

DEPARTMENT OF THE INTERIOR

REPORT

OF THE

GENERAL SUPERINTENDENT AND
LANDSCAPE ENGINEER OF
NATIONAL PARKS

TO THE

SECRETARY OF THE INTERIOR

1915



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REPORT OF THE GENERAL SUPERINTENDENT AND LANDSCAPE ENGINEER.

DEPARTMENT OF THE INTERIOR,
OFFICE OF GENERAL SUPERINTENDENT AND
LANDSCAPE ENGINEER OF NATIONAL PARKS,
San Francisco, Cal., Monadnock Building.

SIR: The work in this office during the first year of its life has brought into strong relief the need of further study of the problems involved in the administration of our national parks. There is a growing feeling that our scenic areas, and particularly those which have been set aside as national parks, have not received the attention which their importance as a factor in both the economic and aesthetic development of our country would seem to justify. This is evidenced by the marked increase in the attention paid by the press to the affairs of our parks and by the apparent desire on the part of the public to know more of them and the particular part they play in the life of the Nation.

That the expenditure of money for the maintenance and development of our scenic reservations has an economic as well as aesthetic justification there can be no doubt, for each year large sums of money have left this country to be spent by tourists in foreign lands in search of scenic beauty. The fact that no material proportion of this sum returns is only less provoking than the knowledge that the money thus taken abroad by Americans is spent to view natural attractions that are inferior to those which may be found at home. In your report of 1913 you stated that land is not always land, but is sometimes coal, sometimes timber. One might add that it is sometimes scenery and, as such, merits the careful study and development that would be extended to other national resources.

The condition of travel in foreign lands has stimulated the interest of our people in the merits of similar pleasures in this country. Never in history has there been so great a volume of travel in the United States. Surely it is the part of wisdom to retain this great advantage and to crystalize upon a general policy for the administration of our national parks.

FUNCTIONS OF OUR NATIONAL PARKS.

The first step in the consideration of a general policy for the administration of the national parks is the determination of just what functions they perform. Clearly they are not designated solely for the purpose of supplying recreation grounds. The fostering of recreation purely as such is more properly the function of the city, county, and State parks, and there should be a clear distinction between the character of such parks and national parks. The latter

should constitute a class that is of national interest. In the category of national parks should be no reservation that is of local interest only. What, then, are the functions of our national parks as distinguished from State and local parks? As I view this question our national parks should serve three distinct functions:

1. The stimulating of national patriotism.
2. The furthering of knowledge and health.
3. The diverting of tourist travel to the scenic areas of the United States.

NATIONAL PATRIOTISM.

We, as a people, have been accused of lacking in that love of country with which our neighbors in Europe are so plentifully blessed. Whether such a criticism is merited or not, it is certain that local patriotism has rapidly grown in this country more or less at the expense of patriotism for the country as a whole. This condition would not exist if our people knew their country.

To love a thing one must know it. The Belgian knows each hill and dale of his small country and loves it with an intensity that has become proverbial. And so it is with the Swiss, the French, the English. These peoples know their lands and love them. But ours is a great country, stretching from sea to sea, and a knowledge of all its glories is given to but few. What more noble purpose could our national parks serve than to become the instrument by which the people shall be lured into the far corners of their land that they may learn to love it? For one who will encompass the circuit of our parks, passing over the great mesas of Colorado, crossing the painted desert, threading the sparkling Sierra Nevada, and viewing the glaciers and snow-capped peaks of the great Northwest will surely return with a burning determination to love and work for, and if necessary to fight for and die for the glorious land which is his.

KNOWLEDGE AND HEALTH.

I have said that it is my opinion the Federal Government is not justified in maintaining a national park for recreation purposes alone, yet it is readily seen from the character of our reservations that each has its recreational feature. I do believe, however, that objects and districts of great educational value should be reserved and placed in the category of national parks. Natural phenomena, great canyons, ruins of antiquity, waterfalls—all are objects of great interest and possess an educational value that can not be estimated.

In Yellowstone are the geysers, in Yosemite the highest of waterfalls, in Sequoia the largest and oldest trees on earth, trees that were 3,000 years old when Christ was born. In Wind Cave National Park is a cave that comprises over 90 miles of sparkling passages. At Arkansas Hot Springs and Platt National Park are medicinal waters that have dispelled the pain of legions of sufferers. In Mesa Verde National Park are the crumbling dwellings of a forgotten race.

Pregnant with mystery and romance, these ancient ruins beckon the traveler across the great green mesa and cast about him the spell of endless conjecture. If for no other reason, the value of these treasures as a medium for the furthering of knowledge and health

fully justifies the plea for further aid, both moral and financial, from our Federal Government.

If this aid is granted and a systematic effort is put forth to send our people out into the hinterland of this country, we shall be confronted by the problem of caring for a flood of tourists whose needs must be anticipated.

THE TOURIST.

The first logical step to be taken in an analysis of the conditions of tourist travel is a study of the tourist himself. Primarily, the tourist takes the line of least resistance. This means that he seeks the path that presents the best accommodations for the least cost. From a record of travel in our parks it may be shown that the finest scenery without accommodations will not receive so large a travel as an inferior character of scenery which has a better type of accommodation.

The tourist who upon the strength of literature issued by the department travels to our parks is more or less justified in holding the Federal Government responsible for his comforts or discomforts while there. Nor is he backward with criticism. He demands that he be instructed as to the merits of this trail or that, this camp or that. He not infrequently is disappointed in not finding luxuries that he would not expect in similar places under other than Federal control. He invariably overlooks the fact that he, in a way, is part of the Government, and therefore indirectly responsible for the conditions he finds. Nevertheless, his demands must be respected if it is hoped to direct his footsteps to travel in our country.

The three potent factors in influencing tourist travel are publicity, accommodations, and transportation. Obviously, the tourist must be informed of the merits of the district to which it is desired to bring him. He must then be shown that the accommodations at that place are satisfactory; and, last, he must know that the transportation facilities to, through, and from the location are good and may be had at reasonable cost. These three factors should constantly be borne in mind in any planning for the development of tourist travel.

The three general classes of tourists who visit our parks are: Those to whom the expense is of little moment; those who, in moderate financial circumstances, travel in comfort but dispense with luxuries; and, third, those who, fired with the love of God's out-of-doors, save their pennies in anticipation of the day when they may feast their eyes upon the eternal expanse of snow-clad peaks and azure skies. It is of this latter class that I would speak.

Many of our parks are truly vast in area, encompassing within their boundaries innumerable wonders. To reach these the tourist, upon arriving at the park, must hire saddle animals, pack animals, a guide, cook, and other help. The expense of such an outfit is prohibitive to all but the wealthy. Those who have waited and saved their money are denied the fuller enjoyment of our parks, for they can not bear the expense of transporting their supplies over the trails. There is but one solution of the problem of caring for this class of tourists, and that is the establishment of small inns at convenient intervals, so that tourists may travel the trails afoot, purchasing their provisions and other necessities as they go. As you are aware, the first

steps in an effort to bring about such a condition have been taken in Yosemite National Park. If this work is carried through, a blessing will have been conferred upon those whose lack of money has shut them from the greater part of our national parks. It will also be, in my opinion, the most potent factor in retaining, through the medium of our parks, a material percentage of tourist travel and will necessitate a careful consideration of the problem of a general policy.

Any plan, however, which may be devised for the management of our national parks should not be predicated upon the assumption that their function is solely to accommodate and retain our tourists in this country.

A GENERAL POLICY.

A policy to be efficient must be functional. One for the parks, therefore, must take into consideration the distinctive characteristics of national parks which, as before stated, are relative to the furthering of a national patriotism, public knowledge and health, and tourist travel in the home land. Upon consideration it will be seen that the first two follow as a natural consequence of the last. In the consideration of a general policy we are concerned primarily, therefore, with tourist travel.

To foster tourist travel it will be necessary to develop the roads, trails, and other accommodations in the parks to a point where the traveler will not be subjected to serious discomfort. This means the expenditure of money upon a larger scale than has been the practice heretofore, and the first question that should be settled is, What shall be the source of supply?

There are but two practical sources from which funds may be secured, namely, by Federal appropriation and by revenues from the parks themselves. Both resources are now resorted to, each of which is inadequate. If the Federal Government is to support the parks, then they should be operated so as to make the cost to the tourist as low as possible. If not, then the various sources in the parks themselves should be developed sufficiently to supply the needed money.

The sources of revenue from the parks fall into four classes:

1. Automobile permits.
2. Concessions of various kinds.
3. Receipts from public utilities operated by the Government, such as light, telephone, etc.
4. Natural resources, such as timber, stone, fuel, etc.

Of these four sources it will be seen that they may all be classified as taxes in proportion to the benefit received rather than the ability to pay. An analysis of this character may help in the decision of the policy to be pursued, but it can do no more. The decision must be made in the light of public needs, and the park supervisors should know whether they are to develop the park revenues to their maximum, or whether the park is to be administered at the lowest possible cost to the tourist.

If the question of finances were settled, in so far as the source is concerned, and a well-crystallized policy, looking toward the development of the parks along lines that will foster the increase of tourist travel in this country, is established, much of the delay and confusion in the field will be eliminated.

WHAT HAS BEEN ACCOMPLISHED.

The work in this office has been distributed among the parks, giving attention where it seemed to be most needed.

One of the first steps taken after the creation of this office was the laying out of organization charts for the office of the general superintendent and a typical organization chart for the Yosemite National Park. Three charts were drawn—one for the office of the general superintendent, one organization chart for the Yosemite National Park, and a functional organization chart making a complete and detailed analysis of the functions of the various officers in Yosemite National Park.

INSTALLATION OF COST-KEEPING SYSTEM IN YOSEMITE NATIONAL PARK.

With these organization charts well in mind, a system was devised which will enable the department to keep a close and accurate record of the operations in the parks where the system was adopted. This system was installed in the Yosemite National Park, and the records and information shown in the monthly reports therefrom enable this office to make many material reductions in the cost of operation. For example, the report of May, 1915, showed a cost of \$1.66 per mile for sprinkling roads. The analysis given in the report enabled us to find the leaks and losses, and the monthly report for August, 1915, after repairs had been made to the sprinkling system, showed a cost of 72 cents per mile for sprinkling roads. Similar reductions were made possible in other departments.

This system of cost keeping comprises two general divisions, namely, statistical reports and financial reports. Copies of the monthly reports are forwarded to the department, showing clearly the operations of the month.

Before this system could be installed it was necessary to take an inventory of the physical assets, such as buildings, bridges, power plant, materials on hand, etc. This inventory was made, and disclosed the astounding fact that there were in the Yosemite National Park on April 30, 1915, \$23,625.34 represented by materials and supplies on hand. The inventory further showed that the assets in the park in the form of construction work done, utilities, etc., amounted to \$613,635.03, apportioned in the following manner:

Construction work, such as trails, bridges, culverts, etc.....	\$453, 923. 15
Public utilities operated by the department, such as electric system, telephone system, etc.....	96, 601. 75
Equipment, comprising live stock, wagons, machinery, etc.....	36, 434. 29
Inventories, comprising materials and supplies, forage, etc.....	23, 625. 34
Accounts receivable, cash on hand, etc.....	3, 050. 50
	<hr/>
	613, 635. 03

The items that go to make up this inventory are segregated, showing fully what has been expended on each piece of work, and it is proposed hereafter to keep a record so that the department will have on file the amount of money spent on each road, trail, bridge, and every other feature in the park that demands an expenditure of money. It is considered that only in this way will it be possible to carefully

check the expenditures. Further than this, it is only by resorting to a unit cost-keeping system that the department will be able to segregate accurately the moneys for maintenance from those expended for improvements and betterments.

PURCHASE OF SUPPLIES.

This office, since the 1st of April, 1915, has been purchasing all supplies for Yosemite and Sequoia National Parks and for the other parks where it was practicable to do so. It was found that a better quality of goods could be obtained and a better price could be had by making a personal inspection of the supplies purposed to be furnished.

It has been the custom in the past for the local supervisor or superintendent to purchase the supplies direct. The parks are so situated that they are usually quite a distance from a market, and this custom resulted in loss of time in sending proposals back and forth. When the goods arrived, they were often found to be of inferior quality and not exactly what the supervisor or superintendent desired. San Francisco has a factory representative of practically every line of manufacture in this country, and the purchase of supplies for the national parks can be done here on the same basis as though the purchasing agent visited each factory and made a personal investigation of samples of the supplies to be furnished. Shipping these supplies over bond-aided railroads to the various parks places the local dealers in the vicinity of the parks (who have heretofore had this business) in direct competition with the manufacturers and wholesale dealers of supplies required in the operation of the parks. This new system of purchasing from this office from factory representatives and wholesale dealers has resulted in a great saving to the department.

The superintendent or supervisor of each park makes a requisition on this office for material and supplies that he desires purchased. This office then submits proposals to the various dealers, makes personal inspection of the goods to be supplied, and makes the award, whereupon the supplies are shipped to the park, thereby saving a great deal of time as well as money.

IMPROVEMENT IN TRANSPORTATION, YOSEMITE NATIONAL PARK.

Starting on June 1, 1915, the Yosemite Stage & Turnpike Co. placed in operation between the Mariposa Grove of Big Trees and the village of the Yosemite Valley an automobile service for the transportation of tourists between these points. This service replaced the old horse-drawn stages, which were uncomfortable and slow, requiring at least four hours and a half between Yosemite Village and the Wawona Hotel and an additional hour and a half between the Wawona Hotel and the Mariposa Grove of Big Trees, and with this service it was not possible for tourists to go from the village in the valley to the Mariposa Grove without stopping at least one night at the Wawona Hotel. The new service provided a schedule that enabled the tourists to leave the valley in the morning and spend one hour and a half at the Mariposa Grove and return to the valley in the evening in time for 6 o'clock dinner.

This service has proven very satisfactory to the traveling public, especially the summer just past, as it would have been a physical impossibility to handle the volume of travel that went over this road with the old horse-drawn stages.

ACQUISITION OF ROADS.

The department has acquired title to that portion of the Tioga Road lying within Yosemite National Park. This road has been rehabilitated this summer and was formally opened on the 28th of July to the public. The opening of this road makes accessible that portion of the park known as the High Sierras and has opened up a section that is extremely beautiful and traverses the park in an easterly and westerly direction. The department's acquiring the Tioga Road has met with great public favor, and when same has been put in good condition it will be the most popular pass for transcontinental tourists through the Sierra Nevada Mountains, as well as being a favorite trip for local automobiles.

The department has also acquired title to that portion of the Big Oak Flat Road lying within Yosemite National Park, and improvement of same is now in progress. In the past this road has been operated by private owners as a toll road. Its acquisition by the Government makes this a free road and is one of the shortest and most practical, as well as being one of the easiest grades, of any road entering Yosemite Valley.

ROAD AND TRAIL MAPS.

During the year 1914 a topography map was started by the surveyors from the Office of Public Roads of the Agricultural Department, under the charge of Mr. T. Warren Allen, showing the topographical conditions on a section of the floor of Yosemite Valley. This survey was made so as to show buildings, trails, roads, and bridges on a scale that could be used for working drawings in planning further improvements. This map was compiled in this office.

It became evident during the first days of the life of this office that a comprehensive plan for the road and trail development of all of the national parks was an essential, to the end that the habit of building disconnected bits of roads and trails might be stopped. Plans for the complete road and trail systems for each of the five national parks were then drawn in preliminary form. The parks thus covered were Yosemite, Crater Lake, Rainier, Glacier, and Sequoia.

THE VILLAGE PLAN FOR YOSEMITE.

Using the topographic map above referred to, an exhaustive study was made of conditions on the floor of Yosemite Valley with the intention of relieving the congested condition around the present village. As a result, three plans were drawn in the course of the studies made.

In addition to the village plan, studies were made for the new hotel to be constructed on the floor of the valley. Plans were also drawn for the new hotel to be constructed at Glacier Point, together with tentative studies for 12 village buildings.

In conjunction with the work done on the replanning of the village, an entire new plan of operation for the concessions in Yosemite National Park was considered. This plan contemplated the granting of a concession to a large operator who would build a hotel of sufficient size to accommodate the demands on the floor of the valley, a smaller hotel at Glacier Point, and 15 mountain inns in the High Sierra in the park, to be built at the rate of three inns each year. Several attempts have been made in the past to secure a concessionaire who would perform this service, but all had been unsuccessful, due to the fact that certain terms could not be agreed upon. The terms considered in this plan were on a profit-sharing basis, the concessionaire under the terms of this arrangement to receive a permit of 20 years' duration and to share the net profits of his concession with the Federal Government. This plan of sharing profits will overcome the difficulty of establishing a graduated scale of charges, thereby making it possible to grant a long-term permit.

With a large hotel on the floor of the valley, a new one on Glacier Point, and a chain of mountain inns throughout the park so spaced that they will be within easy walking distance of one another, it will be possible for those of small financial means to see the entire park to an extent that is now denied them.

In addition to this, the adoption of the village plan will do away with the unsightly buildings that now mar the scenery and will establish a village properly planned, comprising buildings of carefully studied architecture.

The above paragraphs have dealt with work originating in this office. The remainder of the work done in this office will be segregated under the headings of the parks for which the work was done.

YOSEMITE NATIONAL PARK.

In addition to the work above outlined, plans and specifications for the new El Capitan Bridge over the Merced River were prepared in this office, and the bridge constructed under contract for the sum of \$2,965.

Plans were also drawn for a new bridge over the Merced River in the vicinity of the present village, which plans are now being considered by bidders.

Plans and specifications were drawn for ranger cabins in the Yosemite National Park, three of which were built at a total cost of \$2,990.

In December, 1914, new regulations for the park ranger force were drawn and promulgated by the Secretary. In conformance with these regulations a uniform was designed and insignia of the officers selected. The park rangers in Yosemite National Park are now uniformed according to regulation, and the organization of the park ranger force under the new regulations has been perfected and has demonstrated the merits of the steps taken.

CRATER LAKE NATIONAL PARK.

Plans were begun on the new village for Crater Lake National Park in the year 1915. The work done under this plan comprised studies in architectural character, together with an investigation of

the most feasible method of laying out roads for the circulation of traffic.

In addition to this work, a tour of inspection was made, together with a study of the road and trail system in this park.

MESA VERDE NATIONAL PARK.

A tour of inspection was made of this park in the late summer of 1914, and the needs of roads, trails, and other developments carefully considered. Plans and specifications were drawn for a ranger cabin to be built of stone in the vicinity of the ruins of Spruce Tree House.

GLACIER NATIONAL PARK.

The work in this office on this park has been confined to the purchasing of materials and planning of the road and trail system which followed as a result of a more or less prolonged inspection of the park.

SEQUOIA NATIONAL PARK.

Trips of investigation have been made to Sequoia National Park, and a system of roads and trails planned. A survey has also been made (finished in June, 1915) of the Mineral King Road, which traverses the park, together with a survey and location of the proposed changes necessary to make this road practical and passable to motor-propelled and other vehicles.

RECOMMENDATIONS

AS TO THE OFFICE OF THE GENERAL SUPERINTENDENT AND LANDSCAPE ENGINEER OF NATIONAL PARKS.

The following recommendations are based upon the assumption that it is the Secretary's desire to hold the general superintendent and landscape engineer responsible for the work in the national parks and that the general superintendent should in turn hold the officers in the parks responsible to him.

The general superintendent should have the authority to employ or dismiss any men in the service, and that suspension should remain effective until revoked by the Secretary.

Allotments from the annual appropriations should be made in the general superintendent's office after a general plan for the expenditure of money has been submitted to the Secretary and approved.

I recommend that the general superintendent be given authority to enter into contracts for construction work as well as for the purchase of materials by contract in accordance with the general scheme of expenditures approved by the Secretary.

This office has purchased all supplies for Yosemite, Sequoia, and General Grant National Parks since April 1, 1915. Considerable saving has been accomplished by purchasing in San Francisco rather than through local dealers in the neighborhood of the parks. Some purchasing has also been done for other parks west of the Rocky Mountains, and in some instances from 15 to 25 per cent has been saved. I recommend that this system of purchasing and the forms

used be adopted and the practice extended throughout the various parks wherever practicable.

In order that the general superintendent may be thoroughly familiar with the phases of the work for which he is held responsible, it is my opinion that correspondence from the parks should be addressed to the general superintendent, or through him to the Secretary, and, likewise, all communications that have to do with operations in the parks should be forwarded from the department through the general superintendent to the parks.

I recommend that all regulations and instructions to be enforced in the parks be promulgated from the general superintendent's office.

It is impossible to accomplish economical management of the parks without the aid of a practical working unit cost-keeping system. Such a system has been installed in the Yosemite National Park and is producing most satisfactory results. I recommend that this system be extended to each and every other national park. This will involve the taking of an inventory on the physical assets in each park such as was taken in Yosemite. This work should also be carried on in other parks.

The title of general superintendent and landscape engineer of national parks carries with it two distinct and separate classes of duties. There is sufficient work under each of these two titles to keep one man very busy throughout the year. It is not humanly possible for one man to act in the capacity of general superintendent and landscape engineer and perform the duties that each of these two titles require. I recommend, therefore, that the title be split and two officers appointed for this work—a general superintendent and a landscape engineer.

Perhaps the most important work that can be carried on in this office is the planning of improvements in the various parks, and I strongly urge that the work that has begun in the way of planning new villages for the Yosemite and Crater Lake National Parks be continued in the remaining parks where such work is needed.

Several attempts have been made to establish by an act of Congress a national park service, and there can be no doubt in the minds of those who are familiar with the problems of administering our national parks that such a service is seriously needed. I would urge that every effort be made to secure the enactment of a law that will establish the national park service on a firm footing.

The title of superintendent in any national park should be dispensed with and a title of supervisor should indicate the officer in immediate charge of the park, as the title of superintendent is confusing with the title of general superintendent.

RECOMMENDATIONS FOR THE VARIOUS PARKS.

YOSEMITE NATIONAL PARK.

The steps that have been taken for the erection of the new hotel on the floor of the valley and another at Glacier Point, and a chain of mountain inns throughout the park, will undoubtedly bring a materially increased travel. To prepare for this, more road and trail construction work in the park is necessary. The road from El Portal

to the valley should be widened and properly surfaced. The road on the north side of the valley from Pohona Bridge to the new hotel site should be surfaced. That portion of the road on the south side of the valley which is now a dirt road should be surfaced. A new bridge should be erected in place of the present Sentinel Bridge, which has several times been condemned and which is now not strong enough to carry passenger trucks.

When the village on the north side of the river is completed it will be necessary to erect new barns and headquarters for the Government employees and stock. There is also a crying need for a new administrative building. The old building occupied at present by the superintendent is insanitary and rapidly falling to pieces.

It is recommended that three motor-driven power sprinkling trucks be purchased for use in sprinkling the roads in Yosemite National Park, as the cost of sprinkling the roads in this park by horse-drawn sprinklers is entirely too high. For the months of May, June, July, and August, 1915, 6,162 miles of roads were sprinkled in this park, at an average cost of 93 cents per mile. The reason for this apparent high cost is that horse hire and forage for the subsistence of stock is very high. The average cost per horse-day for the months of May, June, July, and August was \$1.07. By installing motor-driven sprinkling trucks and making some slight improvements in the water system this expense could be reduced 50 per cent.

The purchase of the Tioga Road has widened the activities of the park ranger force, and this force should be augmented to control the travel.

The park rangers in the Yosemite Park have no headquarters of their own in the valley. A ranger barrack should be erected, in which will be lockers for each ranger. A stable should be constructed in conjunction with the barrack where the park rangers called to the valley for special duty may stable and feed their horses.

An information bureau has been in operation for a few months during the season of 1915 and has met with enthusiastic approval on the part of the public. This bureau gives information direct to the tourists regarding the condition of the roads, trails, and all other information desired in a way that is not biased by local prejudice. I strongly urge that a system of local information bureaus operated by the department be adopted in all of the parks and continued in Yosemite National Park.

A collection of stuffed birds and animals indigenous to the area covered by Yosemite National Park has been started, and the same is being placed on exhibition in the bureau of information. The exhibits are supplied through Dr. Joseph Grinnell, director of the museum of vertebrate zoology of the University of California. Some of the park rangers have been instructed by Dr. Grinnell and his assistants in the securing and stuffing of the birds and animals. The work done to date has aroused considerable public interest and has met with enthusiastic appreciation.

A collection of wild flowers is also being completed and placed on exhibition. With each flower is a water-color drawing showing the true color of the flower. This work is being carried on through the park ranger force and the bureau of information.

SEQUOIA NATIONAL PARK.

The Mineral King Road, which traverses the Sequoia National Park from the western boundary to the eastern boundary, connects the San Joaquin Valley with a small summer resort named Mineral King. There is urgent demand on the part of the public to use this road, which use has been denied them. I recommend that the department put this road in shape for travel at the earliest possible date.

The Mount Whitney Power Co. has built a road up the canyon of the Middle Fork of the Kaweah. Surveys for the extension of this road should be made so that it may connect with the Giant Forest Road, thus forming a loop in the park. Another survey of a road connecting Sequoia Park with General Grant Park has been made by the Office of Public Roads. This survey should be considered and, if accepted, adopted and plans for its construction undertaken.

To the east of Sequoia National Park is some of the finest mountain scenery in the world. The area in which the scenery lies is of little or no value for purposes other than the pleasure of scenery lovers. It contains the great Kern Canyon, Kings River Canyons, and Mount Whitney, the highest peak in the United States, together with almost innumerable other features. I can not recommend too strongly that the Sequoia National Park be enlarged to take in the areas to the southeast and east which contain these examples of wonderful mountain scenery.

CRATER LAKE NATIONAL PARK.

The present headquarters of the superintendent are at a point a thousand feet below the rim of the crater. The location is not satisfactory. Plans should be made for a secondary summer headquarters on the rim of the crater, either at the location of the present hotel or at some other point on the rim.

The ranger force in this park is not of sufficient size to adequately protect the park in the winter. The force should, therefore, be augmented to prevent poaching.

A trail should be built as near to the water's edge as possible and as far around the lake as practicability will allow.

Ranger cabins in the form of automobile-checking stations should be erected at each roadway entrance to the park.

The patrolling of this park is rather difficult, as it is in all parks, and in order that the superintendent may perform his duties effectively he should be furnished with an inexpensive automobile.

MOUNT RAINIER NATIONAL PARK.

The entire stretch of road in this park from the park entrance to Paradise Valley should be surfaced with crushed rock.

A survey of the entire road and trail system as outlined on the roads and trails map executed in this office should be made and the feasibility of following out the plans indicated should be investigated. Steps should be taken at once for the development of an encircling road around Mount Rainier and all construction work should be confined to portions of the general plan.

The village at Longmire Springs is particularly unsightly, and steps should be taken to either clean this place and bring about a more harmonious architectural scheme or the site should be abandoned and another one established. The plans for extensions of the trail system as recommended by the supervisor in his report should be adopted.

Tourists climbing the mountain are frequently overcome with fatigue before they reach the summit and are forced to stop over en route. A small comfort station should be erected along the trail to accommodate such people.

Satisfactory headquarters for department officials should be erected in the village and the park rangers in this park should be uniformed according to regulations.

GLACIER NATIONAL PARK.

The development of travel in Glacier National Park has been in an easterly and westerly direction. As a result most of the trails in the park traverse the Great Divide. It is impossible to take a trip paralleling the Great Divide, which would be by far the most beautiful trip that could be devised in this park. In addition to this, there are practically no roads within the boundaries of the park, and automobile touring, therefore, is excluded. I strongly urge, therefore, that the plans shown on the map executed in this office for the roads and trails development of this park be adopted in general and surveys made to determine how much of the roads and trails indicated thereon are feasible and practicable.

The headquarters of the supervisor are established at the foot of McDonald Lake. This is not in my estimation the proper location. A thorough investigation of the available sites at Belton and some point on the eastern side of the park, either near St. Marys Lake or in the vicinity of Glacier Park Hotel, should be studied and steps taken to establish the headquarters at the location chosen.

The park ranger force in this park is not adequate to properly patrol the area.

The telephone system should be improved and all metallic circuits installed. It is not in any way satisfactory that the Government should use private telephone lines erected by concessionaires. It is my opinion that the department should own its own telephone system, so that immediate service may be had in case of forest fires or serious accidents.

YELLOWSTONE NATIONAL PARK.

This park is administered by the Secretary of the Interior, using the soldiers and officers detailed by the Secretary of War for the purpose of patrolling and maintaining order. This constitutes more or less of a dual administration, which can never be satisfactorily carried out. In my opinion this park should be administered solely by the Secretary of the Interior or solely by the Secretary of War.

I recommend that the improvements requested by the acting superintendent for the buffalo farm be carried out and that the additional fire lanes requested by him be constructed.

At Mammoth Hot Springs are several buildings formerly occupied by soldiers of this military post which might be put to better purposes than those for which they are now used. There is a real demand for a museum, and I recommend that the feasibility of rearranging the interior of one of these buildings be investigated, and if it is found the same can be accomplished for reasonable cost, plans be drawn and contract let for the construction work necessary to establish this museum.

MESA VERDE NATIONAL PARK.

The present road, leading from the park entrance to the top of the great mesa, is poorly located and unnecessarily long. The recommendations regarding this road submitted by the superintendent should, in my opinion, be carried out.

Many of the ruins are in such shape that it is practically impossible to get about among them. I would urge that a sufficient appropriation be secured to permit the Smithsonian Institution to carry on the work of restoration recommended by the superintendent.

The many relics of a forgotten race that were once in this park have been scattered to the four corners of the world. Those which were retained by the residents of the district are slowly disappearing. If a museum, even of the smallest kind, were erected in the park, most of these relics could be secured either by loan or gift and some of the implements, textiles, and other objects of interest could be permanently preserved.

ROCKY MOUNTAIN NATIONAL PARK.

This park is the newest in the system. The first steps that should be taken, in my opinion, are the preliminary investigations looking forward to a complete road and trail system. This park will doubtless receive the greatest tourist travel of all of the mountain parks, and I recommend that plans for its development be at once undertaken on a broad and comprehensive scheme.

I would suggest also that no steps be taken in the granting of concessions in this park until a policy is established for their operation similar to that which is now being developed in Yosemite and Mount Rainier National Parks. The crying need of this park for the next two years will be roads and trails.

PLATT NATIONAL PARK.

Platt National Park, like the Hot Springs Reservation, lays claim to its place in the category of national parks by virtue of the health-giving waters to be found there. The accommodations and facilities for the proper use of these waters, however, have not been developed in any way commensurate with the real value of the water. There are two ways in which this water could be used and placed at the disposal of the great number of people who might be benefited by them:

1. By erecting a large hotel or sanitarium in the park.
2. By bottling the waters for distribution.

I believe these two possibilities should be thoroughly investigated and the choice determined. It is possible that both might be advisable. The principal question, however, is the quantity of the various waters that can be secured.

The French Republic operates a bottling plant at Vichy Springs and sends water from these springs to all parts of the world. If the flow of water in the various springs in Platt National Park is of sufficient volume or can be developed, I believe that it will be the part of wisdom to see that these waters are more generally distributed. Last year over 50,000 gallons of water were shipped by private individuals from Platt National Park to all parts of the country.

It will be entirely feasible, in my opinion, to secure the cooperation of a concessionaire to build a hotel or the bottling plant on a long-term and profit-sharing lease, providing a sufficient quantity of water is available. I would recommend, therefore, that the flows of these springs be thoroughly tested and the possibility of increasing them investigated. If the results justify, I would further recommend that steps be taken to secure a concessionaire who will carry on the operations in accordance with the above outline.

HOT SPRINGS RESERVATION.

There are two important problems in this reservation that should receive immediate attention. First is the public bath operated by the Government where medical services and treatments are free to those who are unable to pay for them. The present bathhouse is crumbling with decay, unsightly, insanitary, and reflects anything but credit upon the Federal Government.

Hundreds of thousands of people have been relieved of suffering and as many have had their lives saved to them by virtue of the medicinal qualities of the waters of Arkansas. It is a great institution and one that fully warrants the hearty support of our Federal Government. The bathhouses that are privately owned are many of them luxuriously appointed, and the growing contrast between the people who have money and can afford these bathhouses and the conditions with which the poor are confronted in the free bathhouse is one that arouses righteous anger. I can not conceive a more noble act or more justifiable expenditure of public money than the erection of a new and beautiful bathhouse as a gift from the Federal Government to the suffering poor of this country.

The second feature that needs attention is the general development of the reservation from the standpoint of a landscape architect. Several plans have been submitted for the reservation, but none has been adopted.

WIND CAVE NATIONAL PARK.

As a curious wonder, I doubt if there is anything in this country which equals the Wind Cave in this park, which contains over 90 miles of explored passages which are hung with stalactites and sparkling crystals.

The cave, however, is in utter darkness and the tourists visiting it are only able to secure a glimpse now and then while a bit of

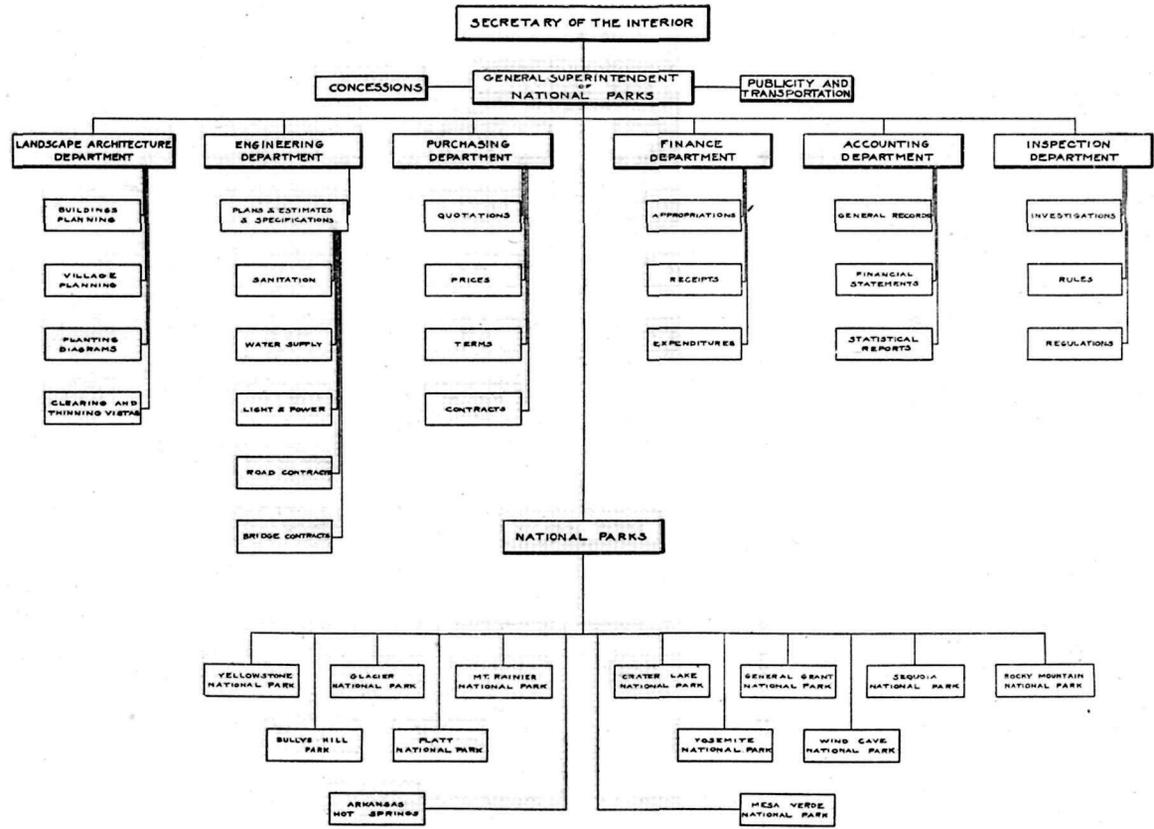
magnesium tape is being burned by the guide. I recommend that a system of lighting the cave be worked out. A test is now being made with storage batteries loaned by the Edison Electric Co. The object of using storage batteries is to avoid the necessity of running wires through the cave. If these prove successful it will be possible to carry the batteries from the various chambers for re-storing.

The results to date indicate that this method of lighting the cave will probably be feasible, and if upon further test our present opinion is corroborated, I would recommend that some of the main chambers be equipped with these storage-battery lights.

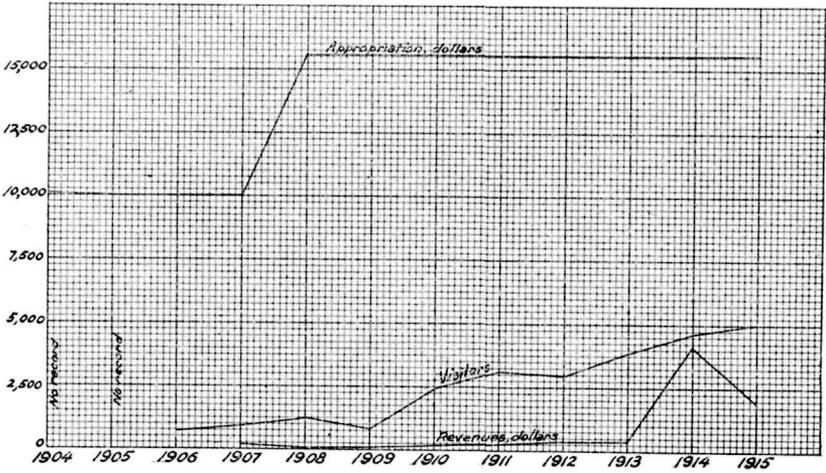
Respectfully submitted.

MARK DANIELS,
*General Superintendent and
Landscape Engineer of National Parks.*

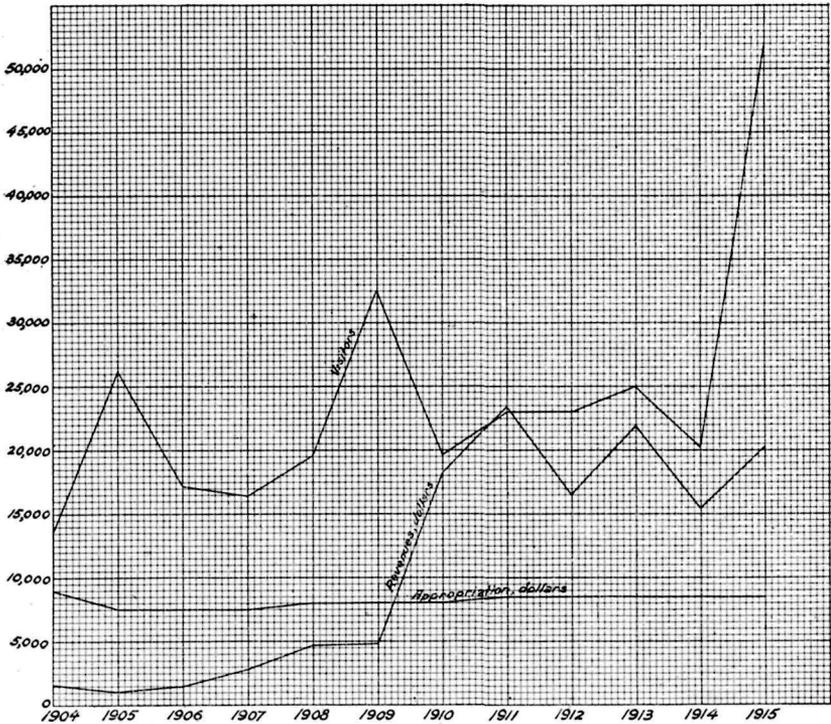
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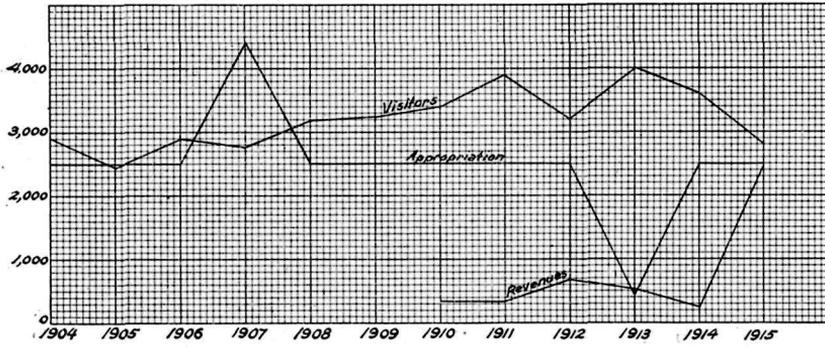
Suggested organization for supervision of national parks.



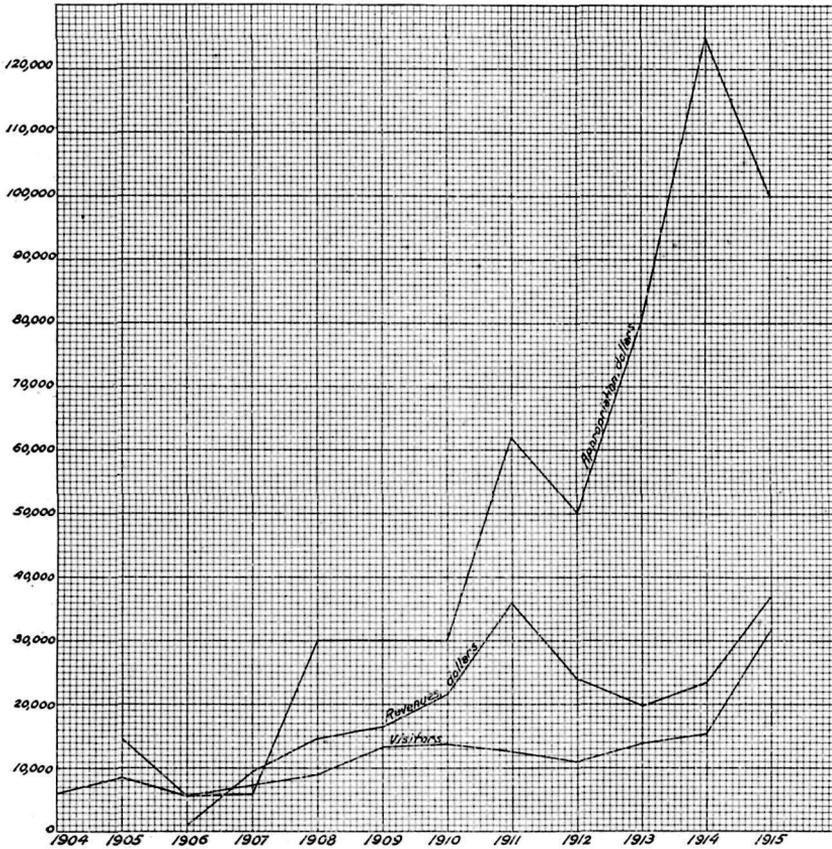
Appropriations, revenues, and visitors, Sequoia National Park.



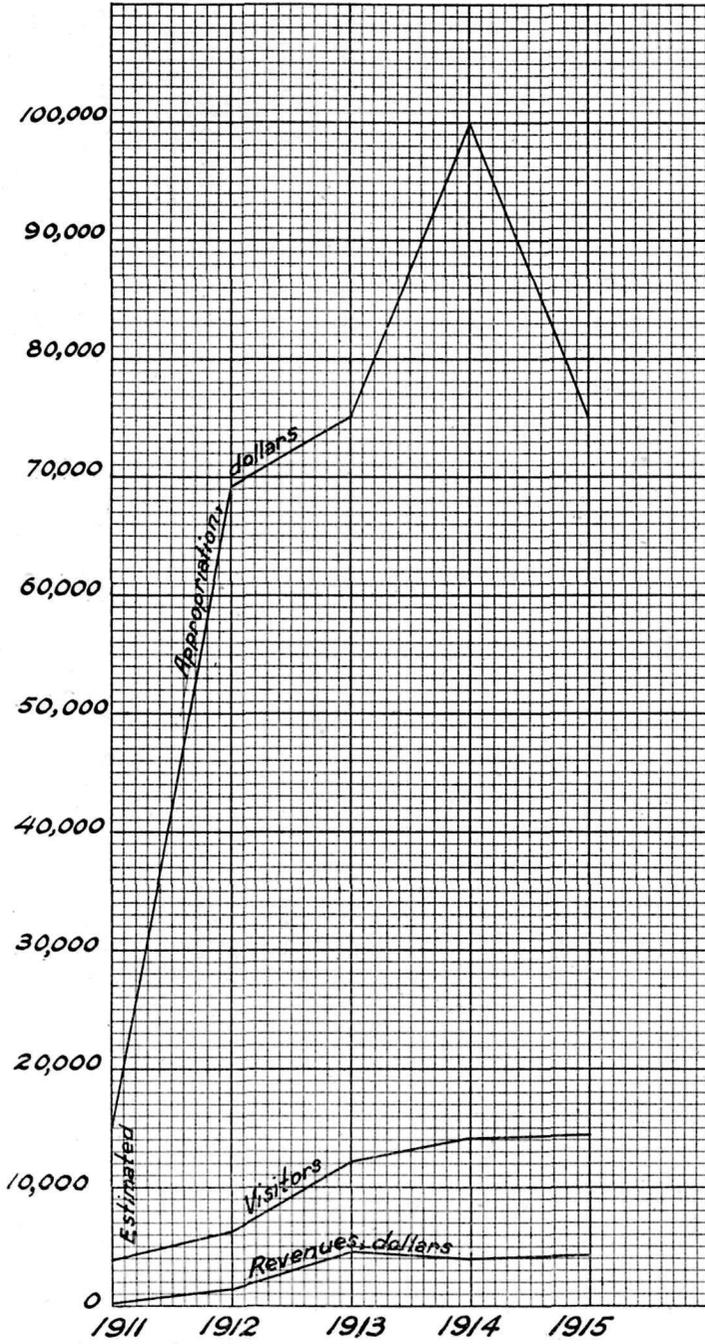
Appropriations under Interior Department, revenues, and visitors, Yellowstone National Park. Appropriations for road work under War Department not included in this diagram.



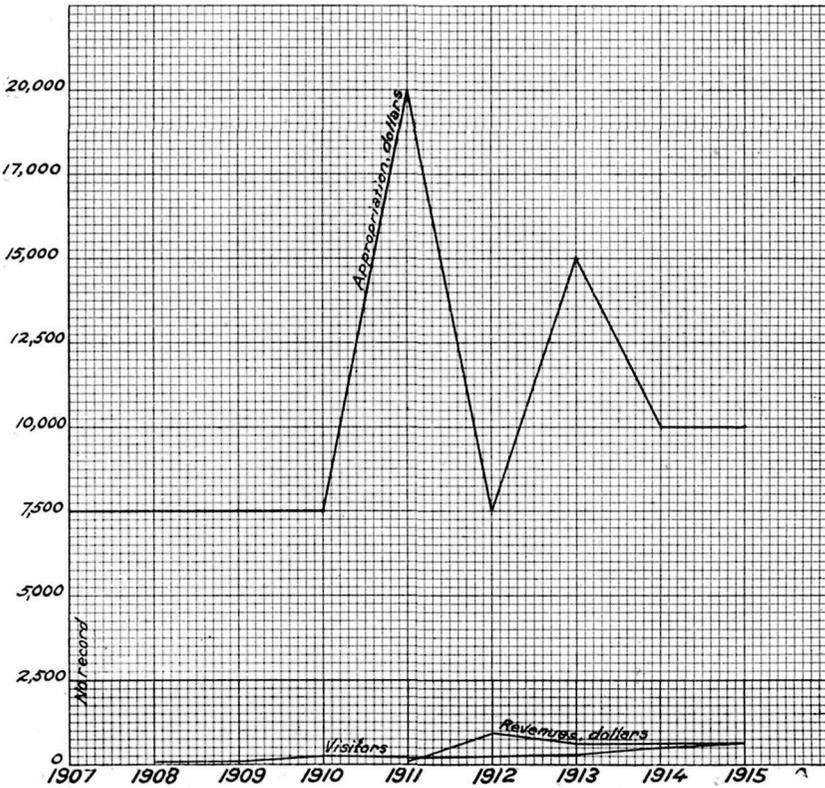
Appropriations, revenues, and visitors, Wind Cave National Park.



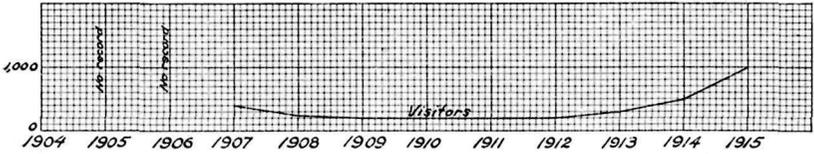
Appropriations, revenues, and visitors, Yosemite National Park.



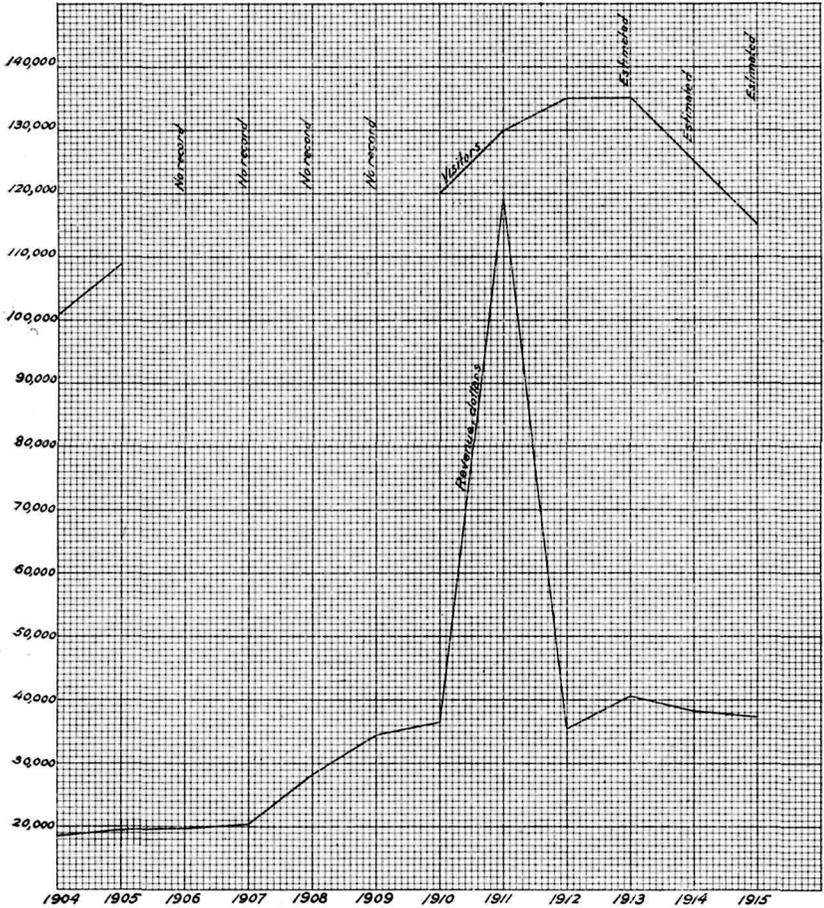
Appropriations, revenues, and visitors, Glacier National Park.



Appropriations, revenues, and visitors, Mesa Verde National Park.

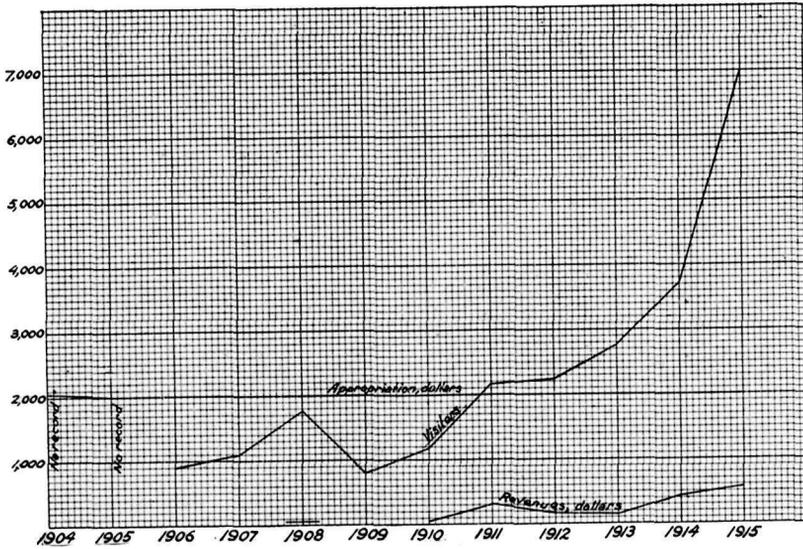


Visitors, Sullys Hill Park.

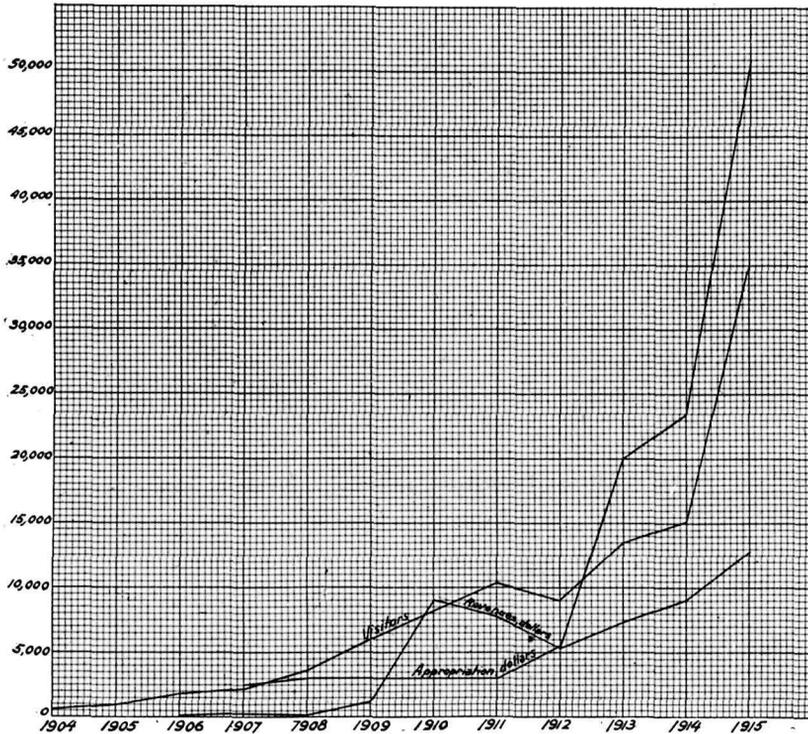


Revenues and visitors, Hot Springs Reservation.

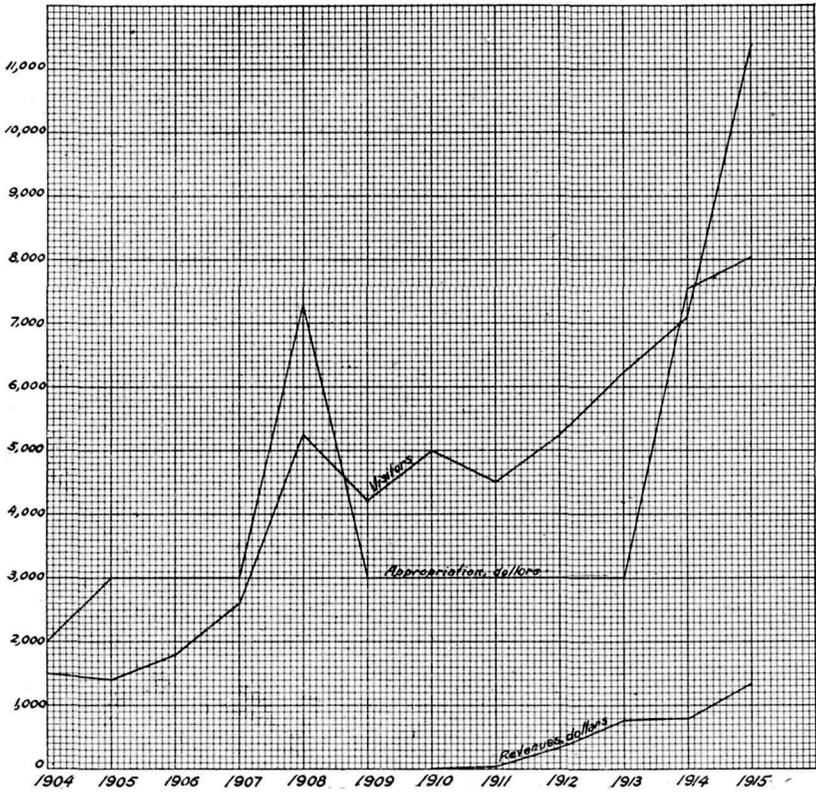
Lots sold at Hot Springs in March, 1911, yielded \$82,818; other revenues amounted to \$36,060.



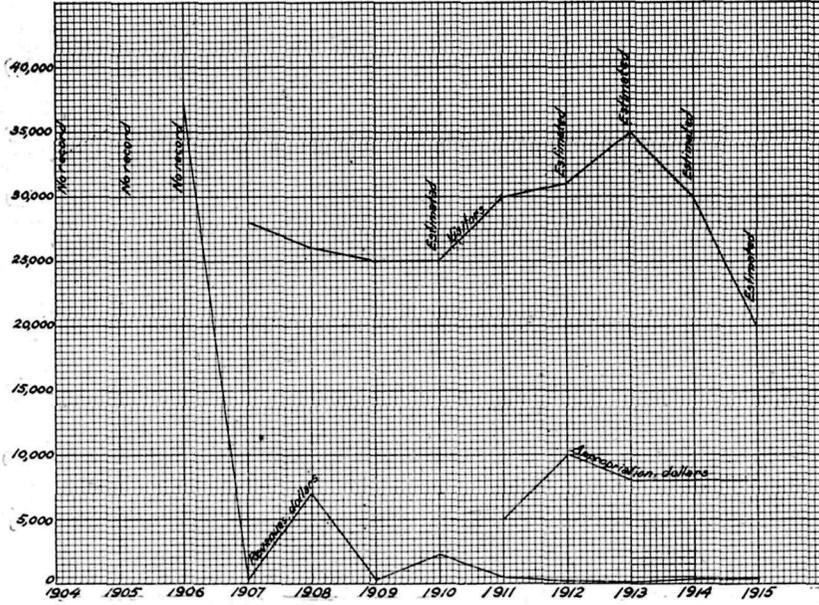
Appropriations, revenues, and visitors, General Grant National Park.



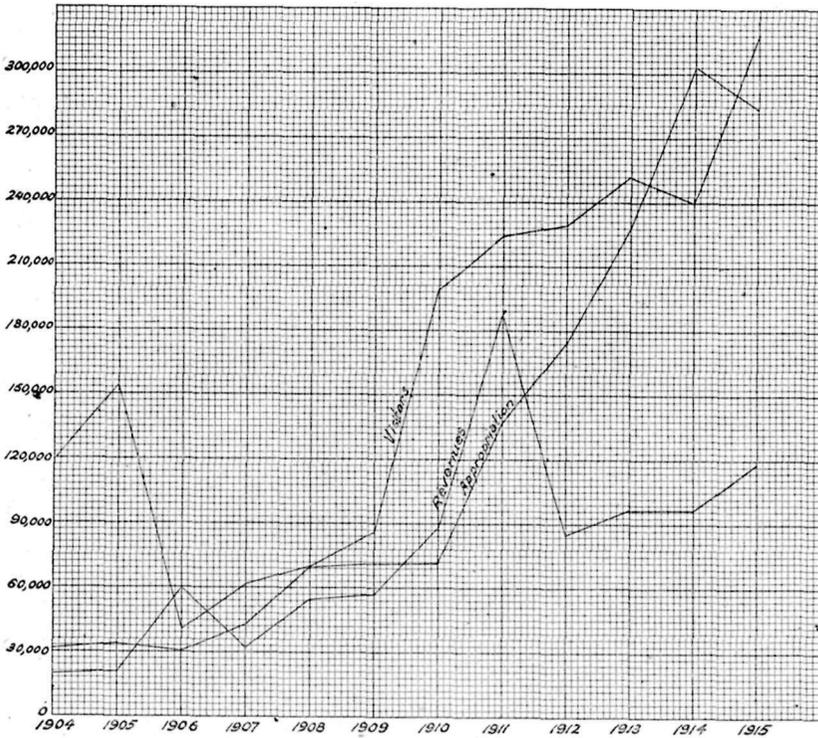
Appropriations under Interior Department, revenues, and visitors, Mount Rainier National Park. Appropriations for road work under War Department not included in this diagram.



Appropriations under Interior Department, revenues, and visitors, Crater Lake National Park. Appropriations for road work under War Department not included in this diagram.



Appropriations, revenues, and visitors, Platt National Park.



Appropriations under Interior Department, revenues, and visitors, all national parks. Appropriations for road work under War Department in Yellowstone, Mount Rainier, and Crater Lake parks not included in this diagram.

