lake Superior. Expense from Chicago, about $75.
1919 outing, August 2 to 24, at Cumberland Gap, Tenn. Expense from Chicago, about $65.

Rocky Mountain Climbers Club, Boulder, Colo.

President, C. C. Casey, Longmont, Colo.
Vice president, F. A. Fair, Boulder, Colo.
Secretary, F. A. Boggess, Boulder, Colo.
Treasurer, Ernest Greenman, Boulder, Colo.
Chapters in Baltimore, Md.; Chicago, Ill.; Fayette, Iowa; Milwaukee, Wis.; Philadelphia, Pa.; Riverside, Ill.; and Washington, D.C.

Membership—Junior, active, sustaining, fellows, patrons, and affiliated societies.

Annual dues—Active, $0.50; sustaining, $1; fellow, $25; patron, $50.

Organized 1902. Annual meeting in April or May.

Official organ, Torreya (monthly), edited by Norman Taylor. $1 a year.

The society is educating its members and the public in the appreciation and protection of plants and flowers for their natural beauty, and as food and shelter for birds and animals.