

P A R K   S E R V I C E   B U L L E T I N

DEPARTMENT OF THE INTERIOR  
National Park Service

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GREATEST TRAVEL YEAR.

Great rivalry has existed between the various parks during the summer as to which would prove the most popular at the close of the season. The honor goes to Rocky Mountain National Park in Colorado, which had a visiting list of 218,000 persons. Yellowstone National Park, Wyoming, takes second place with 138,352 visitors, but Yellowstone's record is perhaps the most noteworthy, as the great Park does not lie as close to great centers of population and the season lasts for only three months. Yellowstone's nearest rival was Yosemite National Park, in California, which had 130,046 visitors. Mount Rainier National Park, Washington, had the greatest increase, jumping from 70,376 visitors in 1922 to 123,708 visitors in 1923. Rainier also has only a three months season and the remarkable increase is proof of its fast growing popularity. Other parks showing over 100,000 visitors are Platt National Park in Oklahoma, with 117,710 visitors, Hot Springs National Park, Arkansas, with 112,000 visitors, and Grand Canyon National Park, Arizona, with 102,166. The smallest park attendance was at Mount McKinley National Park, Alaska, 34 hardy visitors having made trips into the Park over the difficult trails with saddle and pack outfits. Mount McKinley Park, however, was responsible for the great increase in tourist travel over The Alaska Railroad from which are obtained views of the mighty mountain, which rises higher above its surrounding base than any other mountain in the world.

The National Monuments drawing the heaviest attendance were Muir Woods, California, which attracted 91,253 persons, the Petrified Forest, Arizona, which was visited by 45,475 persons, and the Scotts Bluff National Monument, Nebraska, which had 20,000 visitors. Travel to Scotts Bluff increased more than 200% over the past year as result of greatly improved roads and trails and better facilities for picnic parties. Scotts Bluff is a famous landmark on the Old Oregon Trail. Several monuments of the Southwest exhibiting ruins of prehistoric cliff and pueblo dwellings had visiting lists of over 6,000 persons.

The following comparative tables give the individual Park and Monument travel records for 1922 and 1923:

<u>Name of Park.</u>	<u>1922.</u>	<u>1923.</u>
Rocky Mountain, Colorado .....	219,164	218,000
Yellowstone, Wyoming .....	98,223	138,352
Yosemite, California .....	100,506	130,046
Mount Rainier, Washington .....	70,376	123,708
Platt, Oklahoma .....	70,000	117,710
Hot Springs, Arkansas .....	106,164	112,000
Grand Canyon, Arizona .....	84,700	102,166
Lafayette, Maine .....	73,779	64,200
Crater Lake, Oregon .....	33,011	52,017
General Grant, California .....	50,456	46,230
Wind Cave, South Dakota .....	31,016	41,505
Hawaii, Territory of Hawaii .....	27,750	41,150
Glacier, Montana .....	23,935	33,988
Sequoia, California .....	27,514	30,158
Lassen Volcanic, California .....	10,000	9,500
Sullys Hill, North Dakota .....	9,548	8,478
Zion, Utah .....	4,109	6,408
Mesa Verde, Colorado .....	4,251	5,236
Mount McKinley, Alaska .....	7	34
Total .....	<u>1,044,502</u>	<u>1,280,886</u>

Name of Monument (2)

Muir Woods, California .....	90,370	91,253
Petrified Forest, Arizona .....	31,338	45,475
Scotts Bluff, Nebraska .....	6,000	20,000
Montezuma Castle, Arizona .....	6,000	7,400
Colorado, Colorado .....	6,000	7,000
Casa Grande, Arizona .....	5,068	6,787
Pinnacles, California .....	(1)	6,500
Aztec Ruin, New Mexico .....	(1)	6,234
Papago Saguaro, Arizona .....	8,000	6,000
Tumacacori, Arizona .....	5,100	6,000
Verendrye, North Dakota .....	(1)	3,500
Devils Tower, Wyoming .....	8,500	3,000
El Morro, New Mexico .....	2,500	2,500
Capulin Mountain, New Mexico .....	3,000	1,000
Rainbow Bridge, Utah .....	(1)	142
Total .....	<u>171,876</u>	<u>212,791</u>
Grand Total .....	<u>1,216,378</u>	<u>1,493,677</u>

(1) No record.

(2) No record for other 13 National Monuments in 1923.

INADEQUATE ROADS.

While conditions generally have been much improved over previous seasons, both as to service supplied by our own organization, and also by the

various concessioners, there remains much yet to be accomplished to bring the parks up to the high standard which has been set for them.

Perhaps the road systems as a whole may be considered an outstanding deficiency. The unprecedented travel of the past two years had served to clearly demonstrate the insufficiency of the type of road now in use. A dirt road will not stand up under the terrific pounding of heavy automobile traffic as experienced in such parks as Yellowstone, Yosemite, and Mount Rainier, not to mention others, and as long as they must be relied upon they will remain a source of great expense for upkeep and a minimum of satisfaction for the money expended. Roads of a more permanent character are badly needed, and it will be a welcome day when funds for their construction are available.

#### SECRETARY WORK AGAINST OVERDEVELOPMENT OF PARKS BY ROADS.

That Secretary Work is against the overdevelopment of the Parks by roads will be noted from his brief telegraph to Superintendent Albright on September 10 which reads:

"Your wire eighth, regarding road survey Milwaukee line. As at present advised, do not think further automobile roads this portion Yellowstone Park advisable. Am therefore not inclined to approve request preliminary survey."

The Chicago, Milwaukee and St. Paul Railway Company requested permission to make a preliminary survey of a proposed road across Bighorn Pass, connecting Gallatin Entrance to the Yellowstone with the main loop road system near Mammoth Hot Springs. The railroad was planning to build the road itself in order to become a Yellowstone Park tourist carrier, with auto-stage service from Butte, Montana.

#### MUSH!

This does not refer to the well-known dish of corn meal, but is the word used by Superintendent Henry P. Karstens in commanding his dog team to push on. Superintendent Karstens is proud of his team of 11 huskies for they have been appearing in the movie --"Chephakos"-- filmed in the Park by the Alaska Moving Picture Corporation. A picture of the team with Superintendent Karstens at the sled looking like an Eskimo adorns the office of the Assistant Director.

#### SANITATION.

As attendance in the parks increases it becomes a more and more important duty of the Service to safeguard the health of the traveling public. Fortunately, by the fullest cooperation from the United States Public Health Service present sanitary requirements have been fairly well determined, and every effort is being made to meet them as far as possible. Much remains to be done in the way of sewage disposal installations, and where conditions justify such systems and funds have been provided by Congress, the work has been undertaken without delay.

Sanitation is such an important feature of National Park administration and of such general interest that it may not be out of place to include here some accomplishments in this direction during the year. All park superintendents, of course, are alert to the necessity of protecting the public health, and follow this course, but mention will only be made of those cases requiring special action.

Yellowstone.-- Here two complete sewerage systems and treatment plants were installed at the Upper Geyser Basin. One receives the sewage from the free auto camp grounds and Old Faithful Inn, while the other takes care of the sewage from the Old Faithful Camp. The entire systems were completed last fall and the inspections made later showed that the sewers were well constructed and that the treatment of the sewage was satisfactory.

Complete plans were prepared during the winter for collecting all the sewage at the lake in one system and treating it in one plant. It will be possible to install a gravity system and to locate the settling tank where it will not interfere with future developments. The effluent from the treatment will be sterilized before it is discharged into the lake.

Plans were also prepared for a sewerage system and treatment plant to take care of the Canyon Hotel, and a sewerage system and treatment plant were installed at the Canyon Camp. Inspection of the latter found it to be working entirely satisfactorily and an improvement of conditions at this point.

A system and treatment plant were also laid out for the free auto camp here, and a study made of a method to improve sanitary conditions at Camp Roosevelt.

Mosquito control at various points throughout the park was one of the most important duties performed during the summer, and was carried on coincident with the examination of water and milk supplies.

Yosemite.-- In Yosemite inspections of kitchens, dining rooms, bakeries, meat shops, and all other places handling or serving milk, foods, and soft drinks were made frequently, and pure drinking water insured to visitors through bacteriological examinations. The Valley's complete sewage plant was kept in satisfactory working condition at all times.

Sequoia.-- Engineers of the Public Health cooperated with the Service in designing a new water supply system and supervised its construction.

General plans were prepared for a sewerage system and treatment plant, but funds were not available for this construction.

The camp grounds in the park were inspected, as well as all other places handling or selling foods and soft drinks.

General Grant.-- A water system is now under construction in General Grant, and when completed will guarantee an ample supply of pure water. Plans for a sewage system and disposal plant have been prepared and practically all the necessary material is on hand. In this particular case the method of disposing of the sewage will be unique. There are no streams large enough to take care of the sewage, even if sterilized, and no level land is available for

constructing filters. It became necessary, therefore, to design a settling tank to remove the solid matter and to adopt broad irrigation, using dry hillsides to which perforated pipe will be used to apply the settled sewage.

The usual inspections were made of camp grounds and all places serving foodstuffs.

Rocky Mountain.-- Superintendent Toll, in cooperation with the residents of Grand Lake, and under recommendations and the general supervision of the Public Health Service, adopted measures to abate the mosquito nuisance in this section during the summer.

Crater Lake.-- A sewage disposal plant was designed for the free auto camp grounds, which was installed by Superintendent Thomson.

The usual inspections were made of water supplies, auto camps, and other places serving foodstuffs, etc.

Mount Rainier.-- A general inspection of the hotels, free auto camp, and other public places was made during the summer by officers of the Public Health Service and a report submitted thereon.

#### FIELD INSPECTION.

Director Mather spent most of the summer in the field, observing conditions in the various parks and gaining a first-hand knowledge of their respective needs. Following a rather extended stay in Yellowstone, where he was when the late President Harding made his memorable visit, he later inspected Yosemite, Sequoia, Zion, and the north rim of Grand Canyon.

In the Yosemite the matter of a new administration building was the subject of his particular attention. The question as to the type of building to be erected is one that had been under consideration for sometime, and the Service was especially fortunate in this connection to secure the advice and assistance of Mr. Myron Hunt, a well-known architect of Los Angeles, who accompanied the Director on his trip into the Valley.

#### NATIONAL PARK CONFERENCE.

To Yellowstone and Superintendent Albright falls the honor of entertaining the park superintendents at the coming conference to begin on October 22d, and which will probably consume the entire week. It would be difficult to find a more suitable place in which to hold a meeting of this character. In the first place the park is fairly centrally located from a geographical standpoint, but more especially it represents probably better than any other the most advanced form of National Park improvement, and should therefore prove both interesting and instructive to the visiting superintendents.

#### EXERCISES IN GENERAL GRANT.

The visit to General Grant Park on August 23d by Major Ulysses S. Grant, 3d, grandson of the famous American general and president, after whom the park was named, marked the first one ever made by a member of the Grant family. The occasion was the monthly meeting of the San Joaquin Valley Commercial Secretaries'

Association which Major Grant honored with his presence. Simple, but appropriate ceremonies were held at the foot of the General Grant tree, during which was read the original letter of appreciation written by General Grant to Mrs. Lucretia P. Baker for naming after him the tree which she had discovered and which was then thought to be the largest in the world.

#### HONORING THE PRESIDENT.

In all of the parks respect was paid to the memory of our recently deceased President on the day of his funeral in Marion. Services were conducted in the larger parks, while in the others all activities were suspended for a brief period of time. Flags were half-mast throughout the Service for a period of a month. Particularly impressive ceremonies were held in Sequoia Park. Here, at the hour set for the funeral the largest sequoia in the Congress Grove of Big Trees at Giant Forest was dedicated to the President. The Warren Harding Tree is situated in the heart of the Grove, about one mile from Giant Forest center and near the William McKinley and Abe Lincoln sequoias, which it equals in size and majesty, being approximately 32 feet in diameter at the base and 280 feet high. The crown has the most rugged branches of any tree in Giant Forest, resembling in this manner the Grizzly Giant of the Mariposa Grove in Yosemite. One branch, 200 feet above the ground, is over 8 feet in diameter.

As Superintendent White says, "neither Pharaoh nor Emperor has ever had as enduring a monument as the plain American citizen who was our 29th President; and when the pyramids are crumbling to dust the Warren Harding sequoia will be but swelling to a fuller growth and majesty."

#### THE NATRON CUTOFF.

A piece of construction work long contemplated by the Southern Pacific Railroad, and that is expected to prove of immense benefit to Crater Lake Park, has finally gotten under way. This project is known as the "Natron Cutoff," and will connect the towns of Eugene and Kirk in Oregon. When completed, in about two years, it will serve to bring the railway to within 20 miles of the eastern boundary of the park, whereas the distance now from Medford on the main line is 80 miles.

#### HEATING BY VOLCANO.

To Superintendent Boles of Hawaii National Park goes the credit for constructing what is perhaps the most unique building of any in the system. The office itself is not out of the usual, but it has gained distinction for the original method adopted of heating it, which is done by utilizing volcanic steam. From a fissure nearby the steam is conducted to the basement of the administration building through a zinc-lined conduit 1 foot by 3 feet in cross section and 40 feet long. After passing under the building the steam is drawn up to the outside of the wall through a 15-inch metal pipe encased in a dummy wooden chimney. As the steam leaves the ground it is 120 degrees in temperature and keeps the basement of the building warm and dry at 90 degrees. The upstairs offices are maintained at 72 to 76 degrees. During the summer months when the outside temperature is around 70 heat is diverted from the conduit by means of a valve directly over the vent.

## VALUE OF NATIONAL PARKS.

The influence of the National Parks, both on the Nation and on the States in which they are located, has long been recognized, but it has not been until recently that the Service has been able to compile figures, based on a careful study of the subject, showing their real value as business assets to those communities immediately surrounding them.

It is estimated that about \$2,000,000 was expended in Yellowstone National Park by Park visitors during the current year and that \$4,000,000 was expended by these tourists in the immediate adjacent States and within a reasonable distance of the Park. Every community on each side of the Park has been doing everything in its power to increase its tourist business with the result that automobile camp grounds with modern facilities are available to the motorist in almost every town on the approach to the Park. There is considerable rivalry among the States and towns for tourist business. Wyoming came to a realization of the value of this business the first of the three adjoining States, and today it is heading the others but is followed closely by Montana and Idaho.

Glacier National Park, Montana, is credited with having brought \$1,250,000 of travel money into the State by tourists, nearly \$700,000 having been expended in the Park.

One million and a half dollars is estimated as having been spent in the State of Washington as result of travel to Mount Rainier National Park, the great playground of the Pacific Northwest. A new \$3,000,000 hotel in Seattle and a new \$1,000,000 hotel in Tacoma are being constructed primarily for caring for tourist traffic.

The total gross revenue estimated to have accrued to communities adjacent to Crater Lake National Park, Oregon, this season is placed at \$320,000. An astute business man of Oregon recently stated that Crater Lake National Park represents an asset of \$7,000,000 to the State, paying a four per cent annual dividend on that sum.

Yosemite National Park, California, is estimated to have brought \$5,000,000 within the State, which was expended within a radius of 200 miles of the Park, in addition to approximately \$2,500,000 expended in the Park. Yosemite's greatest value to the State from an economic standpoint lies in the fact that its timbered watersheds provide extensive capacity for water storage, outside the limits of the Park, upon which both for power and irrigation California is more dependent for progress than on any other one thing. With the mountains being denuded rapidly of forests all around the Park its tremendous importance in this respect will become greater and greater as time goes on.

The Sequoia and General Grant National Parks, California, which afford places to which the residents of the San Joaquin Valley may resort to escape the extreme heat of the summer, responsible for the wonderful fruit production of southern California, are credited with having saved to the local communities some \$800,000 which otherwise would have been spent in travel to other parts of California, the United States and abroad. It is also estimated about \$200,000 is spent by visitors from outside the State to the Big Tree Parks.

The number of visitors to Rocky Mountain National Park, Colorado, from outside of the State is estimated at 65,000 people, their average stay in the State at ten days and their daily expenditure at \$8 per day. This gives a total of \$5,200,000 spent by visitors to Rocky Mountain, to which may be added approximately \$2,500,000 spent by residents of the State in travel to and recreation in the Park.

Mesa Verde National Park in southwestern Colorado is responsible for a considerable amount of travel money coming into the State. It is estimated by civic organizations in Denver that rail and auto travelers left over \$40,000,000 in Colorado during the past season.

The upbuilding and prosperity of two modern thriving cities is directly responsible to National Parks. They are Hot Springs which adjoins Hot Springs National Park, Arkansas, and Sulphur which adjoins Platt National Park, Oklahoma.

The value of Grand Canyon National Park to the State of Arizona in bringing travel money to the State is estimated at nearly \$2,000,000 annually and this amount is increasing steadily.

The really great value of tourist travel to the entire West lies not in the money that visitors expend for daily living and amusement, but in the information that is gained by them regarding the agricultural, commercial, mining, and industrial opportunities of the West, and in this manner the National Parks, in attracting tremendous travel to the West are playing a highly important part in the economic development of the Nation.

#### ORIGIN OF YOSEMITE VALLEY.

Prior to 1912 fully 14 various theories of the origin of Yosemite had been advanced by different scientists. In the interest of proving the facts in the genesis of "The Valley Incomparable" the Sierra Club, acting in the name of the people of California, in that year requested the United States Geological Survey to undertake the ultimate solution of the Yosemite problem. To Francis E. Matthes, geologist and topographer, who had just completed his masterpiece, the Yosemite Valley Special Sheet, a topographic map of quality that has never before or since been equaled in this country, fell the task of organizing and carrying out the proposed study that has occupied the years since.

Two years were spent in mapping the moraines of the early glaciers, and with these data in hand it became evident that Yosemite had been subjected to two or more glacial invasions. The findings also brought out the fact that Yosemite Valley was more than 2,000 feet deep before these glaciers ever entered it. Mr. Matthes and his fellow geologists then started a several years' task--the working out of the pre-glacial history of Yosemite--a story that goes back 50,000 years to the upheaval of the Sierra Nevada. The complete story of the formation of Yosemite as proved by these studies is now being printed in a non-technical bulletin by the Geological Survey.

#### SERVICE NOTES.

It would be difficult to find any branch of the Government service with its personnel more intensely interested in its work and more willing to make

personal sacrifices as a result than in the National Park Service. Proof of this is constantly evident on all sides, and a good illustration of it is found in a letter recently received from Will M. Maupin, Custodian of Scotts Bluff National Monument, in forwarding a voucher for \$12 to cover his annual salary. This letter is a real inspiration, and as our field force is entitled to read it, it is being quoted in full:

"It is not necessary for me to tell you, Mr. Director, that this princely stipend is not what I am working for, but that I am interested in developing and looking after an historic spot that will, in good time, be given the Federal aid and attention it deserves because of its scenic beauty, its historic interest, and its advantageous location.

"I have 'worked' various organizations here for help in beautifying and protecting the grounds. The directors of the Scotts Bluff Country Club paid for a large number of cloth signs whereon was printed the rules governing the monument, and then Boy Scouts put them up all over the monument. The Scouts also, under my supervision and with the help of other interested men, repaired and improved the trail to the summit. I prevailed upon our county commissioners to fix up in fine shape that portion of the road through Mitchell Pass that is within the monument lines. My annual salary does not begin to pay for the 'gas' I burn in my flivver as I chase around over the monument trying to protect and improve it as best I can, but I am proud of the job and only wish I were so situated that I could devote all my time to it, even at the present munificent salary."

Custodian Pinkley of Casa Grande has submitted a very interesting report of repair and restoration work that Custodian Jackson and he performed during August on the Montezuma Castle National Monument. Although only a small fund was available for this purpose, much was accomplished in repairing walls, floors, doors, windows, etc., in this important cliff dwelling.

Considerable scientific exploration work has been carried on in Lafayette Park during the past summer under the encouragement of Superintendent Dorr. The Marine Biological Laboratory established last year has had a most successful season, biologists of note from every part of the country being in attendance at the laboratory and conducting research work in their several fields. According to Dr. Dahlgren of Princeton, the Director, the laboratory is on a firm and permanent foundation and is becoming widely recognized for the opportunities which it offers scientists for the study of marine life in all its forms.

In Zion Superintendent Ruesch has lately devoted a good bit of time to locating a feasible route for a trail to the west rim of the Canyon. After several hazardous undertakings, and with rangers and others assisting, he has mapped out a successful trail on which construction work will shortly commence.

Through the courtesy of the Federal District Attorney and the Postmaster and Custodian of the Federal Building in Medford, Superintendent Thomson says that hereafter he is to have ample office space, provision having been made for the removal of the park office from the one room that it has occupied during the past to a three-room suite on the second floor. Mr. Kiser, one of the park concessioners, has promised to provide a series of specially colored park views for the walls.

Superintendent Crosby reports that during a two-weeks visit to Grand Canyon Dr. S. A. Barrett, Director of the Public Museum of the city of Milwaukee, and party, made a discovery of several stalactite caves on the north rim, some of which are of extraordinary interest and beauty. They likewise located ancient cliff dwellings in the Canyon. However, it has been known for some time that prehistoric houses existed there, having been seen by various parties at different times.

For a succession of thrills Hawaii Park appears to be the place to go. With 194 earthquakes during August, the total for the year was 586, according to Superintendent Boles. While most of these were but slight tremors, several gave the buildings a good rattling, but without damage. The particularly strong ones during August opened up hundreds of fresh cracks in the pit crater district, and were disastrous to the lake of fire, draining away the liquid lava from the crater until by the end of the month the pit was but a smoking abyss over 600 feet deep.

The new Administration Building in Rocky Mountain is rapidly nearing completion. The exterior wood work and masonry has been finished, with the exception of one series of steps from the terrace to the road. Lathing and plastering have also been completed, and with the installation of water, sewer, and electric-lighting systems, together with the necessary painting and interior finishing work, the building will be ready for occupancy. The site for the office was donated by the Woman's Club of Estes Park, special authority from Congress being necessary for its acceptance.

With an unsurpassed setting amid towering sequoias, an out-of-door theater has been erected in Sequoia Park by Superintendent White with volunteer help mainly. It is called the Giant Forest Center, and has proved to have such acoustical and other advantages as to serve ideally for religious services, entertainments, and other public gatherings.

During the first week in August, according to Superintendent Albright, one of the two vents associated with the hot pool near Grotto Geyser, formerly called the Indicator, in Yellowstone, erupted in true geyser fashion at least twice. Reports state that the manner of eruption was somewhat like that of the Grand Geyser; that is, in a series of successive jets. The height of eruption varied greatly in the different reports, some stating that it was more than 100 feet, others that saw it say it was less than 50 feet. At any event the evidence tends to show that eruptions actually took place, which adds another interesting page to the park's history of natural phenomena.

The annual Field Day celebration was held in Yosemite during August, as has been the custom for the past several years. This event has become somewhat of an institution and is perhaps the outstanding entertainment feature of the season. Most of the prize money was captured by Indians, 140 of whom were on hand for the occasion.

#### FROM SUPERINTENDENT WHITE'S REPORT FOR SEPTEMBER.

Pursuant to the instructions contained in letter from the Director transmitting addresses of the President and the Director of the Budget, the following list of economies effected during the month is transmitted. All employees have

studied the above documents and the superintendent has made a personal appeal to each member of the Service and has also addressed them collectively. Credit will be given in monthly reports to each employee who succeeds in making an economy either in expenditure of funds or use of supplies.

Sanitation Foreman Spencer constructed several campsites with fireplaces near headquarters, using odd materials and working overtime without pay.

Superintendent White reports several signs painted during office hours, saving cost of same by professional sign painter.

Auto Mechanic C. E. Currie reports the use of soiled and discarded desk blotters as gaskets in motor vehicle engines.

Overseer Keller reports that 188 feet of cement culvert were used instead of corrugated iron, at a saving of \$1 a foot -- \$188.