E
160
U5821

DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY

PROGRESS
IN
DEVELOPMENT OF THE NATIONAL PARKS

BY

STEPHEN T. MATHER



BANCROFT
LIBRARY

THE LIBRARY
OF
THE UNIVERSITY
OF CALIFORNIA

16

Digitized by the Internet Archive
in 2007 with funding from
Microsoft Corporation

http://www.archive.org/details/progressindevelo00unitrich

DEPARTMENT OF THE INTERIOR

OFFICE OF THE SECRETARY

PROGRESS

IN THE

DEVELOPMENT OF THE NATIONAL PARKS

BY

STEPHEN T. MATHER

ASSISTANT TO THE SECRETARY OF THE INTERIOR



WASHINGTON
GOVERNMENT PRINTING OFFICE
1916

E160
U5821

CONTENTS.

	Page.
Informing the people	4
Increased travel against adverse conditions	5
Astonishing increase in motor travel	5
Motor revenues for park improvement	6
Congress materially helped	6
Cooperation of the National Geographic Society	7
Creation of the National Park Service	7
Two new national parks	8
National parks to pay their own way	9
Wanted: Gateways to our national parks	9
Yellowstone National Park	9
What has been accomplished in Yellowstone	9
Automobiles to supplant horses	10
Rangers take the place of soldiers	11
Glacier National Park	11
A good season at Glacier	11
New enterprises planned	12
Desirable road development	13
Adequate administration buildings needed	13
Improved roads and new trails	14
Plenty of trail horses hereafter	15
Yosemite's great development	15
Congressional appropriations	17
Mount Rainier developed	19
Crater Lake prospects	22
Sequoia National Park	23
"The Greater Sequoia"	23
General Grant National Park	24
Heavy travel to Rocky Mountain National Park	24
The Hot Springs Reservation	25
Mesa Verde National Park	26
In general	27
Appendices	28
National parks at a glance	28
Statistics	30
National-park publications	36
Distributed by the Secretary of the Interior	36
Sold by the Superintendent of Documents	36
Pamphlets	36
Panoramic views	38
Maps sold by the U. S. Geological Survey	38

ILLUSTRATION.

Map showing location of National parks and monuments	20

86044
THE BANCROFT LIBRARY

PROGRESS IN THE DEVELOPMENT OF THE NATIONAL PARKS.

By Stephen T. Mather.

Department of the Interior,
Washington, D. C., November 14, 1916.

My Dear Mr. Secretary: In assigning me, among other things, the duty of exercising administrative supervision of the national parks and general control of their development and operation as playgrounds for the American people, you expressed your firm belief that the scenery and natural features of scientific interest in these parks surpassed those of any other country; and you cherished the hope that they should become the objectives of American tourist travel, not only for the duration of the great European war but after its conclusion and the restoration of peace.

You requested me to make every effort to provide accommodations in the national parks for all classes of visitors, and to give as much attention to the needs of the tourist with a small income as to those of the wealthy visitor accustomed to luxury. You were particularly desirous that the creature comforts of all park visitors be provided and that every precaution be taken to make travel on all roads and trails safe. You recognized the necessity for encouraging travel to the parks and approved plans for making better known their beauty and grandeur. You regarded the national parks as a great economic asset which had theretofore been entirely overlooked by the Federal Government, and authorized me to begin their development on a broad-gauge scale.

I take pleasure in advising you at this time that every phase of this assignment has received attention and that much has been accomplished. The results that I have to report are gratifying, and demonstrate the wisdom of undertaking this comprehensive development. These results I will briefly outline.

INFORMING THE PEOPLE.

Realizing that success depends ultimately upon public support, and knowing that the people were surprisingly ignorant of the extent, variety, magnificence, and economic value of their national parks, I early inaugurated an earnest campaign of public education under the management of Robert Sterling Yard.

To this end the information circulars were immediately rewritten, reorganized, and distributed under a new and effective plan. Last winter a descriptive booklet entitled "Glimpses of our National Parks" was written by Mr. Yard to meet special educational needs. The astonishing demand that immediately developed for this book assured me that the public was eager for the facts.

I followed this in the early summer by the publication, with the financial cooperation of 17 western railroads, of Mr. Yard's "National Parks Portfolio," an elaborately illustrated volume written and designed for the purpose of differentiating the principal national parks and presenting an adequate pictorial representation of each. An edition of about 275,000 of these was distributed over specially compiled lists and reached appreciative hands. Forty-three thousand dollars were contributed by the railroads toward the cost of issuing these portfolios, and this sum represented only a small part of the contributing railroads' total expense in advertising the national parks reached by their respective lines.

In addition to these important publications many hundreds of photographs were collected from many sources and distributed to magazines and newspapers desiring to publish them, and facts and figures regarding national parks were furnished freely to newspaper and magazine writers who sought them as a result of the rapidly growing public interest inspired by the department. All of this material was freely offered to all writers and periodicals without discrimination, and was followed by an extraordinary increase in the informative periodical literature on the subject.

A result of this educational campaign of the department, reinforced as it was by the voluntary activity of newspapers and magazines, was the stimulation of a country-wide interest in the parks, which brought a volume of requests for detailed information regarding them and a demand by individuals, associations, and schools for photographs, motion pictures, lantern slides, and lectures, which the department of course could not meet. The demand for the loan of motion-picture films and lantern slides particularly has become imperious. It is increasing rapidly and some means should be provided for supplying the department with an adequate stock of this educational material in order that the people may be taught the purposes

and uses of their national parks in the manner for which they themselves express so plain a preference.

INCREASED TRAVEL AGAINST ADVERSE CONDITIONS.

Under the stimulus of this public interest it was expected, in the early days of the season just closed, that travel to the parks would be heavy, but it was not expected to equal that of the year before, which, with the lure of the western expositions, had been phenomenal. Reports from the parks, however, clearly indicate that the 1916 travel not only did not fall below that of last year, but actually exceeded it. Of course, the travel did not increase in every park, but in several parks. In Rocky Mountain National Park, for example, the increases were so large that they more than offset the decreases in other reservations.

However, travel to all of the parks was far above the normal of the years before their development was undertaken. And we can not refrain from conjecturing how much heavier it would have been had not unforeseen conditions intervened to discourage and retard travel in all sections of the country. These conditions were the very late spring and the threatened railroad strike. There is no doubt that they adversely influenced railroad travel to the parks.

ASTONISHING INCREASE IN MOTOR TRAVEL.

The travel that was less seriously affected by these unfavorable weather and industrial conditions was the motor travel. It deserves special mention here. Last season 12,563 cars registered at the portals of the various parks, and this year's reports show that 19,848 cars, carrying 78,916 tourists, passed through them and made tours of the parks. The number of tourists entering the parks in private cars is astonishing when one takes into consideration the fact that they have been opened to motor traffic only a very few years and that one of the larger parks has only been open a season and a half.

This tremendous increase in automobile travel leads to one conclusion only, and that is that in the early future travel in private machines will overtake the increasing railroad travel and constitute the greater portion of all park travel. This makes it incumbent upon the Federal Government to prepare for the great influx of automobiles by constructing new roads and improving existing highways wherever improvement is necessary.

At the present time there are only two parks, Yosemite and Yellowstone, which have more than a very few miles of highway constructed, and they have naturally enjoyed the largest patronage by motorists. Much remains to be done, however, in these reservations,

and particularly in Yosemite, where roads within the park are not in any way comparable with the State highways of California.

Much has been done, however, to encourage motor travel to these two parks. Automobile maps have been issued under the direction of the Superintendent of National Parks, Mr. R. B. Marshall, showing clearly all hotels, camps, and supply stations, as well as roads in the parks. These also give information as to the roads and distances between points outside of their boundaries. For instance, the map of Yellowstone Park indicates the highways leading to the various entrances of the park from the States of Idaho, Montana, and Wyoming.

MOTOR REVENUES FOR PARK IMPROVEMENT.

Another feature of motor travel deserving mention is the revenue that is derived from automobile fees for park purposes. This year $65,311 was received from automobile fees as against $42,589 in 1915, and $14,245 in 1914. Vigorous protests have been made against this direct tax on the motorist, but it must be maintained until larger appropriations are made for the construction and maintenance of roads suitable for motor traffic. Perhaps it should be continued indefinitely as a means of providing funds to repair the natural wear and tear on roads and bridges, the deterioration of which is unusually severe where they are used extensively by motor cars.

Whatever may be done in this connection, the fact remains that American motorists are intensely interested in the national parks, are visiting them in ever increasing numbers, and are contributing, by way of automobile fees large sums of money toward park improvement and administration. They have the right, then, to expect that the Federal Government will pursue a broad policy in the extension of road systems in the several parks, and that they shall enjoy all privileges not inconsistent with good administration of the parks' management and protection.

Taking everything into consideration, no policy of national-park management has yielded more thoroughly gratifying results than that which guided the admission of motor-driven vehicles to the use of the roads of all of the parks.

CONGRESS MATERIALLY HELPED.

It is natural and fitting that the rapidly increasing interest in national parks on the part of the people should favorably affect the attitude of Congress toward them. Appropriations for their improvement and protection for the current fiscal year were considerably larger than those of previous years, $511,300 for 1917 being appropriated as against $252,550 for the fiscal year 1916 and $283,590

for 1915. For the first time also funds have been provided for the care and protection of the national monuments under the Interior Department, many of which have scenic as well as historical value. Twenty-one thousand five hundred dollars was appropriated for the fiscal year 1917.

COOPERATION OF THE NATIONAL GEOGRAPHIC SOCIETY.

Recognition has also been given for the first time to the danger of destruction which has threatened most of the largest and noblest trees in the world, the Big Trees (*Sequoia washingtoniana*) of Sequoia National Park. These Big Trees stand on land patented to citizens of California before the creation of park, and can be destroyed at any time by their owners. The sundry civil act of July 1, 1916, which carries all national park appropriations for the current fiscal year, contains a provision making available the sum of $50,000 for the purchase of the private holdings on which these splendid trees are growing. Negotiations with the owners of these lands in the Giant Forest, which this section of the park is called, disclosed the inadequacy of this appropriation to effect their purchase. Seventy thousand dollars was demanded for all of these holdings and all other holdings of the same interests, and no tract could be purchased unless all of the properties were included in the transaction.

The outlook for the perpetual preservation of the Giant Forest was growing dark when cooperation in the safeguarding of the forest was tendered by the National Geographic Society. On November 10 the board of managers of the society arranged to apply $20,000 of the funds of their organization to cover the difference between the purchase price of the forest land and the congressional appropriation; and by this generous action we are now able to extinguish the largest private ownership of the great trees of the park and insure their preservation for our generation and for posterity. The holdings purchased with this additional fund will be donated to the Federal Government. The members of the National Geographic Society may justly be proud of their participation in this national enterprise. Their contribution marks an important step in the progress of the science of geography, a science which has received such a tremendous stimulus through the activities of the society.

CREATION OF THE NATIONAL PARK SERVICE.

The special legislation of greatest importance was the passage of the national park service bill, providing for the establishment of a bureau in Washington to administer as a properly coordinated system all of the national parks and the national monuments under the

jurisdiction of the Interior Department. This substitutes efficiency for the former haphazard consideration of each separate park by a small force in the office of the chief clerk of the department, already burdened with numerous other important duties.

This measure provides for the appointment of a director and assistant director as the executive officers of the bureau and a small corps of clerks, stenographers, etc., all charged with the performance of duties relating solely to the administration and supervision of the national park system. It is an important step forward which renders possible the realization of the manifest destiny of our national parks as one economic asset.

TWO NEW NATIONAL PARKS.

Next in importance may be mentioned the creation of the new Lassen Volcanic National Park in California, and the Hawaii National Park which embraces the craters of the three great volcanoes, Kilauea, Mauna Loa, and Haleakala, on the Hawaiian Islands.

A bill providing the creation of Mount McKinley National Park in Alaska passed the Senate, and is now pending in the House of Representatives, and a bill providing for the extension of the boundaries of the Rocky Mountain National Park to include a number of natural features possessing unusual scenic value passed the House of Representatives, and is now awaiting consideration in the Senate.

Three other bills placed on the statute books by the Sixty-fourth Congress relate to Federal exclusive jurisdiction of Yellowstone, Mount Rainier, and Crater Lake National Parks. A defect in the act of May 7, 1894, relating to the punishment of misdemeanors in the Yellowstone National Park, was corrected. Exclusive jurisdiction of Mount Rainier and Crater Lake National Parks had previously been ceded to the Federal Government, and by the act of June 30, 1916, and the act of August 21, 1916, respectively, the tendered jurisdiction of these parks was accepted and provision made for United States commissioners to punish violations of the Federal laws, rules, and regulations of the respective parks.

These laws are important because they give the Government better control of the three parks involved and assure their better protection from depredations. Cession of jurisdiction over Yosemite, Sequoia, General Grant, and Lassen Volcanic Parks in California and Mesa Verde and Rocky Mountain National Parks in Colorado to the Federal Government is earnestly recommended, and steps should be taken to secure the passage of measures designed to accomplish this purpose by the Legislatures of California and Colorado.

NATIONAL PARKS TO PAY THEIR OWN WAY.

It has been your desire that ultimately the revenues of the several parks might be sufficient to cover the costs of their administration and protection and that Congress should only be requested to appropriate funds for their improvement. It appears that at least five parks now have a proven earning capacity sufficiently large to make their operation on this basis feasible and practicable. They are Yellowstone, Yosemite, Mount Rainier, Sequoia, and General Grant. Accordingly estimates have only been submitted to Congress for appropriations for improvements of these parks.

The revenues of Rocky Mountain, Mesa Verde, Crater Lake, and the new Lassen Volcanic Parks are covered into the miscellaneous receipts of the Federal Treasury. Legislation providing for the use of the revenues of these parks in their improvement or for administrative purposes is earnestly recommended.

WANTED: GATEWAYS TO OUR NATIONAL PARKS.

Many of the parks should have gateways to mark their boundaries. These gateways should be simple, dignified, and in complete harmony with their environments. They should not be costly structures and should be erected if possible before next season. Gateways already constructed at the northern entrance to Yellowstone and the southwestern entrance to Mount Rainier are most impressive, and it is with a thrill of pride in our great national playgrounds that the average visitor passes through these gates and beneath the Stars and Stripes waving over them.

Proceeding to a review of the 1916 season in the several parks, Yellowstone National Park will first be considered.

YELLOWSTONE NATIONAL PARK.

WHAT HAS BEEN ACCOMPLISHED IN YELLOWSTONE.

For the first time in the history of the park, tourists were carried to three of the gateways, each by a different railroad. The new entrance is the Cody or eastern entrance. It offers a full day's ride through remarkable natural scenery and past the great Shoshone Dam, second highest in the world. To accomplish this, the Chicago, Burlington & Quincy Railroad operated a special summer-train service to Cody, Wyo., and spent money in large sums in promoting this gateway. The service was largely experimental, but it was eminently satisfactory, and the Burlington route is to be congratulated on its successful enterprise.

From the railroad terminus the Cody-Sylvan Pass Motor Co. transported tourists to the Lake Hotel in the park, where they were transferred to horse-drawn stages operating on the park "circle."

Still a fourth entrance, that on the south, is planned. It is my hope that it will be opened for regular tourist travel by next season. This gateway will afford an unsurpassed opportunity to view the Teton Mountains, Jackson Lake, and the other distinguished features of Jackson Hole. The railroad terminus nearest this entrance to the park is the town of Victor on the Oregon Short Line. When roads now building are completed, travel by private motor car through Jackson Hole and the southern entrance will be heavy indeed.

Automobile travel in Yellowstone Park was very heavy during the season which has just closed; 3,445 automobiles, carrying 14,980 tourists, entered and toured the park. The majority of these visitors patronized the hotels and camps, thus materially augmenting the revenues of these enterprises in a season when their income from regular sources was considerably reduced by special conditions. To accommodate those motorists who carried their own camp equipment, four large automobile shelter camps were established near the principal points of interest in the park.

AUTOMOBILES TO SUPPLANT HORSES.

Because the stage horses on the belt-line road were unaccustomed to automobiles it has been necessary to operate both horse-drawn and motor-driven vehicles on schedules that prevented the two types of traffic from meeting anywhere in the park. This was somewhat cumbersome and caused some inconvenience, but the schedule was a very reasonable one and was generally obeyed implicitly. The time has come now, however, when all transportation lines in the park must be motorized, and steps are to be taken at once to bring the change around.

I have no doubt that the antiquated method of handling tourists in Yellowstone National Park was responsible in part for the great reduction in railroad travel there this season. Visitors have always been rushed through Yellowstone, with no encouragement whatever to spend vacation periods in the park. Neither have facilities for making long stays pleasant been provided, although splendid hotels, with every modern convenience, are operated each season. Golf links, tennis courts, swimming pools, and other equipment for outdoor pastime and exercise should be provided by concessions, and the park should be extensively advertised as a place to spend the summer instead of five or six days of hurried sight-seeing under constant pressure to keep moving. Trail trips into out-of-the-way parts of the park should be developed. When tourists have the opportunity to enjoy Yellowstone National Park under different con-

ditions than now they will want to return year after year. There is no national park better suited by nature for spending leisurely vacations.

RANGERS TAKE THE PLACE OF SOLDIERS.

On October 1 Fort Yellowstone, at Mammoth Hot Springs, was abandoned by the War Department and the troops which for many years have been guarding the park were withdrawn and sent back to their regiments. The Interior Department sanctioned the removal of this detachment upon the representation by the War Department that its members were needed in their own regiments. A corps of civilian rangers composed of especially selected noncommissioned officers and privates, discharged from the Army upon request of this department, was organized, and these men are now policing the park.

The National Park Service could not have taken over the administration and protection of this park had it not been able to rely on its revenue fund to finance the transfer of guardianship. The revenues of the park for the 1916 season were approximately $60,000, of which slightly less than half were derived from automobile fees. Last year the total revenues were $44,713. These figures clearly indicate that only appropriations for improvements and new works will be necessary hereafter.

Col. Lloyd M. Brett, the commandant at Fort Yellowstone, finished on September 30 six years of loyal and unselfish service as acting supervisor of the park. In this position he performed duties most important to the Nation at large, and he can not be too highly commended for the success of his administration.

Road construction and improvement in Yellowstone Park will remain in charge of the Engineer Corps of the Army, but it is believed that the general supervision of these improvements should be exercised by the National Park Service. In view of the fact that the roads in the park are being built for the department, some voice should be had by us in planning these improvements.

Before the opening of the 1917 season gateways should be erected at the Yellowstone or western entrance, Cody or eastern entrance, and Snake River or southern entrance. At the present time there is nothing better than a post or two containing a multitude of printed and typewritten notices to mark these points of ingress and egress to the largest and best-known park in the Nation.

GLACIER NATIONAL PARK.

A GOOD SEASON AT GLACIER.

While there were a few less visitors to Glacier National Park during the season of 1916 than during that of 1915, the average time spent by the individual tourists in the park was considerably longer

than his average stay in previous years. Indeed the average period spent in touring this park this year was probably as long as the average stay of tourists in any other national park.

It is also significant that numerous visitors were men and women who had spent one or more previous seasons within its boundaries. Several of them had spent in the park part of every summer since its creation, and I know of one or two parties who have made as many as 11 visits to this wonderful scenic reservation.

Glacier, therefore, was a very popular park this past season, and its popularity was of the sort that endures and grows with the years. It is this sort of popularity that every park should enjoy. Others, Rocky Mountain, Mount Rainier, and Yosemite, particularly, enjoy a similar popularity, but it is not quite so genuine as Glacier's popularity seems to be. Of course, accommodations for the care of the tourist in Glacier Park have been the most potent factor in influencing this growth of popular sentiment.

Previous to this season hotel and camp accommodations were adequate in just two parks, Yellowstone and Glacier, and I have already explained that no effort has ever been made to encourage visitors to return year after year to Yellowstone.

Glacier, then, at the beginning of this season had on the east side of the Continental Divide the splendid new Glacier Park Hotel and Many Glaciers Hotel, five inviting chalets, and several tepee camps, all owned and operated by the Glacier Park Hotel Co., under the efficient management of Mr. Howard A. Noble; and on the west side of the divide there were two more chalets belonging to the east side system and Mr. John E. Lewis's hotel on Lake McDonald, ideally situated, unique in sylvan architecture, and first class in all its appointments.

NEW ENTERPRISES PLANNED.

The faith of the Glacier Park Hotel Co. and of Mr. Lewis in the genuineness of the popularity of the park and its consequent growth in tourist travel is convincingly illustrated by their plans for extensive improvements in their properties and the construction of new hotels and chalet groups. I am informed by officers of the Glacier Park Hotel Co. that it contemplates the construction of a fine new hotel in the beautiful Red Eagle country, provided the Federal Government will construct a road up the valley to make this hotel accessible. Such a road should be built in the near future. The hotel company also plans extensive improvements in its Going-to-the-Sun Chalet group on Lake St. Mary, and further additions to its Lake McDermott enterprises.

On the other side of the park Mr. Lewis has already initiated construction work on a large addition to his Lake McDonald Hotel, and

has intimated that he may seek the privilege of erecting a camp or chalet group on Bowman Lake, one of the very large lakes in the northwestern part of the park. This section of extraordinary beauty is terra incognita to all but a relatively few venturesome visitors who have made extensive trail trips with their own camp equipment. Should Bowman Lake be provided with tourist accommodations it would become the fifth extensively developed lake of the park. The four already developed are Lakes St. Mary, McDermott, McDonald, and Two Medicine.

DESIRABLE ROAD DEVELOPMENT.

Another large lake that should have attention in the early future by the Federal Government and by business enterprise is Waterton Lake, which lies on the international boundary and in one of the most beautiful valleys of Glacier Park. This valley extends on through Waterton Lakes Park, Canada, which joins Glacier Park on the north. A road should be constructed up the McDonald River Valley over Flattop and down the Waterton Valley to the lake. Ultimately such a road would give direct access to Banff and the Canadian Rockies, through marvelously beautiful sections of our own American Rockies. There would be no difficult passes to negotiate in constructing this road and grades would be very low.

The first link in this road should be built at once on the east shore of Lake McDonald. This section of the highway would also constitute the first link in a road over the Continental Divide connecting the road systems of the two sides of the park. Both the Waterton Lake road and the road across the divide are necessary extensions of the park highway system and ultimately must be built.

In addition to being the first link in both roads, the Lake McDonald highway would give access to the hotel at the head of the lake, and give the motorist the opportunity to avail himself of accommodations and supplies. Citizens of Kalispell, Missoula, Columbia Falls, and other Montana cities have spent many thousands of dollars in bringing their highway system up to the western boundary, and yet these citizens, as well as visitors from other States, can enter only 3 miles into the park to a point where there are neither hotel accommodations for themselves nor shelter for their cars.

ADEQUATE ADMINISTRATION BUILDINGS NEEDED.

In connection with this proposed road and other developments on the west side of the park, there should be mentioned the immediate need of a new bridge over the Flathead River at Belton, and new administration buildings at a point readily accessible to all visitors to the park. The present bridge over the Flathead is unsafe, and

last winter it narrowly escaped total destruction by high water. During the winter that is approaching it may be carried down the river.

The headquarters of the park are now hidden in the woods on the southwest shore of Lake McDonald, and are wholly unknown to nine-tenths of the park visitors. There should also be mentioned the desirability of preserving the trees on the patented lands over which the Belton-Lake McDonald road is built. It is a beautiful highway, broad, straight, and well-constructed through a dense forest. If the trees that border it are destroyed the scenic value of the road will be gone.

I made a proposition while in the park in September that will make possible the construction of the new bridge, the removal of the park headquarters to a desirable site near the south boundary, and the perpetual preservation of a strip of forest on both sides of the Belton-Lake McDonald road; and it was agreed to by the county officers and owners of patented land in the park with whom I discussed it. Briefly the proposition was as follows:

I will purchase a tract of 160 acres on the Flathead River, directly across the river from Belton, and donate it to the Federal Government for an administrative site. Mr. John E. Lewis, who is the owner of an adjoining tract of 160 acres, will donate this land and secure his partner's agreement to guarantee perpetual preservation of a strip of timber on both sides of the Belton-Lake McDonald road. Flathead County, Mont., will contribute $10,000 toward the construction of the new bridge, and citizens of the county will subscribe at least $5,000 to the same end, all provided that Congress acts favorably on the following estimates, which I agreed to recommend that you submit for consideration: $50,000 for a road along the east shore of Lake McDonald; $25,000 to complete the construction of the new bridge; and $10,000 for new administrative buildings and park entrance on the site to be donated by me.

Your approval has also been given to this proposition, and if Congress appropriates the funds to make this development possible, it will be completed within a year from date of this writing.

IMPROVED ROADS AND NEW TRAILS.

The appropriation of $110,000 for the protection and improvement of Glacier Park which was contained in the last sundry civil bill has enabled us to greatly improve the roads on the east side of the park, particularly the road in the Blackfeet Indian Reservation between Glacier Park Station and Divide Creek. Nearly $45,000 has been spent on this section during the past season.

It has also made possible the construction of several new trails. Among these new trails are the Grinnell Glacier trail and the new

trail between the Glacier Hotel and Avalanche Creek. The latter trail will be extended to Granite Park next spring and when completed will be one of the most scenic trails in the park system. Shelter cabins of attractive design are also under construction at Triple Divide, Red Eagle Lake, Piegan Pass, and Iceberg Lake, and next season will welcome the hiker and other trail travelers when storms overtake them or when they find it desirable to break their trips for other purposes.

An elaborate trail sign system is also being installed for the benefit of the hiker and independent tourist who chooses to ride over the trails without guide service. A trail map of the park is in contemplation as a further aid to the lover of the trails.

PLENTY OF TRAIL HORSES HEREAFTER.

During the season of 1916 there was a shortage of horses for trail service and many complaints have been filed against the saddle-horse concessioner on this account. I have already stipulated a basis for the reorganization of this corporation which I am convinced will enable it to give saddle-horse service next season which will be entirely satisfactory. A new contract covering a 10-year concession will provide that 25 per cent of the net profits of the enterprise will constitute for the first three years of the term the consideration due the Government for the franchise granted, and that 50 per cent of the profits shall be the Government's share thereafter.

This contract in a sense will make the department a partner in the saddle-horse enterprise, and I have already indicated the department's interest in its success from the business point of view as well as the point of view of public service to the park, by arranging with the Indian Office for the lease of Indian lands in the Blackfeet Reservation for horse pasturage, and for the purchase of hay and even horses from the Indians. Should these arrangements be consummated the tourist, the park-revenue fund, the Blackfeet Indians, and the saddle-horse concessioner will all derive a full measure of benefit from the successful operation of the enterprise.

YOSEMITE'S GREAT DEVELOPMENT.

A survey of the 1916 season in Yosemite National Park quickly and clearly defines three heads under which its development may be discussed. These are, first, new contracts covering large public-service concessions; second, increased Federal appropriations for improvement and protection of the park; third, removal of restrictions on motor travel.

For many years the department unsuccessfully endeavored to induce parties with capital to undertake the construction of new

hotels in the park, particularly on the floor of the valley. No individual or corporation could be interested in the park, and its future at the opening of the exposition season was dark indeed. Then D. J. Desmond, of San Francisco, general commissary contractor operating in all sections of the State, a young man already successful in business, a man of vision and immense energy, had the situation in the Yosemite brought to his attention. He saw its opportunities, and applied for a comprehensive concession covering the operation of hotel, camps, transportation service, stores, garages, etc.

This application was not granted to him at that time, but he was permitted to install and operate a new camp during the 1916 season with the understanding that if he rendered good service in his camp he would have a long-time concession. He built and operated the Yosemite Falls Camp and gave his guests service of a high order. He more than met the conditions. Accordingly the department entered into contracts with the Desmond Park Service Co., of which Mr. Desmond is president, covering the following: The erection of a hotel on the floor of the valley to cost not less than $150,000; and another hotel at Glacier Point to cost approximately $35,000; camps on the floor of the valley; lodges at various points in the higher parts of the park and along the Tioga Road, which crosses the park at some distance from the rim of the gorge; the installation and operation of automobile transportation on all the roads of the park open to motor travel; the operation of trail transportation, and the construction and operation of stores, garages, etc.

The privileges granted in these contracts by their terms are to be exercised for a period of 20 years, and the department in consideration of granting these concessions receives annually during the first two years of the life of the contract 25 per cent of the net profits of the enterprise, and thereafter 50 per cent of the net profit. The net profit of the company is determined by deducting from the gross income 6 per cent on money invested in the enterprise, depreciation of equipment, buildings, etc., and expenses of operation such as salaries, advertising, and insurance. It is provided, however, that, if this profit-sharing clause operates to the disadvantage of the department, it may elect at the end of two years to take 4 per cent of the gross income of the company instead of a share of the net profits.

Under this contract the Desmond Park Service Co. erected, prior to the opening of the 1916 season, two camps on the floor of the valley, the Yosemite Falls Camp and the El Capitan Camp, and operated them during the season; also the Glacier Point hotel camp, and three new lodges at Lake Tenaya, Tuolumne Meadows, and Lake Merced; all of which proved popular because of the excellent accommodations and service rendered. New automobile stage service was established

during the season on the Mariposa and Chinquapin roads south of the valley, and on the Tioga road and Big Oak Flat road, as well as on the floor of the valley itself.

Furthermore, construction work on the new hotel at Glacier Point was undertaken and is now nearing completion. On the 4th of July ground was broken for the new hotel on the floor of the valley, and it is now in the course of erection. This building will be ready for the 1918 tourist season.

This outline of what the Desmond Park Service Co. has already accomplished and has under way should leave no doubt in the mind of anyone that Yosemite National Park is well provided with excellent accommodations for its visitors and that more and finer accommodations and highest-class hotel service are still to come.

Camp Curry, Camp Ahwahnee, and Camp Lost Arrow, long established in the Yosemite Valley, were operated this season under their managements of former years.

CONGRESSIONAL APPROPRIATIONS.

Congress made a more liberal appropriation for Yosemite National Park for the fiscal year ending June 30, 1917, than for any previous period. This appropriation made available $250,000 for protection and improvement of the park. It was provided, however, that not more than $150,000 might be expended in the construction of a new hydroelectric power plant, and not more than $75,000 in regrading the El Portal road. There was nothing specifically appropriated for other roads in the park, but they were improved with revenue derived from concessions granted, automobile license fees, and from miscellaneous sources.

The new hydroelectric power plant was an absolute necessity in view of the increasing demands for power, light, and heat for the park concessioners, and it was desirable that this demand be met by the Government because the sale of electric current meant a substantial revenue for the park. During the summer of 1913 the late Mr. Henry Floy, electrical engineer, of New York, and sometime inspector of the Interior Department, made a careful study of this hydroelectric power project, and it was largely his able presentation of the results of his study of this project before the Committee on Appropriations that gained for it favorable consideration. The new plant is now in the course of construction.

In general it may be said that power plants, water and sanitation systems, and telephone lines in national parks should be owned and controlled by the Government. Their construction by the Government relieves the concessioner from the necessity of investing in these

highly essential works and makes it possible for him to turn his capital into the further development of his own enterprise. Furthermore, as public works under the control of the National Park Service, they can always be made to yield a revenue.

Travel to Yosemite Park was very heavy this season. It approximately equaled that of last season. The records indicate that 33,390 visitors registered at the park checking station prior to October 12. Of those, 14,166 came in private machines. The average stay of tourists in the park was longer than the average period spent in the park in previous years.

The increase in motor travel was remarkable, and a comparison of the number of machines entering the park this season with the number registered during 1914 and 1915 constitutes the best index of the sound, substantial growth of the park's popularity that I can mention. The records indicate that in 1914, 673 cars entered the park; in 1915, 3,895; and in 1916, prior to October 12, 3,938. This season 14,166 tourists entered the park in private machines. It is generally understood that automobile parties remain in the park a longer time than any other class of tourists. This is particularly true of those who visited the floor of the valley in their cars.

I have indicated that the removal of restrictions on motor traffic is one of the important factors that has influenced park development during the season of 1916. Prior to this season no private machines were ever allowed to run on the floor of the valley, but the opening this season of these roads was largely responsible for the great influx of private cars and the extraordinary length of time spent by motorists in the park. Next season it is expected that motor travel will be double that of this season. This is a conservative estimate.

It is inevitable that for several years Yosemite Park will be just as popular with the motorists as Yellowstone, and yet the roads in this park are so inferior to those of Yellowstone that it is useless to compare them. Appropriations should be made at once to extensively improve the Tioga road and Big Oak Flat road, and to continue the regrading of the El Portal road. These highways should be put in as good condition as the State highways with which they connect. The Wawona road should also be improved, but this is a toll road, and until private interest in the same is extinguished and it becomes a public highway its reconstruction can not be undertaken. The Wawona and Chinquapin toll roads are the only remaining roads in the national parks that are not under the control of the National Park Service. They constitute a constant source of administrative difficulty, and their private control is inconsistent with the best interests of the park. The additional cost of using this road, which the tourist traveling in his own conveyance has to bear, discourages travel via Fresno and Merced and other cities in their vicinity.

The automobile license fee collected at the various entrances of Yosemite National Park has been unpopular, and numerous communications have been received petitioning that it be abolished. This action, of course, can not be taken. During the season of 1916 $19,600 was received from these license fees. This fund constitutes a very large part of the total revenues of the park.

It should be stated in this connection that the revenues of the park were drawn upon heavily during the season to improve and maintain the general road system for which no congressional appropriation was made. When the motorist comes to appreciate the fact that the roads in the park could not have been made accessible for him during the past season without the income derived from the automobile tax, I believe he will no longer be hostile to this tax.

Dignified gateways should be constructed at the several entrances, particularly at the points where the Wawona, El Portal, and Tioga roads enter the park boundaries.

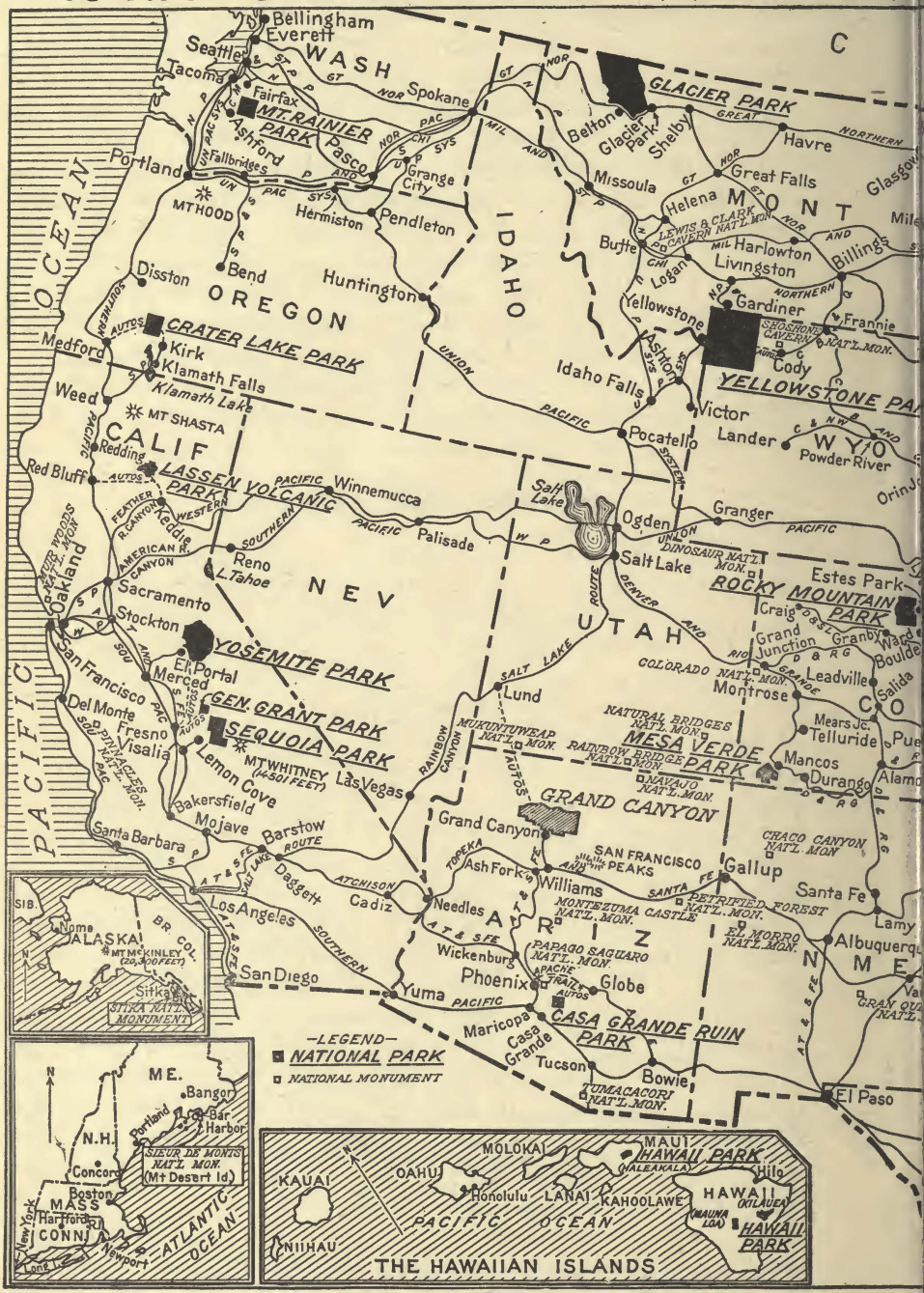
MOUNT RAINIER DEVELOPED.

In Mount Rainier National Park a comprehensive concession of the same character as that granted the Desmond Park Service Co. in Yosemite National Park was granted the Rainier National Park Co. It grants similar privileges of operating hotels, camps, transportation service, mercantile establishments, garages, etc., and the time for which these privileges may be exercised is a period of 20 years. Here, again, the department will share the net profits of the enterprise. Twenty-five per cent will be the Government's share for the first five years, and 50 per cent thereafter. However, there is provision for a change to another basis of compensation in the event that the profit-sharing plan proves unsatisfactory. The alternative basis has not been definitely stipulated, but will be agreed upon between the department and the company should a revision of the clause governing the compensation later prove advisable. Under the terms of this contract the Rainier National Park Co. has constructed and operated during the season of 1916 a camp at the mouth of the Nisqually Glacier and late in the season opened another camp is Paradise Valley. It has under course of construction a first-class hotel-camp in Paradise Valley which will be opened for accommodation of tourists next season. The company also operates a first-class automobile service between the cities of Tacoma and Seattle and various points in the park.

As the road system in the park is extended the company will establish new hotels and camps to meet the tourist demand, and will operate automobile service on all new park roads. The service rendered by this company during the 1916 season was eminently satisfactory.

16 NATIONAL PARKS

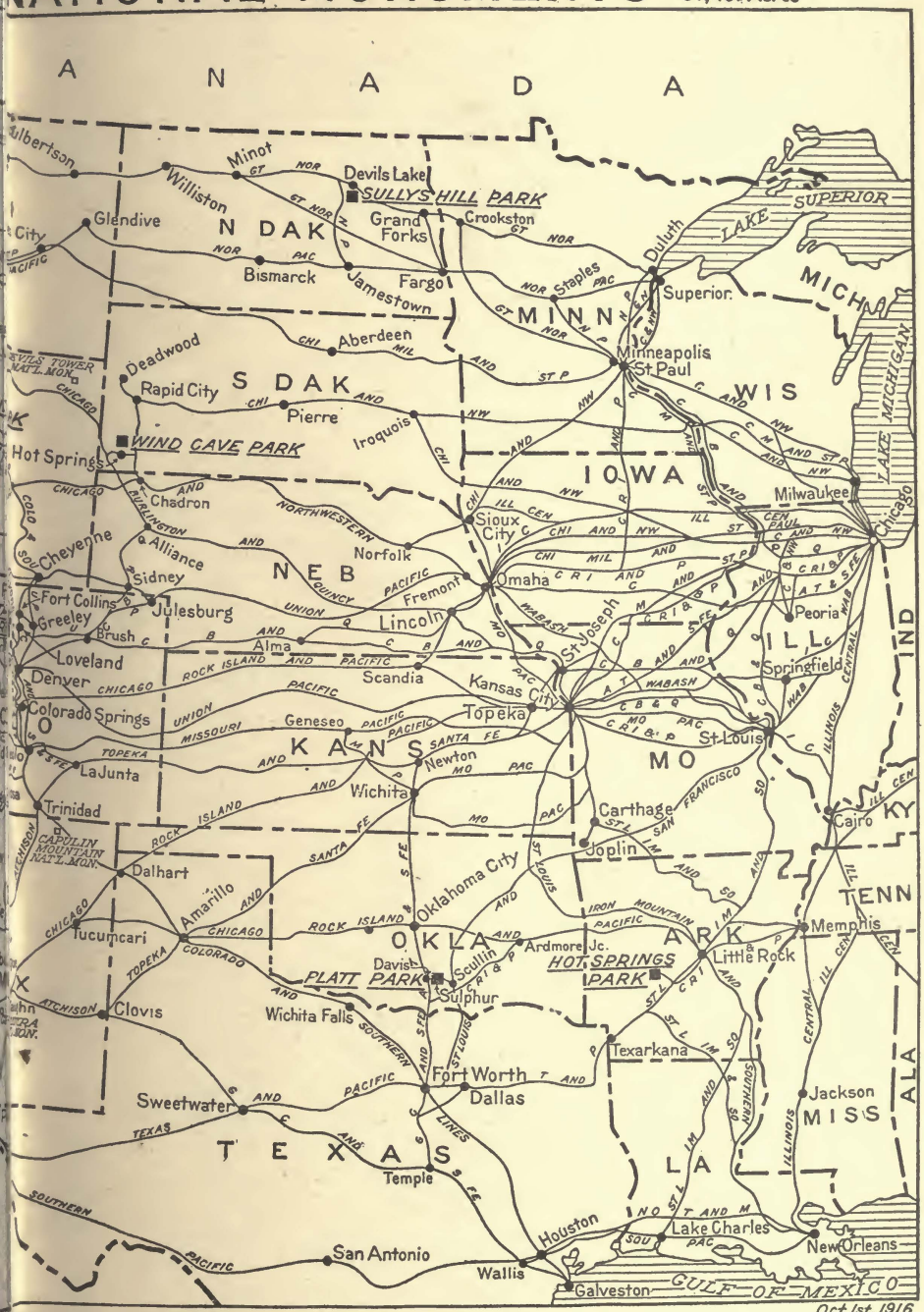
CONTAINING 7,534 Sq. Miles or 4,821,303 Acres



ADMINISTERED BY DEPARTMENT OF THE IN

NATIONAL MONUMENTS

CONTAINING 142.9 Sq. Miles or 91,491 Acres



Oct. 1st, 1916

INTERIOR, FRANKLIN K. LANE, SECRETARY

Travel in Mount Rainier National Park during the season of 1916 fell considerably below that of 1915, but this reduction in travel was due entirely to an extremely late season in the park. The fall of snow last winter was phenomenal, and continued cold weather during the spring prevented its melting. As a result Paradise Valley was not opened until the middle of August, and it was relatively late in the season before Narada Falls could be reached. The roads and bridges were also affected by the extraordinary fall of snow.

With the new accommodations that are now available in the park for tourists and the improved transportation service to the reservation, there will be a constant increase in the tourist travel. At the present time the only road entering the park is that which follows the Nisqually River and terminates at Paradise Valley. It is a highly scenic highway, though a comparatively short one. In an automobile one may travel from the cities of Tacoma and Seattle to Paradise Valley and return in one day and in a few hours of this period cover every foot of road in Mount Rainier Park.

It is desired that other sections of the park be opened up, and the northwest would seem to be the logical section to develop next. Accordingly, a survey of a road up the Carbon River Valley has been made from the town of Fairfax. This road, if constructed, will make accessible the incomparable Spray and Moraine Parks, which lie on the north slope of the Mountain. Scenic areas that only a relatively few trail parties have visited will thus be opened up. If Congress authorizes the construction of this road, the Northern Pacific Railroad will make improvements at the town of Fairfax and make other arrangements to promote travel to this section.

The Rainier National Park Co. will, of course, provide new and up-to-date hotel and camp accommodations for tourists. Furthermore, it is understood that the State of Washington has in contemplation the continuation of the State highway system from the town of Orting to the point of the beginning of the new park highway. The Carbon River Road would also constitute an important link in a highway around the west side of Mount Rainier to connect with the present road system. This future road, opening up the north and west sides of the mountain, would be a scenic highway unsurpassed in the world. New and ever-changing vistas of the great mountain would be presented to the traveler.

CRATER LAKE PROSPECTS.

Hotel accommodations in Crater Lake National Park have never been satisfactory, and this year there was no improvement in them over former years. The development of accommodations and transportation service in this park must be undertaken on the same broad

scale that the new concessions in Yosemite and Mount Rainier are now being handled. When such accommodations and facilities are provided for the comfort and convenience of visitors, the Southern Pacific Railroad Co. can be expected to operate high-class train service to Kirk, on the east side of the park, thus making it possible for the tourist to enter the park by the west entrance and leave through Kirk in the Klamath direction, or the reverse. I hope to completely reorganize the Crater Lake concession within a few weeks and make conditions definitely attractive for 1917 travel.

The War Department, under a $50,000 appropriation, has continued the construction of a scenic highway around the lake under the direction of Army engineers. The appropriations, however, for the administration of the park have been very small, and there is no authority for using revenues of the park for its administration and protection. It has therefore been impossible to build a very necessary water system, a small electric plant, and make other improvements of this character. The lack of water at the Crater Lake Lodge on the rim caused considerable inconvenience during the summer.

THE SEQUOIA NATIONAL PARK.

In Sequoia National Park the lack of roads and hotel accommodations, while not discouraging tourist travel particularly, has militated against the park's popularity. A new hotel or camp is a necessity and it is essential that a new administrative building be erected and an adequate water system be installed in the Giant Forest; also that provision be made for the sanitation of the village in the Forest.

As the Giant Forest is the scenic attraction of the park at the present time, and indeed the only accessible part, its improvement must have attention. The major portion of the trees in the Giant Forest grow on land held in private ownership but, as I have stated, Congress has appropriated $50,000 and the National Geographic Society has advanced $20,000 to complete their purchase and revest title to them in the United States.

Funds were also appropriated by Congress for a new bridge over the Marble Fork of the Kaweah River near the Giant Forest.

The new basis of compensation for privileges granted to the Mount Whitney Power & Electric Co. in the park has netted the revenue fund more than $7,000 during the past year. This fund is now just large enough to protect and administer the park. Appropriations for improvement only will be requested.

"THE GREATER SEQUOIA."

Senate bill 5913, introduced by Senator Phelan, of California, and House bill 13168, by Representative Kent, of the same State, provid-

ing for enlarging Sequoia National Park to include the Kings and Kern Canyons and several miles of the crest of the Sierra Nevada, including Mount Whitney, are now pending in Congress and will be considered in the short session which convenes in December. The early enactment of this legislation can not be too strongly urged.

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.

Sequoia Park now has the giant sequoia trees as its one attraction, but if enlarged as proposed it will become a scenic park of as much distinction as that possessed by any other park in the system. Furthermore, it will become a game sanctuary of as much importance as the Yellowstone National Park.

GENERAL GRANT NATIONAL PARK.

General Grant National Park had a 50 per cent increase in the number of visitors this year. There has been a remarkable increase in travel to this park since 1914. In that season 3,735 visitors registered in the park, last year the number jumped to 10,523, and this year to 15,360; 8,612 people entered this year in automobiles.

The fees from automobiles so increased the revenues of this park that it may now be administered without appropriations by Congress. However, a Federal appropriation will be needed for an adequate water system, for a new ranger station, and for other improvements that are absolutely essential to its proper development.

HEAVY TRAVEL TO ROCKY MOUNTAIN NATIONAL PARK.

Rocky Mountain National Park was visited this year by more people than any other large scenic park. The village of Estes Park just outside of its boundaries, and large resorts situated near the park, were taxed to their maximum capacity throughout the season. There was a scarcity of accommodations of all kinds. Automobile service appears to have been the only necessary service which was adequate to meet all demands, and it is understood that the transportation company operating this service out of Denver, Boulder, Loveland, Longmont, Lyons, and other cities on numerous occasions was compelled to decline to carry passengers to the park because of insufficient hotel and camp accommodations in Estes Park and in Rocky Mountain Park itself. I am reliably informed that, prior to the opening of the 1917 season, large additions to several of the larger

hotels will have been constructed, and that these will be adequate for the anticipated heavy travel. This season's extraordinary increase was not foreseen and could hardly have been anticipated.

Beyond the work of maintaining the trail system and telephone lines the department has been unable to undertake any improvement of this park. A clause in the organic act establishing this park inhibits the appropriation of more than $10,000 annually for its administration, protection, and improvement. This sum is just sufficient to administer and protect it. Before its improvement is undertaken, therefore, this inhibition on the amount which may be appropriated each year must be removed. Senate bill 6854, introduced by Senator Shafroth, of Colorado, is designed to accomplish this end, but it has not had the consideration of either House of Congress. The revenues of the park are turned into the miscellaneous receipts of the Treasury.

Some years ago, the State of Colorado undertook the construction of a road across the Continental Divide from Estes Park to Grand Lake by way of Fall River and Milner Pass, but the road has never been completed. The State, however, is continuing to build a few miles of the highway each year. Until this road is completed by the State and other improvements are made by the Federal Government visitors to this splendid scenic park will find it accessible only to persons accustomed to foot or horseback travel on the trails.

House bill 10124, now pending in the Senate, provides for the addition to the Rocky Mountain National Park of a number of scenic tracts, including Twin Sisters, Deer Mountain, Gem Lake, and The Needles. Should this measure be enacted the east boundary of the park will be brought very close to the city limits of Estes Park.

THE HOT SPRINGS RESERVATION.

The season of 1916 brought an increase in travel to Hot Springs Reservation in the Ozarks of Arkansas, and, as might be expected, an increase also in the indigent sick who became at once a charge upon the community and upon charitable organizations of the city.

Less than a year ago, I spent a week carefully studying conditions in Hot Springs. I found that the burden of caring for the afflicted poor that annually came into the city to bathe at the Government free bathhouse was very heavy, and I can not too highly commend the efforts of the men and women who are constantly devoting themselves to the alleviation of the suffering of these people and to providing them with sufficient nourishment to enable them to seek relief from their ills by bathing in these healing waters.

In this connection I wish to call attention to the free clinics which public-spirited physicians are now conducting at the Government

free bathhouse. Three of these clinics are now in operation. The doctors in charge not only devote considerable time to these clinics, but make free use of their laboratories for tests and diagnoses which entail, in many cases, considerable expense. The results of the operation of these clinics have been most gratifying and they clearly indicate that these waters, when used under experienced medical advice, have not only given relief in the majority of cases but have effected numerous complete cures. These results are the more remarkable when one considers the conditions under which the indigent must bathe on the reservation. The Government free bathhouse is small, old, and inadequate to furnish the service for which it was built. It is practically impossible to keep it sanitary, and notwithstanding all that is done to keep it clean it always looks insanitary.

The National Park Service will soon station a physician at the reservation to supervise bathing at the free bathhouse, assist in the free clinics, keep its records, make laboratory tests, etc.

There is an urgent necessity for a detailed study of the Hot Springs Reservation by a board to be composed of an architect, a civil engineer of experience in designing and installing drainage systems and constructing roads, and possibly a landscape engineer. This board should suggest an adequate landscape development and design a new free bathhouse. It should also plan a storm-sewer system to carry away flood waters for the protection of the city from the serious inundations which have caused considerable damage in the past. It is estimated that $10,000 will cover the cost of such a survey. The report of the proposed board would be a basis for congressional appropriation for the improvement of the reservation.

An estimate for a storm-sewer system, in amount $237,840, and for other improvements, in amount $96,595, has been submitted to Congress by the department in three consecutive years, but it has never received favorable action. All things considered, I believe that a complete study of all of the needs of the reservation should be made before appropriations are again requested for its broad-gauge development.

During my visit to Hot Springs I talked with many who stated that they had been restored to health by the spring waters, and as a layman I was deeply impressed with apparent evidences of their curative value in several diseases.

THE MESA VERDE NATIONAL PARK.

Mesa Verde National Park possesses historical and scientific features that should bring it a very large tourist patronage. There are no facilities for the care of many visitors at one time, however, and neither has there been sufficient road improvement to make the important cliff dwellings and the scenic sections of the park readily

accessible. Nevertheless, 1,385 people visited the park during the 1916 season, an increase of more than 100 per cent over 1915.

Here again we point to a park for which the funds appropriated by Congress are wholly inadequate. Liberal appropriations for a year or two would make the park available to tens of thousands.

Further important discoveries of prehistoric structures and implements were made in the park during the summer by Dr. J. Walter Fewkes, of the Smithsonian Institution. His explorations were financed by both the National Park Service and the Smithsonian Institution. Many curios and rare objects of historic interest recently uncovered are being carried away by tourists because the park has no place to house them and protect them. A museum should be constructed in the park, and an effort made to recover some of the important relics that have been carried away. If there is a building in which these objects may be placed for preservation, in all likelihood many valuable relics will be voluntarily returned to the park.

There have been no important developments in the smaller parks, nor have I any recommendations to make with respect to their improvement and management.

IN GENERAL.

On the whole, we should be well pleased, if not satisfied, with the year's accomplishment. While nothing new has been completed, we have made substantial beginnings in most important directions.

Of first importance is the creation of the national park service, which makes all things possible.

Of perhaps equal importance is the practical establishment on sound business lines of the principle of Government participation in concessioners' profits, which makes eventual financial independence for the national parks possible, and, with wise administration, probable.

Also of very great importance is the creation of a spirit of hearty cooperation among concessioners, railroads, and park officials. There is much still lacking here, but the beginnings are inspiring.

Finally, the sympathy and spirit of helpfulness shown by Congress in this public-spirited endeavor to realize a vast national destiny is tremendously encouraging.

And the enthusiastic whole-hearted way in which the American people are rising to their opportunity is a genuine delight.

Cordially, yours,

STEPHEN T. MATHER,
Assistant to the Secretary of the Interior.

Hon. FRANKLIN K. LANE,
Secretary of the Interior.

APPENDICES.

THE NATIONAL PARKS AT A GLANCE.

Number, 16; total area, 7,534 square miles; chronologically in order of creation.

Name.	Location.	When established.	Area (miles).	Private lands (acres).	Visitors, 1916.	Special characteristics.
Hot Springs Reservation	Middle Arkansas	Apr. 20, 1832	1½	None.	118,740	46 hot springs possessing curative properties—Many hotels and boarding houses—20 bathhouses under public control.
Yellowstone	Wyoming, Montana, and Idaho.	Mar. 1, 1872	[1] 3,348	.....	35,849	More geysers than in all rest of world together—Boiling springs—Mud volcanoes—Petrified forests—Grand Canyon of the Yellowstone, remarkable for gorgeous coloring—Large lakes—Waterfalls—Vast wilderness inhabited by deer, elk, bison, moose, antelope, bear, mountain sheep, etc.—Greatest wild bird and animal preserve in world.
Casa Grande Ruin	Arizona	Mar. 2, 1889	¾	None.	1,909	These ruins are one of the most noteworthy relics of a prehistoric age and people within the limits of the United States. Discovered in ruinous condition in 1694.
Sequoia	Middle eastern California	Sept. 25, 1890	252	3,716.96	10,780	The Big Tree national park—12,000 sequoia trees over 10 feet in diameter, some 25 to 36 feet in diameter—Towering mountain ranges—Startling precipices.
Yosemite	do	Oct. 1, 1890	1,125	19,827	33,390	Valley of world-famed beauty—Lofty cliffs—Romantic vistas—Waterfalls of extraordinary height—3 groves of big trees—Large areas of snowy peaks—Waterwheel falls.
General Grant	do	do	4	160	15,360	Created to preserve the celebrated General Grant Tree, 35 feet in diameter—6 miles from Sequoia National Park.
Mount Rainier	West central Washington	Mar. 2, 1899	324	18.2	23,989	Largest accessible single peak glacier system—28 glaciers, some of large size—48 square miles of glacier, 50 to 500 feet thick—Wonderful subalpine wild-flower fields.
Crater Lake	Southern Oregon	May 22, 1902	249	2,458.11	12,265	Lake of extraordinary blue in crater of extinct volcano, no inlet, no outlet—Sides 1,000 feet high.
Wind Cave	South Dakota	Jan. 9, 1903	16	160	9,000	Well known by reason of a cavern therein having many miles of galleries and numerous chambers of considerable size containing many peculiar formations.
Platt	Southern Oklahoma	July 1, 1902 Apr. 21, 1904	1⅓	None.	[2] 30,000	Many sulphur and other springs possessing medicinal value, under Government regulation.
Sullys Hill	North Dakota	Apr. 27, 1904	1½	None.	[2] 1,500	Small rugged hill containing prehistoric ruins—Practically a local park.
Mesa Verde Boundary changed	Southwestern Colorado do	June 29, 1906 June 30, 1913	77	880 993	1,385	Most notable and best preserved prehistoric cliff dwellings in United States, if not in the world.

Glacier	Northwestern Montana	May 11, 1910	1,534	16,668.11	12,839	Rugged mountain region of unsurpassed Alpine character—250 glacier-fed lakes of romantic beauty—60 small glaciers—Peaks of unusual shape—Precipices thousands of feet deep—Almost sensational scenery of marked individuality.
Rocky Mountain	North middle Colorado	Jan. 26, 1915	358	[2] 3,745	[2] 51,000	Heart of the Rockies—Snowy range, peaks 11,000 to 14,250 feet altitude—Remarkable records of glacial period.
Hawaii	Hawaiian Islands	Aug. 1, 1916	118	[2] 41,000	([3])	Three separate areas: 2—Kilauea, continuously active for century, and Mauna Loa, altitude 13,675 (largest active volcano in world, erupting every decade)—are on Hawaii; Haleakala, on Maui, 10,000 feet high, with tremendous rift in summit 8 miles across and 3,000 feet deep; contains many cones, gorgeous tropical forests, mahogany groves, and lava caves; erupted 200 years ago.
Lassen Volcanic	Northern California	Aug. 9, 1916	124	880	([3])	Only active volcano in United States proper—Lassen Peak, 10,465 feet in altitude—Cinder Cone, 6,879 feet—Hot springs—Mud geysers—Ice caves—Majestic canyons—Numerous lakes—Fine forests.

[1] In Wyoming, 3,114 square miles; in Montana, 198 square miles; in Idaho, 36 square miles. [2] Estimated. [3] No record kept.

STATISTICS.

Visitors to parks, 1909 to 1916.

Name of park.	1909	1910	1911	1912	1913	1914	1915	1916
Hot Springs Reservation	[1]	120,000	130,000	135,000	[2] 135,000	[2] 125,000	[2] 115,000	118,740
Yellowstone National Park	32,545	19,575	23,054	22,970	24,929	20,250	51,895	35,849
Casa Grande Ruin	[1]	[1]	[2] 450	[2] 450	[2] 450	[2] 500	500	1,909
Sequoia National Park	854	2,407	3,114	2,923	3,823	4,667	7,647	10,780
Yosemite National Park	13,182	13,619	12,530	10,884	13,735	15,145	33,452	33,390
General Grant National Park	798	1,178	2,160	2,240	2,756	3,735	10,523	15,360
Mount Rainier National Park	5,968	8,000	10,306	8,946	13,501	15,038	35,166	23,989
Crater Lake National Park	4,171	5,000	[2] 4,500	5,235	6,253	7,096	11,371	12,265
Wind Cave National Park	3,216	3,387	3,887	3,199	3,988	3,592	2,817	9,000
Platt National Park	25,000	[2] 25,000	30,000	[2] 31,000	[2] 35,000	[2] 30,000	[2] 20,000	[2] 30,000
Sullys Hill Park	190	190	[2] 200	[2] 200	300	500	1,000	[2] 1,500
Mesa Verde National Park	165	250	206	230	280	502	663	1,385
Glacier National Park	.....	.....	[2] 4,000	6,257	12,138	14,168	14,265	12,839
Rocky Mountain National Park	.....	.....	.....	.....	.....	.....	[2] 31,000	[2] 51,000
Hawaii National Park	.....	.....	.....	.....	.....	.....	.....	[1]
Lassen Volcanic National Park	.....	.....	.....	.....	.....	.....	.....	[1]
Total	86,089	198,606	224,407	229,534	252,153	240,193	335,299	358,006

[1] No record. [2] Estimated.

Automobile and motorcycle licenses issued, seasons of 1914, 1915, and 1916.

	1914		1915		1916	
	Automobiles.	Motorcycles.	Automobiles.	Motorcycles.	Automobiles.	Motorcycles.
Yellowstone	.....	.....	958	.....	3,445	.....
Sequoia	158	.....	330	11	735	4
Yosemite	673	.....	3,895	.....	3,938	.....
General Grant	392	12	1,584	40	1,749	39
Mount Rainier	1,594	188	3,238	247	3,795	97
Crater Lake	1,107	18	2,015	31	2,600	26
Mesa Verde	34	4	86	.....	184	2
Glacier	267	4	457	26	902	11
Wind Cave	[1]	[1]	[1]	[1]	[2] 2,500	[1]
Total	4,225	226	12,563	355	19,848	179

[1] No record kept or estimate made. [2] Estimated.

Receipts[1] collected from automobiles and motorcycles (single trip and season permits) during the 1916 park season.

	Amount collected.
Yellowstone	$25,387.50
Sequoia	1,600.00
Yosemite	19,997.00
General Grant	960.00
Mount Rainier	13,194.00
Crater Lake	4,237.00
Mesa Verde	95.50
Glacier	312.00
Total	65,783.00

[1] Received to and including Nov. 14, 1916.

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

Name.	Location.	Date of creation.	Area (acres).	Description.
Devils Tower	Wyoming	Sept. 24, 1906	1,152	Remarkable natural rock tower, of volcanic origin, 1,200 feet in height.
Montezuma Castle.	Arizona	Dec. 8, 1906	[1] 160	Prehistoric cliff-dwelling ruin of unusual size situated in a niche in face of a vertical cliff. Of scenic and ethnological interest.
El Morro	New Mexico	do	160	Enormous sandstone rock eroded in form of a castle, upon which inscriptions have been placed by early Spanish explorers. Contains cliff-dweller ruins. Of great historic, scenic, and ethnologic interest.
Chaco Canyon	do	Mar. 11, 1907	[1] 20,629	Contains numerous cliff-dweller ruins, including communal houses, in good condition, and but little excavated.
Muir Woods	California	Jan. 9, 1908	295	Contains one of the most noted redwood groves in California, and was donated by Hon. William Kent, Member of Congress. Located 7 miles from San Francisco.
Pinnacles	do	Jan. 16, 1908	2,080	Contains many spirelike rock formations, 600 to 1,000 feet high, which are visible for many miles; also numerous caves, and other formations.
Tumacacori	Arizona	Sept. 15, 1908	10	Contains ruin of Franciscan mission dating from sixteenth century, until recent years in fair preservation, but now rapidly disintegrating.
Mukuntuweap	Utah	July 31, 1909	[1] 15,840	Contains magnificent gorge, depth from 800 to 2,000 feet, with precipitous walls and many waterfalls. Of great beauty and scenic interest.
Shoshone Cavern	Wyoming	Sept. 21, 1909	210	Cavern of considerable extent, located near Cody.
Natural bridges	Utah	Sept. 25, 1909	[1] 2,740	Contains 3 natural bridges, among largest examples of their kind. Largest bridge is 222 feet high, 65 feet thick at top of arch; arch is 28 feet wide; span, 261 feet; height of span, 157 feet. Other two are only slightly smaller.
Gran Quivira	New Mexico	Nov. 1, 1909	[1] 160	One of the most important of earliest Spanish mission ruins in the Southwest. Monument also contains Pueblo ruins.
Sitka	Alaska	Mar. 23, 1910	[1] 57	Park of great natural beauty, and historic interest as scene of massacre of Russians by Indians. Contains 16 totem poles of best native workmanship.
Rainbow Bridge	Utah	May 30, 1910	160	Unique natural bridge of great scientific interest and symmetry. Height 309 feet above water, and span is 278 feet, in shape of rainbow.
Lewis and Clark Cavern.	Montana	May 16, 1911	160	Immense limestone cavern of great scientific interest, magnificently decorated with stalactite formations. Cavern now closed to public because of depredations by vandals.
Colorado	Colorado	May 24, 1911	13,883	Contains many lofty monoliths, and is wonderful example of erosion, and of great scenic beauty and interest.
Petrified Forest	Arizona	July 31, 1911	25,625	Contains abundance of petrified coniferous trees, one of which forms a small natural bridge. Is of great scientific interest.
Navajo	do	Mar. 14, 1912	360	Contains numerous pueblo, or cliff-dweller ruins, in good preservation.
Papago Saguaro	do	Jan. 31, 1914	2,050	Contains splendid collection of characteristic desert flora and numerous pictographs. Interesting rock formations.
Dinosaur	Utah	Oct. 4, 1915	80	Contains deposits of fossil remains of prehistoric animal life of great scientific interest.
Sieur de Monts	Maine	July 8, 1916	[1] 5,000	Mountainous area adjacent to Bar Harbor which includes 10 mountains and several lakes. Is very wild and rugged. Most romantic and beautiful mingling of mountain and ocean scenery on Atlantic Coast.
Capulin Mountain.	New Mexico	Aug. 9, 1916	681	Contains cinder cone of geologically recent formation.

[1] Estimated.

National monuments administered by the Department of Agriculture.

Name.	Location.	Date of creation.	Area (acres).	Description.
Gila Cliff Dwellings.	New Mexico...	Nov. 16, 1907	160	Contains numerous cliff-dweller ruins of much interest and in good preservation.
Tonto	Arizona	Dec. 19, 1907	[1] 640	Do.
Grand Canyon	....do	Jan. 11, 1908	[1] 806,400	Contains the most wonderful portion of the Grand Canyon of the Colorado.
Jewel Cave	South Dakota.	Feb. 7, 1908	[1] 1,280	Contains a limestone cavern of much beauty and considerable extent, limits of which are as yet unknown.
Wheeler	Colorado	Dec. 7, 1908	300	Of much interest from geological standpoint as example of eccentric erosion and extinct volcanic action. Of much scenic beauty.
Oregon Caves	Oregon	July 12, 1909	480	Extensive caves in limestone formation of much beauty; magnitude not entirely ascertained.
Devil Postpile	California	July 6, 1911	800	Spectacular mass of hexagonal basaltic columns, like an immense pile of posts. Said to rank with famous Giant's Causeway in Ireland.
Mount Olympus	Washington...	Apr. 17, 1912	299,370	Contains many objects of great and unusual scientific interest, including many glaciers. Is summer range and breeding ground of the Olympic elk.
Walnut Canyon	Arizona	Nov. 30, 1915	960	Contains cliff dwellings of much scientific and popular interest.
Bandelier	New Mexico...	Feb. 11, 1916	18,000	Contains vast numbers of cliff-dweller ruins, with artificial caves, stone sculpture, and other relics of prehistoric life.
Old Kasaan	Alaska	Oct. 25, 1916	38.3	Abandoned Indian village in which there are numerous remarkable totem poles and other objects of historical interest.

[1] Estimated.

National monuments administered by the War Department.

Names.	Location.	Date of creation.	Area (acres).	Description.
Big Hole Battle Field.	Montana	June 23, 1910	5	Site of battle field 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.
Cabrillo	California	Oct. 14, 1913	1	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.

Statement of appropriations made for, and revenues received from, the various national parks, and expenditures made therefrom under supervision of the department, during the fiscal year 1907–1917, inclusive.

Name of the national park.	Appropriations.		Revenues.	
	Appropriated.	Expended.	Received.	Expended.
Hot Springs Reservation:				
1907			$20,165.00	$19,938.41
1908			28,090.00	21,115.56
1909			34,475.00	19,699.27
1910			36,540.00	28,401.97
1911	$2,935.00	$2,935.00	36,060.00	56,375.33
			[1] 82,518.00	
1912			35,279.16	3,267.96
				[2] 42,957.18

[1] Proceeds from sale of Government lots (lot fund).
[2] Expenditure from lot fund.

Statement of appropriations made for, and revenues received from, the various national parks, etc.—Continued.

Name of the national park.	Appropriations.		Revenues.	
	Appropriated.	Expended.	Received.	Expended.
Hot Springs—Continued.				
			$40,711.00	[1] $29,438.25
1913				[2] 34,581.57
			[4] 1,287.90	[3] 1,273.70
1914			38,380.00	[4] 36,658.62
1915			37,877.66	36,941.95
1916			37,926.32	40,261.14
1917				
	$2,935.00	$2,935.00	429,310.04	370,910.91
Yellowstone:				
1907	7,500.00	7,498.64	1,838.96	3,647.04
1908	8,000.00	7,999.40	4,699.65	4,228.37
1909	[5] 8,000.00	7,997.44	4,790.20	3,661.47
	[6] 2,500.00	1,962.53		
1910	8,000.00	7,999.71	5,110.05	3,359.80
1911	8,500.00	8,499.96	23,420.13	7,998.47
1912	8,500.00	8,500.00	16,476.38	8,103.41
1913	8,500.00	8,500.00	21,980.10	6,449.97
1914	8,500.00	8,500.00	15,439.23	13,843.24
1915	8,500.00	8,500.00	20,307.40	12,884.18
1916	8,500.00	8,491.41	46,628.49	26,350.96
1917	8,500.00			
	93,500.00	84,449.09	160,690.59	90,526.91
Sequoia:				
1907	10,000.00	9,919.82	159.50	
1908	15,550.00	15,333.50	43.15	18.97
1909	15,550.00	15,373.96	46.57	
1910	15,550.00	15,514.19	121.78	
1911	15,550.00	15,543.34	255.65	31.25
1912	15,550.00	15,549.20	305.16	48.25
1913	15,550.00	15,549.52	353.85	70.81
1914	15,550.00	15,549.27	4,094.21	83.94
1915	15,550.00	15,549.65	1,975.03	3,498.23
1916	15,550.00	15,549.75	5,169.86	4,740.75
1917	[22,300.00 [7] 50,000.00]			
	222,250.00	149,432.20	12,524.76	8,492.20
Yosemite:				
1907	5,750.00	5,705.24	9,193.04	1,000.00
1908	30,000.00	29,508.58	14,390.06	7,131.37
1909	30,000.00	29,969.86	15,851.17	5,024.84
1910	30,000.00	29,983.82	21,373.18	34,486.09
1911	62,000.00	62,000.00	35,765.48	19,050.39
	[8] 12,000.00	[8] 11,646.37		
1912	50,000.00	49,999.68	23,855.77	35,970.68
1913	80,000.00	80,000.00	19,495.83	16,431.16
1914	125,000.00	124,798.49	23,406.14	9,903.58
1915	100,000.00	99,235.22	37,019.20	40,699.30
1916	75,000.00	74,992.54	49,878.42	52,961.53
1917	250,000.00			
	599,750.00	597,839.80	250,228.29	222,658.94
General Grant:				
1907	2,000.00	1,988.75		
1908	2,000.00	1,914.76	63.75	
1909	2,000.00	1,999.93		
1910	2,000.00	1,999.90	50.00	
1911	2,000.00	1,999.89	210.64	18.88
1912	2,000.00	1,998.60	173.54	.99
1913	2,000.00	1,999.20	158.68	503.01
1914	2,000.00	2,000.00	429.64	1.59
1915	2,000.00	2,000.00	560.89	355.68
1916	2,000.00	1,999.36	1,795.50	481.46
1917	2,000.00			
	22,000.00	19,900.39	3,442.64	1,361.01

[1] Includes $1,272.71 expended in making survey and preparation of plans, etc., for sewer system, city of Hot Springs.
[2] Expenditure from lot fund.
[3] Contributed by city of Hot Springs on account sewer system; $14.20 returned to city.
[4] Includes 99 cents expended on account of survey sewer system.
[5] Administration and protection.
[6] Marking unmonumented portions of park boundaries.
[7] For purchase of private holdings.
[8] Appropriation, without year, for examination of water supply for city of San Francisco.

Statement of appropriations made for, and revenues received from, the various national parks, etc.—Continued.

Name of the national park.	Appropriations.		Revenues.	
	Appropriated.	Expended.	Received.	Expended.
Mount Rainier:				
1907	[1] $2,500.00	$2,407.91	$205.22	.....
1908	3,000.00	2,965.59	170.00	$8.96
1909	3,000.00	2,961.61	1,104.79	27.65
1910	3,000.00	3,000.00	9,053.79	2,763.86
1911	3,000.00	2,998.90	7,748.48	5,342.47
1912	5,400.00	5,399.99	5,370.36	9,363.33
1913	20,000.00	19,989.70	7,301.62	6,791.80
1914	23,400.00	23,347.05	9,040.10	6,039.42
1915	51,000.00	50,907.79	12,893.29	5,513.46
1916	30,000.00	29,999.77	19,317.99	15,026.08
1917	30,000.00	.....	.....	.....
	174,300.00	143,978.31	72,205.64	50,877.03
Crater Lake:				
1907	3,000.00	2,989.75	10.00	[2]
1908	7,315.00	7,314.65	.....	.....
1909	3,000.00	2,999.21	15.00	.....
1910	3,000.00	2,999.97	11.00	.....
1911	3,000.00	2,999.77	30.00	.....
1912	3,000.00	2,998.75	323.00	.....
1913	3,000.00	2,978.41	784.18	.....
1914	7,540.00	7,483.61	793.00	.....
1915	8,040.00	7,884.59	1,359.50	.....
1916	8,000.00	7,835.25	2,402.04	.....
1917	8,000.00	.....	.....	.....
	56,895.00	48,483.96	5,727.72	.....
Wind Cave:				
1907	4,400.00	4,398.08	.....	.....
1908	2,500.00	2,433.54	200.00	.....
1909	2,500.00	2,335.37	450.00	220.80
1910	2,500.00	2,500.00	523.25	62.88
1911	2,500.00	2,413.60	340.00	562.26
1912	2,500.00	2,499.86	675.00	278.56
1913	375.00	132.50	528.26	1,197.39
1914	2,500.00	2,500.00	246.17	366.72
1915	2,500.00	2,496.97	2,342.90	606.16
1916	2,500.00	2,463.51	2,590.89	981.57
1917	2,500.00	.....	.....	.....
	27,275.00	24,173.43	7,896.47	4,276.34
Platt:				
1907	[3]	.....	178.00	7,082.25
1908	.....	.....	7,021.00	10,552.26
1909	.....	.....	272.00	15,764.27
1910	.....	.....	164.50	11,734.74
1911	5,000.00	4,994.64	422.75	779.06
1912	10,000.00	9,999.34	165.50	219.84
1913	8,000.00	7,999.95	49.95	100.11
	[4] 17,500.00	[4] 10,120.73	[4] 17,500.00	[4] 10,119.06
1914	8,000.00	7,988.55	282.81	67.48
1915	8,000.00	8,000.00	241.76	178.87
1916 (deficiency, $10,000)	18,000.00	17,060.49	301.11	44.35
1917	8,000.00	.....	.....	.....
	82,500.00	66,163.70	26,599.38	56,624.29
Mesa Verde:				
1907–8	7,500.00	7,455.82	.....	[5]
1909	7,500.00	7,348.33	.....	.....
1910	7,500.00	7,443.09	.....	.....
1910–11 (for examination of coal lands in park)	2,000.00	947.75	.....	.....
1911	20,000.00	19,808.63	100.00	.....
1912	7,500.00	7,351.54	898.92	.....
1913	15,000.00	14,956.91	615.21	.....

[1] No appropriation made for Mount Rainier prior to 1907 fiscal year.
[2] Expenditure of revenues of Crater Lake and Mesa Verde Parks for park purposes therein not authorized by existing statutes enacted by Congress.
[3] No appropriation for Platt Park prior to 1911 fiscal year. Land prior to creation of park included in Sulphur Springs Reservation.
[4] Construction sanitary sewer, like amount being contributed by the city of Sulphur, Okla.; $7,380.94 returned to city.
[5] Expenditure of revenues of Crater Lake and Mesa Verde Parks for park purposes therein not authorized by existing statutes enacted by Congress.

Statement of appropriations made for, and revenues received from, the various national parks, etc.—Continued.

Name of the national park.	Appropriations.		Revenues.	
	Appropriated.	Expended.	Received.	Expended.
Mesa Verde—Continued.				
1914	$10,000.00	$9,880.30	$679.00	.....
1915	10,000.00	[1] 9,786.05	637.42	.....
1916	10,000.00	9,643.47	946.38	.....
1917	10,000.00	.....	.....	.....
	107,000.00	94,621.89	3,876.93	.....
Glacier:				
1911	15,000.00	14,998.59	326.88	.....
1912	69,200.00	69,117.94	1,490.94	.....
1913	75,000.00	74,568.24	4,677.14	$428.84
1914	100,000.00	99,999.49	4,010.71	477.07
1915	75,000.00	74,994.27	4,218.51	9,735.44
1916	75,000.00	74,963.78	10,011.76	844.58
1917	110,000.00	.....	.....	.....
	519,200.00	418,642.31	24,735.94	11,485.93
Rocky Mountain:				
1915	3,000.00	2,910.83	.....	[2]
1916	8,000.00	7,941.56	501.93	.....
1917	10,000.00	.....	.....	.....
	21,000.00	10,852.36	501.93	.....
Protection of national monument:				
1917	3,500.00	.....	.....	.....
Improvement of Mukuntuweap National Monument, Utah:				
1917	15,000.00	.....	.....	.....
Improvement of Navajo National Monument, Arizona:				
1917	3,000.00	.....	.....	.....

[1] $120.30 on contract account construction ranger cabin included in this amount and not yet paid.
[2] Expenditure of revenues from Rocky Mountain Park not authorized by existing statutes for park purposes therein.

Appropriations for the various national parks, for the fiscal years 1907–1917, inclusive.

1907	$42,650.00
1908	68,365.00
1909	74,050.00
1910	73,550.00
1911	151,485.00
1912	173,650.00
1913	244,925.00
1914	302,490.00
1915	283,590.00
1916	252,550.00
1917	511,300.00
Total	2,178,605.00

Appropriations for the various national monuments, for the fiscal years 1907–1917, inclusive.

1907–1916	None.
1917	$21,500.00
Total	21,500.00

Total appropriations for the various national parks and national monuments, for the fiscal years 1907–1917, inclusive.

National parks	$2,178,605.00
National monuments	21,500.00
Total	2,200,105.00

NATIONAL PARK PUBLICATIONS.

DISTRIBUTED BY THE SECRETARY OF THE INTERIOR.

The following circulars may be obtained free of charge from the Secretary of the Interior, Washington, D. C.:

Glimpses of our National Parks. 40 pages.

Contains descriptions of the most important features of the principal national parks and the Grand Canyon of the Colorado.

The information circulars on the parks listed below contain data regarding hotels, camps, and principal points of interest, lists of books and magazine articles, sketch maps, and rules and regulations.

Yellowstone.	Mesa Verde.	Glacier.
Yosemite.	Sequoia and General Grant.	Wind Cave.
Mount Rainier.	Hot Springs.	Casa Grande Ruin.
Crater Lake.		Rocky Mountain.

Automobile road and guide maps of Yellowstone and Yosemite National Parks are issued for free distribution.

SOLD BY THE SUPERINTENDENT OF DOCUMENTS.

Remittances for publications listed below should be by money order, payable to the Superintendent of Documents, Government Printing Office, Washington, D. C., or in cash. Checks and postage stamps can not be accepted.

PAMPHLETS.

Geological history of Yellowstone National Park, by Arnold Hague. 1912. 24 pages, including 10 illustrations. 10 cents.

Contains a general résumé of the geologic forces that have been active in the Yellowstone National Park.

Geysers, by Walter Harvey Weed. 1912. 32 pages, including 23 illustrations. 10 cents.

In this pamphlet is a description of the forces which have produced the geysers.

Fossil forests of Yellowstone National Park, by F. H. Knowlton. 1914. 32 pages, including 15 illustrations. 10 cents.

Contains descriptions of the fossil forests of the Yellowstone National Park and an account of their origin.

Fishes of the Yellowstone National Park, by W. C. Kendall (Bureau of Fisheries Document 818). 1915. 28 pages, including 17 illustrations. 5 cents.

Contains descriptions of the species and lists of streams where found.

Origin of the scenic features of Glacier National Park, by M. R. Campbell. 1914. 42 pages, including 25 illustrations. 15 cents.

Contains a general account of the forces that have caused the development of the mountain ranges, the valleys, and lakes of Glacier National Park.

Glaciers of Glacier National Park, by W. C. Alden. 1914. 48 pages, including 30 illustrations. 15 cents.

Contains descriptions of the principal features of the larger glaciers in the park.

Some lakes of Glacier National Park, by M. J. Elrod. 1912. 32 pages, including 19 illustrations. 10 cents.

Contains a description of some of the principal lakes, with special reference to the possibility of stocking the lakes with fish.

Glacier National Park—A popular guide to its geology and scenery, by M. R. Campbell (Bulletin 600, U. S. Geological Survey). 1914. 54 pages, 13 plates, including map. 30 cents.

Geological history of Crater Lake, by J. S. Diller. 1912. 32 pages, including 28 illustrations. 10 cents.

Contains an account of the formation of Crater Lake.

Forests of Crater Lake National Park, by J. F. Pernot. 1916. 40 pages, including 26 illustrations. 20 cents.

Contains descriptions of the forest cover and of the principal species.

Features of the flora of Mount Rainier National Park, by J. B. Flett. 1916. 48 pages, including 40 illustrations. 25 cents.

Contains descriptions of the flowering trees and shrubs in the park.

Forests of Mount Rainier National Park, by G. F. Allen. 1916. 32 pages, including 27 illustrations. 20 cents.

Contains descriptions of the forest cover and of the principal species.

Mount Rainier and its glaciers, by F. E. Matthes. 1914. 48 pages, including 26 illustrations. 15 cents.

Contains a general account of the glaciers of Mount Rainier, and of the development of the valleys and basins surrounding the peak.

Sketch of Yosemite National Park and an account of the origin of Yosemite and Hetch Hetchy Valleys, by F. E. Matthes. 1912. 48 pages, including 24 illustrations. 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.

Forests of Yosemite, Sequoia, and General Grant National Parks, by C. L. Hill. 1916. 40 pages, including 23 illustrations. 20 cents.

Contains descriptions of the forest cover and of the principal species.

The secret of the big trees—Yosemite, Sequoia, and General Grant National Parks—by Ellsworth Huntington. 1913. 24 pages, including 14 illustrations. 5 cents.

Contains an account of the climatic changes that are indicated by the thickness of the growth rings in the big trees, and gives a comparative statement of the climatic conditions in California and Asia during a period of 3,400 years.

Antiquities of the Mesa Verde National Park: Spruce Tree House, by J. W. Fewkes (Bull. 41, Bureau of American Ethnology). 1909. 58 pages, 21 plates, 37 text figures. 40 cents.

Contains a detailed account of the structure and of the objects found in it.

Antiquities of Mesa Verde National Park: Cliff Palace, by J. W. Fewkes (Bull. 51, Bureau of American Ethnology). 1911. 82 pages, 35 plates, 4 text figures. 45 cents.

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.

Contains an account of a new ruin discovered in 1915.

Analyses of the waters of the Hot Springs of Arkansas, by J. K. Haywood, and geological sketch of Hot Springs, Ark., by Walter Harvey Webb. 56 pages. 10 cents.

Proceedings of the [First] National Park Conference held at Yellowstone National Park, September 11 and 12, 1911. 210 pages. 15 cents.

Contains a discussion of national-parks problems by officers of the Government and other persons.

Proceedings of the [Second] National Park Conference held at Yosemite National Park, October 14, 15, and 16, 1912. 146 pages. 15 cents.

Consist mainly of a discussion regarding the advisability of admitting automobiles to the national parks.

Proceedings of the [Third] National Park Conference held at Berkeley, Cal., March 11, 12, and 13, 1915. 1915. 166 pages. 20 cents.

Contains discussions of national-park problems by officers of the Government and others.

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 printed in light green, the streams 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 on close inspection, but merges into the other colors when the sheet is held at some distance.

Panoramic view of Crater Lake 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.

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 by money order or in cash. Personal checks can not be accepted. A discount of 40 per cent is allowed on all orders for maps amounting to $3 net or more.

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. An illustrated description of the lake and the manner of its formation is given on the back of the sheet. Price, 10 cents.

Glacier National Park, Mont. Limiting parallels, 48° 14′ 36″ and 49°. Limiting meridians, 113° 10′ and 114° 30′. Size, 31 by 35 inches. Scale, 1:125,000, or about 2 miles to 1 inch. Contour interval, 100 feet. Price, 25 cents.

Mesa Verde National Park, Colo. Limiting parallels, 37° 09′ 18″ and 37° 21′. Limiting meridians, 108° 15′ and 108° 37′ 30″. Size, 31 by 46 inches. Scale, 1:31,250, or about one-half mile to 1 inch. Contour interval, 25 feet. Price, 20 cents.

Mount Rainier National Park, Wash. Limiting parallels, 46° 43′ 43″ and 47° 00′. Limiting meridians, 121° 30′ and 121° 55′. Size, 22 by 23 inches. Scale, 1:62,500, or about 1 mile to 1 inch. Contour interval, 100 feet. Price, 10 cents.

Yellowstone National Park, Wyo.-Mont.-Idaho. Limiting parallels, 44° 08′ 17″ and 45° 01′ 55″. Limiting meridians, 110° and 111° 05′ 53″. 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, Cal. The park limits established by acts of Congress are shown in colors. Limiting parallels, 37° 30′ and 38° 15′ 39″. Limiting meridians, 119° and 120°. Size, 29 by 31 inches. Scale, 1:125,000, or about 2 miles to 1 inch. Contour interval, 100 feet. Price, 25 cents. Also issued folded between covers; price, 40 cents. The Yosemite Valley is shown on a larger scale on the Yosemite Valley map. See below.

Some of the national parks and reservations are shown in whole or in part on the standard topographic maps, as indicated below.

Casa Grande Ruins, 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.

General Grant National Park, Cal. Shown on the Tehipite map. Scale, 1:125,000, or about 2 miles to 1 inch. Contour interval, 100 feet. Price, 10 cents.

Hot Springs Reservation, Ark. Shown on the map of Hot Springs and vicinity. Scale, 1:62,500, or about 1 mile to 1 inch. Contour level, 20 feet. Price, 10 cents.

Platt National Park, Okla. This park is at the town of Sulphur, Murray County, which is shown on the Stonewall map. Scale, 1:125,000, or about 2 miles to 1 inch. Contour interval, 50 feet. Price, 10 cents.

Rocky Mountain National Park, Colo. The greater portion of this park is shown on the Longs Peak map. Scale, 1:125,000, or about 2 miles to 1 inch. Contour interval, 50 feet. Price, 10 cents.

Sequoia National Park, Cal. Shown on the Kaweah and Tehipite maps. Scale, 1:125,000, or about 2 miles to 1 inch. Contour interval, 100 feet. Price of each map, 10 cents.

Wind Cave National Park, S. Dak. Shown on the Harney Peak and Hermosa maps. Scale, 1:125,000, or about 2 miles to 1 inch. Contour interval, 100 feet. Price of each map, 10 cents.

Yosemite Valley, Cal. Shown on the Yosemite Valley map. Limiting parallels, 37° 42′ and 37° 47′ 05″. Limiting meridians, 119° 30′ and 119° 43′ 40″. Scale, 1:24,000, or about 2½ inches to 1 mile. Contour interval, 50 feet. Price, 10 cents.

○