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UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Yellowstone NATIONAL PARK

file

FILE NO.

MONTHLY REPORT

September, 1938.

IMPORTANT

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ARNO B. CAMMERER,
Director.



UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
YELLOWSTONE NATIONAL PARK
YELLOWSTONE PARK, WYOMING

October 5, 1938

Memorandum for the Director:

The following is the report of activities for Yellowstone National Park during the month of September, 1938:

000 - General

Balmy Indian summer days prevailed throughout most of the month of September with very little precipitation, contrasting with the rainy months of July and August. The total precipitation for the month was 0.54 inch, which was less than any record for September during the past ten years. There were 13 clear days during the month, 14 partly cloudy and 3 cloudy with measurable precipitation occurring on only 8 days of the month. The usual equinoctial storm which hits the park in September and usually brings with it snow and rain was missing this month and visitors who were fortunate to be in the park enjoyed thoroughly the excellent weather and beautiful fall colors.

While not reaching the record travel for 1937, when the figures were compiled at the end of the 1938 travel season on September 30, showed 466,185 persons as having visited the park as against 499,242 in 1937, a loss of but 6.6 per cent. Despite the loss, the figures exceeded the highest expectations at the beginning of the season due to the unsettled conditions throughout the country. The rail travel suffered worse in the decrease, there being but 18,508 persons having come to the park by rail as against 20,506 last year. Three hundred ninety-three thousand four hundred nine motorists entered the park for the first time as against 422,318 in 1937 while reentries recorded 46,367 against 47,762. Motorcycle passengers showed an increase this year, there being 631 of these passengers against 616 last year, although the number of motorcycles to enter the park was less, 461 against 485. The west entrance showed the largest number of visitors, 146,513; the east was second with 138,839; south third with 65,605; north next with 62,613; and northeast last with 52,615. As compared with last year the east entrance showed a loss of 8.9 per cent; west 8.6 per cent; north 5.8 per cent; northeast 5 per cent, while the south showed a gain of 1.3 per cent. Fishermen reported catching 163,859 fish as against 135,654 in 1938; 14,906 guns were declared as against 16,781; and 4,788 dogs were registered as against 5,029. Two hundred fifty-five persons came into the park with pack outfits as against 144 last year.

UNITED STATES
 DEPARTMENT OF THE INTERIOR
 NATIONAL PARK SERVICE
 YELLOWSTONE NATIONAL PARK
 YELLOWSTONE PARK, WYOMING

October 3, 1938

Memorandum for the Director

The following is the report of activities for Yellowstone National Park during the month of September, 1938:

980 - 00001

Early in the month there was a general clearing of the area of the park. The weather was generally clear, with some light rain on the 2nd and 3rd. The temperature was in the 50's and 60's. On the 4th, a heavy rain fell, and the temperature dropped to the 40's. The rain continued on the 5th and 6th, and the temperature remained in the 40's. On the 7th, the rain stopped, and the temperature rose to the 50's. The weather was generally clear and pleasant for the remainder of the month.

On the 8th, the weather was clear and the temperature was in the 60's. On the 9th, the weather was clear and the temperature was in the 60's. On the 10th, the weather was clear and the temperature was in the 60's. On the 11th, the weather was clear and the temperature was in the 60's. On the 12th, the weather was clear and the temperature was in the 60's. On the 13th, the weather was clear and the temperature was in the 60's. On the 14th, the weather was clear and the temperature was in the 60's. On the 15th, the weather was clear and the temperature was in the 60's. On the 16th, the weather was clear and the temperature was in the 60's. On the 17th, the weather was clear and the temperature was in the 60's. On the 18th, the weather was clear and the temperature was in the 60's. On the 19th, the weather was clear and the temperature was in the 60's. On the 20th, the weather was clear and the temperature was in the 60's. On the 21st, the weather was clear and the temperature was in the 60's. On the 22nd, the weather was clear and the temperature was in the 60's. On the 23rd, the weather was clear and the temperature was in the 60's. On the 24th, the weather was clear and the temperature was in the 60's. On the 25th, the weather was clear and the temperature was in the 60's. On the 26th, the weather was clear and the temperature was in the 60's. On the 27th, the weather was clear and the temperature was in the 60's. On the 28th, the weather was clear and the temperature was in the 60's. On the 29th, the weather was clear and the temperature was in the 60's. On the 30th, the weather was clear and the temperature was in the 60's.

The Western Air Express, which company serves the park at the west entrance, reported having carried 1,102 passengers in and out of West Yellowstone which was a 31 per cent increase over the 1937 season. The regularly scheduled air flights over the Yellowstone and Grand Teton parks on Saturdays and Sundays only during the season attracted 216 air passengers.

A survey of trailers entering the park during the month of August showed a 15 per cent loss over the same month last year but an increase of 20 per cent over August, 1936, such surveys having been made during the past three years. The survey showed only 597 of the 39,690 cars registering during August were pulling trailers. In 1937 there were 777 trailers and in 1936 there were 436.

The business of the operators kept pace with the travel, practically all of the operators reporting near the same percentage of decrease in revenues as the decrease in travel. Despite the decrease the operators enjoyed a good business in all departments. The first of the operations in the park to close was the Lake Hotel on September 1, with Old Faithful Inn and the Canyon and Mammoth Hotels closing on the 12th. Camp Roosevelt closed after breakfast on the 7th, both lodges and cabins, while the Mammoth swimming pool closed on the same day. Old Faithful, Lake and Canyon Lodges closed after lunch on the 8th; the Thumb Cafeteria and cabins on the 9th; the Mammoth Cafeteria on the 10th; Old Faithful, Fishing Bridge and Canyon Cabins and Cafeterias on the 19th; the Mammoth Cabins on the 25th and the Tower Falls Store and Mammoth Coffee Shop on the 30th. The regular train service for rail passengers was discontinued on September 9. The long distance telephone office at Mammoth closed on the 12th; the Mammoth telegraph office on the 14th and the Mammoth Hospital on the same date. The Mammoth auto repair shop closed on the 14th, the Fishing Bridge garage on the 19th; the Canyon and Old Faithful garages on the 25th and the Tower Falls garage on the 30th. The winter mail schedule went into effect on the 30th while the air service into West Yellowstone was discontinued on the 15th. Mr. C. A. Hamilton started taking care of late visitors beginning September 19 at his stores at Old Faithful and Lake serving meals and furnishing lodgings. He kept his Old Faithful swimming pool open until the end of the month.

Authority was received from the Director on September 10 to discontinue the collection of the motor vehicle license fee effective September 20. The Government Lake switchboard was closed on the 15th while fishing in the Madison River was closed after sundown on September 30.

As was the case in July, there were no serious accidents in the park during the month of September and no deaths, which was an unusual record considering the large number of persons who visited the park during the month. The entire season was unusual for the small number

of serious accidents and deaths, all occurring during the month of August.

The Mammoth School opened on September 6 with Miss May White and Mrs. Ethel G. Reynolds serving as teachers. Considerable pressure was brought to bear on members of Congress by organizations in the states adjoining the park to secure legislation authorizing the establishment of a government school in the park, there being much criticism of the present method of compelling the parents of school children to hire their own teachers and operate their own school. Some of the funds for this school have been raised through donations from the various park operators and by dances and other entertainments sponsored by the school board.

While the park was free from any large fires throughout the entire season, strict vigilance was maintained throughout September in preventing conflagrations. A fire of considerable proportions occurred near Chico, between Gardiner and Livingston, on September 19, in the Absaroka National Forest on which the Park Service aided with some 100 CCC fire fighters.

Joyful news was received in the park on September 19 when the Director telegraphed that PWA funds amounting to \$230,000 had been appropriated for the extension and improvement of water, sewerage, power, and electric systems at Old Faithful, West Thumb, Lake, Fishing Bridge and Canyon and \$12,750 for five secondary lookouts, the work to be started before January 1. These are much needed improvements and will afford considerable employment for persons residing nearby the park.

Work continued on the Mammoth beautification project throughout the month of September and by the end of the month the job was practically ready for acceptance. This project has added materially to the appearance of the Mammoth community. There were no other projects under way in the park until near the end of the month when Max J. Kuney of Spokane, Washington the successful bidder on bituminous surfacing 21.6 miles of the Tower Junction-Cooke road from the Lamar Canyon to the northeast entrance started work. Work was under way on the construction of a new highway from the east entrance to Holm Lodge in the Shoshone National Forest but with funds appropriated to the National Park Service.

020 - General Weather Conditions

A summary of the general weather conditions in the park as recorded by the U. S. Weather Bureau at Mammoth will be found attached to the back of this report.

021 - In the Park

The weather conditions in the interior of the park have been com-

parable to those recorded at Mammoth. The precipitation for the month was far below normal while the temperatures were higher than normal for the month of September.

022 - Approaches to the Park

All approach roads to the park have been in excellent condition during the entire month.

023 - In Nearby States

The weather conditions in the adjacent states have been about the same as those recorded in the park. The highways in the surrounding states have been reported to be in good condition with the exception of some oiling operations and minor repair work.

100 - Administration

110 - Status of Work

Superintendent Rogers was in the park most of the month but left on September 29 for a trip to Casper, Cheyenne and Denver. He expects to return on October 6.

A number of park employees took advantage of the beautiful fall weather and the slackening of activities to use some of their leave to make trips by auto, several of whom visited Glacier and some of the Canadian parks.

With the slackening of activities it was possible to start curtailing the various crews and a number of the season employees were released by the end of the month. Clerks Agnes E. Welch and Gordon Eustice were released at the end of the month, their leave carrying them over into October.

Junior Park Naturalist Frank Oberhansley was promoted to the position of Assistant Park Naturalist effective September 2. This now provides a park naturalist and two assistant park naturalists for the naturalist department.

The appointment of Aubrey L. Haines as a park ranger was received on September 14. His reporting for duty depends on his passing the oral examination.

The Local Civil Service Board held an examination for Civil Engineering Aide in the Mammoth mess house on September 24. Messrs. Neilson and Bussey, members of the Local Civil Service Board, conducted the examination.

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District Park Ranger David deL. Condon left on September 14 for Scottsbluff National Monument where he is to be acting custodian pending the selection of another custodian to serve during the winter in place of the present appointed custodian who is on furlough to accept a Yale fellowship.

Assistant Park Naturalist William E. Kearns left the park on annual leave and leave without pay in order to accept a similar fellowship at Yale offered to Park Service employees.

District Park Ranger Jack J. McNutt departed from the park on September 25 to enter on duty with the U. S. Forest Service through transfer.

120 - Inspections by:

121 - Superintendent

Superintendent Rogers spent most of the month at headquarters and made trips into and outside the park as follows:

September 1 - To Canyon to meeting of Western Association of State Fish & Game Commissioners; returned Mammoth for night.

September 2 - To Canyon to attend meeting of Western Association of State Fish & Game Commissioners; returned Mammoth for night.

September 3 - To Thumb to confer with park operators regarding proposed sites for their various operations; returned Mammoth for night.

September 5 - Made loop trip.

September 7 - To Canyon to attend meeting and banquet with Directors, Dude Ranchers' Association.

September 8 - With Mr. Haynes to Old Faithful and return.

September 10 - With Mr. Haynes to Calcite Springs near Tower Falls and return.

September 12 - To Old Faithful with Messrs. Nichols and Goodwin; returned Mammoth for night.

September 13 - Made loop trip with Messrs. Emmert and Lord to inspect Crick job between Isa Lake and West Thumb.

September 14 - With Messrs. Haynes and Oberhensley to Pelican Creek meadows and return.

September 16 - With Messrs. Joffe and Haynes to Old Faithful to attend Tri-State Yellowstone Civic Association meeting; returned Mammoth for night.

September 19 - To Sheepeater Cliff and return with Dr. Bauer.

September 20 - To Cody to attend ICC hearing. Night in Cody.

September 21 - Attended ICC hearing in Cody; returned Mammoth for night.

September 22 - To Canyon and return with Messrs. Oberhansley and Bauer.

September 29 - Left for Casper, Cheyenne, and Denver. Night in Casper.

September 30 - From Casper to Cheyenne.

122 - Special Field Representatives of the National Park Service

Paul V. Brown, Associate Regional Director, Region II, Omaha, in south September 1; out north September 5.

H. E. Curtis, Supervisor, Recreational Area Planning Division, CCC, Region II, Omaha, in south September 1; out north September 5.

Adolph Murie, Wildlife Technician, CCC., Region II, Omaha, in south September 16.

123 - National Park Service Officers

J. S. Barrows, Assistant Forester, National Park Service, Washington, D. C., in north September 2; out south 9th.

Earl A. Trager, Chief Naturalist, National Park Service, Washington, in west September 3; out south 9th.

Alexander J. Knox, Attorney, Legal Branch, Washington, in west September 5; out west 9th.

A. E. Underhill, General Foreman, Road Surfacing, Branch of Engineering, Washington, in north September 7; out south 7th.

Elbert Cox, Superintendent, Morristown National Historical Park, in northeast September 9; out south 13th.

James E. Cole, Junior Park Naturalist, Yosemite National Park, in west September 12; out north 14th.

Dixon Freeland, Superintendent, Wind Cave National Park, Hot Springs, South Dakota, in northeast September 17; out 21st.

September 19 - Dr. [Name] [Address] [City] [State] [Zip]

September 20 - Dr. [Name] [Address] [City] [State] [Zip]

September 21 - Dr. [Name] [Address] [City] [State] [Zip]

September 22 - Dr. [Name] [Address] [City] [State] [Zip]

September 23 - Dr. [Name] [Address] [City] [State] [Zip]

September 24 - Dr. [Name] [Address] [City] [State] [Zip]

September 25 - Special Field Investigations of the National Park Service

Paul V. Brown, Associate National Director, National Park Service, in
charge September 25; out North September 26.

E. J. [Name], University, Washington, D.C., in charge September 27;
out North September 28.

[Name], Wildlife Technician, [Address], in charge September 29;
out North September 30.

September 31 - National Park Service Activities

J. B. [Name], Assistant Director, National Park Service,
in charge September 31; out North September 31.

[Name], [Address], in charge September 31; out North September 31.

[Name], [Address], in charge September 31; out North September 31.

[Name], [Address], in charge September 31; out North September 31.

[Name], [Address], in charge September 31; out North September 31.

[Name], [Address], in charge September 31; out North September 31.

[Name], [Address], in charge September 31; out North September 31.

125 - Other Governmental Officers

Ira N. Gabrielson, Chief Bureau Biological Survey, Washington, D. C., in east September 2; out 3d.

Lieut. Col. W. M. Hoge, Corps of Engineers, District Engineer, Omaha, in north September 23; out north 23d, accompanied by First Lieut. Wm. Whipple, Corps of Engineers, Omaha, and Jack A. Gardner, Civilian Engineer in Charge Flood Control Studies of Yellowstone Valley.

140 - Labor Situation

Due to the cutting down of our forces many of the employees were taken off the rolls and there will be little employment to offer these men during the winter. The new PWA approved projects will afford some employment and the contractor on the Lamar Canyon-North-east Entrance job will be able to employ a few men during most of the winter. The National Reemployment Service office at Mammoth remained open throughout the month.

150 - Equipment and Supplies

There were 19 carloads of road oil, 2 carloads of fir lumber, 6 carloads of gasoline, 1 carload of shingles and 3 carloads of coal received during the month in addition to other shipments of plumbing supplies, asphalt tile, dishes, wallboard, gas oil, chlorine, groceries, lubricating oil, creosote, grader blades, toilet paper and prestone, weighing 61,834 lbs.

Annual property inventories were taken of various ranger stations during the month. The mess houses at Madison, East Entrance, Lewis River and South Forest were closed in September.

160 - Status of Alienated Lands

There was no change in the status of alienated lands during the month.

170 - Plans, Maps and Surveys

Exceptionally good weather conditions throughout the entire month made it possible to put practically the entire engineering force into the field, thus obtaining a large amount of engineering data relative to proposed developments, and also in connection with P.W.A. projects. Topographical surveys in the West Thumb and Lake-Fishing Bridge areas covered approximately 400 acres for each area, and about 60 acres was completed at Old Faithful in the future development area and the vicinity of the proposed sewage disposal system. This work furnished sufficient data for projections and preliminary plans for the water and sewer system at West Thumb and the

113 - Other Documented Sources

1. U.S. Geological Survey, "Geological Map of the United States," 1904, p. 10.

2. U.S. Geological Survey, "Geological Map of the United States," 1904, p. 10.

114 - Labor Statistics

1. U.S. Bureau of Labor Statistics, "Monthly Labor Review," 1914, p. 10.

115 - 1914 and 1915

1. U.S. Bureau of Labor Statistics, "Monthly Labor Review," 1914, p. 10.

2. U.S. Bureau of Labor Statistics, "Monthly Labor Review," 1915, p. 10.

116 - 1916 and 1917

1. U.S. Bureau of Labor Statistics, "Monthly Labor Review," 1916, p. 10.

117 - 1918 and 1919

1. U.S. Bureau of Labor Statistics, "Monthly Labor Review," 1918, p. 10.

sewer system at Old Faithful proposed to be constructed with Public Works funds. Field work also covered trail surveys for the trail and observation platform to be carried out with Roads and Trails funds in the Canyon area.

Engineering in connection with CCC projects included the Canyon water system under construction and a proposed system at the Buffalo Ranch as well as work at the Mammoth campground and Mammoth residential area.

180 - Circulars, Placards, Publicity Bulletins, Etc.

Circulars Nos. 17 and 18 were issued during the month and copies are attached. No Nature Notes were released although the September-October issue of Nature Notes is being prepared and will be issued early in October. A number of news releases were sent out during the month and the Publicity Director, Sig Mickelson, departed on September 9,

200 - Maintenance, Improvements and New Construction

210 - Road Maintenance

General maintenance activities covered final cleaning of ditches and culverts and other work incident to the disbanding of section crews for the season.

Conditions for road oiling were the most favorable of any time during the season and retreatment of approximately over five miles of the East Entrance road was 90 per cent complete at the end of the period. One mile of the Artist Point road, which has given considerable trouble because of its unstable base, was torn up and a 6-inch sand cushion added after which the surfacing material was re-laid and retreated. Oiling of approximately one mile of newly accepted grading contract between Isa Lake and West Thumb was necessary to protect the subgrade from saturation during the winter and avoiding a recurrence of the condition experienced during the early part of the current season.

220 - Improvements

Shops - The usual maintenance of equipment has gone forward.

Electrical Department - In addition to the usual maintenance and repairs during the month, three poles and approximately 900 ft. of #6 and 450 ft. of #8 weather-proof wire were strung to furnish electric service for three new residences near the power house and a new 32-volt, 750-watt, wincharger was installed on the 50-foot tower at Bechler River ranger station to replace the 12-volt, 300-volt windhuger that was removed due to it not giving satisfactory results.

water system of Old Landing proposed to be constructed with 12-inch
water mains. This water system will supply for the
the water system to be constructed with 12-inch water
main in the future.

Investigation in connection with the water supply for the
water system under construction and a general report on the
work as well as the results of the investigation and
the final report.

150 - Chemical Analysis, Laboratory, etc.

Chemical analysis of the water from the source and
are attached. The water from the source is
under investigation of future work is being prepared and will be
only in October. A report of the investigation will be
the water from the Laboratory, etc.

100 - Reference, Investigation and the Commission

110 - Road Reference

General information activities covering the
and various and other work related to the
of the water.

Conditions for road water were the most favorable of the
during the season and treatment of the water was
of the water was 30 per cent of the total of the
period. The water from the source was
adequate for the water because of the water
each and another added after the water was
and water. The water from the source was
water from the source was 30 per cent of the total
to protect the water from the source during the
ing a treatment of the water during the
of the water.

200 - Investigation

210 - The usual relationship of equipment and the

Electrical equipment - In addition to the usual
and various other work, there were also
of the water from the source was 30 per cent
electric water for three months and the
a new 20-volt, 20-watt, transformer was installed
lower of higher water station to be of the
volt transformer was removed due to the
water.

The reconstruction work on the Fishing Bridge 10-mile post telephone line is 100 per cent complete and is now in service. The new telephone line between Gallatin and West Yellowstone is 100 per cent complete and will be put into service October 3. The Lake switchboard was closed September 15 for the season.

The old transmission line and aerial, between the administration building and the back of the Mammoth Hotel, was removed as it was no longer needed. The 15-watt radiophone at the Lake ranger station was replaced by a semi-portable battery set for the winter season.

Carpenter Shop - In addition to minor repairs during the month, other work consisted of building six new earth toilets, an oat bin in the stable at Mammoth to store oats, laying a new floor in the Old Faithful museum, making a kitchen cabinet, table and several new valve boxes.

Paint Shop - Work in this department during the month consisted of staining and painting of chlorine house at West Thumb, finishing comfort stations at Thumb, staining and painting the kitchen of mess hall at Thumb, staining six new earth toilets, laying and waxing tile in museum floor at Old Faithful, staining roof (2 coats) of South Entrance ranger and checking stations, laying linoleum in bath room of Lake Ranger Station, and putting 40 pains of glass in storage sheds at Mammoth.

Plumbing Department - In addition to the usual maintenance and operation during the month, maintained and repaired all plumbing and sheet metal work on all government buildings in Mammoth, excavated and laid 250 ft. of 1-inch water pipe at Canyon, installed water registers on reservoir at Tower Falls, installed one toilet complete and laid 30 ft. of 4-inch tile sewer at the Buffalo Ranch and installed a new toilet in the Gardiner ranger station.

230 - New Construction

Work under the ERA program continued with same projects as last month with exceptionally satisfactory progress on the Artist Point platform and renovation of the north end of the stone barracks building.

Contract Construction - The Isa Lake-West Thumb section was accepted from the contractor on September 13, but was in such condition that it was necessary to start maintenance operations immediately. This work consisted of oiling approximately one mile at the West Thumb terminus and a general patching of paliative oil treatment throughout the entire length of the project. Additional bank protectors across heavy fills were provided where it was considered insufficient protection had been provided under the contract.

The contract for the road development work in the Mammoth area

The construction work on the building was completed in 1900 and the building was occupied by the Government. The building was a two-story structure with a central tower and was built in the style of the late 19th century. The building was a fine example of the architecture of the time and was a landmark in the city.

The old building was a two-story structure with a central tower and was built in the style of the late 19th century. The building was a fine example of the architecture of the time and was a landmark in the city.

Interior Work - In addition to the exterior work, the interior of the building was also being renovated. This included the replacement of the floor, the painting of the walls, and the installation of new fixtures. The work was completed in 1900 and the building was ready for occupancy.

Paint Shop - Work in this department was also being completed. This included the painting of the exterior walls, the painting of the interior walls, and the painting of the ceiling. The work was completed in 1900 and the building was ready for occupancy.

Plumbing Work - In addition to the other work, plumbing work was also being completed. This included the installation of new pipes, the installation of new fixtures, and the installation of new drains. The work was completed in 1900 and the building was ready for occupancy.

250 - 1st Construction

Work under the 1st construction was completed in 1900 and the building was ready for occupancy. The building was a fine example of the architecture of the time and was a landmark in the city.

Government Construction - The last few years of the building's history were spent on government construction. This included the installation of new fixtures, the installation of new drains, and the installation of new pipes. The work was completed in 1900 and the building was ready for occupancy.

The contract for the work was awarded to the lowest bidder and the work was completed in 1900.

was practically completed at the end of the month. Further work consisted of only a general cleanup of the project as a whole.

The contractor for the surfacing project between Lamar Canyon and the Northeast Entrance started work about the 20th of the month with operation confined to drainage items under the contract near the east end of the project.

300 - Activities of Other Agencies in the Park

310 - Public Service Contractors

The Lake Hotel was the first of the park operations to close it being closed after breakfast on September 1. Camp Roosevelt closed after breakfast on September 7, both cabins and lodges, and the Mammoth pool closed on September 7. Old Faithful, Lake and Canyon Lodges closed after lunch on the 8th; the Thumb Cafeteria and Cabins closed on the 9th; the Mammoth Cafeteria on the 10th; Old Faithful Inn, Canyon Hotel and Mammoth Hotel on September 12; the Mammoth Hospital on September 14; Old Faithful, Fishing Bridge and Canyon Cafeterias on the same date; Mammoth housekeeping cabins on the 25th; the Haynes Tower Falls Store and the Mammoth Coffee Shop on the 30th.

Messrs. Nichols and Goodwin of the Yellowstone Park Company left the park on the 15th, while Messrs. H. B. Brown and John W. Nichols left on the 30th, on which date the Yellowstone Park Company office at Mammoth was closed.

400 - Flora, Fauna and Natural Phenomena

410 - Ranger, Naturalist and Guide Service

The regular work of the Protection Department for this month has consisted of public contact work, issuing permits at entrance stations, fish planting, supervision of trail maintenance work, supervision of ranch operations, hunting patrols and various other regular duties. At the close of the month all the temporary rangers but four had been released.

With the opening of hunting in sections of Montana and Wyoming on September 15, considerable time has been spent on hunting patrols by members of the Protection Department.

Considerable time has been spent by the rangers in repairing the shelter cabins throughout the park and preparing them for winter use.

420 - Museum Service

The duties of the Naturalist Department for this month consisted

was practically completed at the end of the month. The work consisted of only a few items in the field as a whole.

The contractor for the work on the project before the Bureau and the National Bureau started work about the 15th of the month. With operation confined to certain areas under the contract, the work at the end of the project.

500 - Activities of Bureau during the year

510 - Public Service Activities

The late part of the year was devoted to the public service work. It began about the 15th of the month and continued until the 31st. After treatment on the 15th, the 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, and 31st. The work was done in the following order: 1. The 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, and 31st. 2. The 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, and 31st. 3. The 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, and 31st. 4. The 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, and 31st. 5. The 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, and 31st. 6. The 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, and 31st. 7. The 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, and 31st. 8. The 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, and 31st. 9. The 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, and 31st. 10. The 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, and 31st.

Several reports were made in the following order: 1. The 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, and 31st. 2. The 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, and 31st. 3. The 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, and 31st. 4. The 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, and 31st. 5. The 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, and 31st. 6. The 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, and 31st. 7. The 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, and 31st. 8. The 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, and 31st. 9. The 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, and 31st. 10. The 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, and 31st.

400 - Reports, Forms and Special Information

410 - Reports, Forms and Special Information

The regular work of the Protection Department for the month was consisted of public contact work, including reports of various stations, the handling, supervision of field maintenance work, supervision of ranch operations, handling permits and various other regular duties. At the close of the month all the temporary reports but four had been prepared.

With the opening of hunting in sections of the State and the on September 15, considerable time has been spent on handling permits by members of the Protection Department.

Considerable time has been spent by the men in preparing the report cards throughout the year and preparing them for their use.

300 - Bureau Service

The duties of the Bureau Service for the month consisted

of the usual lecture programs carried on until the 12th of September at all points except Madison Junction Museum, which was closed on the morning of the 6th; preparation of the museums and ranger-naturalist quarters for the closing of the season; editing of the September-October issue of Nature Notes; research work and enlarging and framing of pictures by the Naturalist Department and ERA labor.

470 - Animals

Bear Control - Bear damage and injury statistics through September 30, 1937, as compared with the same date in 1938, are as follows:

	<u>1937</u>	<u>1938</u>
Damages	81	81
Injuries	<u>115</u>	<u>97</u>
Incidents -	196	178
 Bears Killed	 51	 42

There were 20 incidents reported the past month as compared with 28 which was reported the same month last year.

It was necessary to kill 2 bears in September this year, while 13 were eliminated during the same period last year. Four grizzly specimens were also collected at Canyon by James L. Clark for the American Museum of Natural History. This group included a male, a female and two cubs.

Buffalo - Several times during the month between 100 and 200 buffalo were seen in the Lamar Valley in the vicinity of the Buffalo Ranch. Several old bulls ranged in this vicinity throughout the month. The show herd on Antelope Creek were released on September 20.

Elk - The breeding season for elk started between September 10 and 15 but with the weather remaining clear and warm the bulls have not moved to the lower altitudes with their harems. No migratory movement of elk has been noted to date.

480 - Phenomena

Mammoth Hot Springs Area

Angel Terrace - A copious amount of water^{is} issuing from the vent to the north of the old Angel Terrace. The front terrace has covered a large log. Only the roots are projecting out through the travertine.

Baby Spring - Water is still flowing from this spring over the slope below the road.

Blue Spring - During the first week in September the Blue Spring completely dried up. Beginning on about the 16th water was again observed in the large pool. By the end of the month there was a fairly good flow of water from this spring going down over the terraces.

Cleopatra Spring - This spring seems to have maintained about the same flow as it did during August.

Cupid Spring - The vents at the top of the terrace continued to be active during September.

Main Spring - This spring continues to maintain about the same flow as during the previous months of the current year.

Minerva Spring - This spring has shown much more activity during the past month, and is coming back.

Mound Spring - Water continues to be discharged from this beautiful spring and continues to raise the structure to greater proportions.

Naiad Spring - About the same activity as during August.

Opal Spring - During the past month the flow of water from this spring has noticeably decreased.

Orange Spring Mound - Approximately the same as reported for July.

Gas Fumaroles - The fumaroles near Soda Spring continue to take a heavy toll of bird life. From one of these gas vents 20 Pink Sided Juncos, 1 Steller Jay and 1 Red Breasted Nuthatch were counted on September 20.

New Spring - The new hot spring to the southwest of the Blue Spring dried up during September.

Upper Geyser Basin

Beehive - On September 3 at 5:00 p.m. the eruption lasted for 8 minutes at an estimated height of not less than 150 feet. This eruption was normal and not the result of soaping.

Giant - Was active three times during September. Since the 10th of May this geyser has played 15 times, only two of these eruptions occurring at night.

Grand - The average interval of the Grand during September was less than during July and August. Up until the 16th the average interval was 38 hours, this being 6 hours less than the average for the two previous months.

Blue Spring - During the first week in the spring the water gradually dried up, beginning on about the 15th water was nearly observed in the large pool. By the end of the week there was a light good flow of water from the spring, and the water was clear.

Clayton Spring - This spring seems to be a permanent flow the same flow as it did during winter.

Clayton Spring - The water at the top of the spring continued to be active during winter.

Clayton Spring - This spring continues to maintain about the same flow as during the previous months of the current year.

Clayton Spring - This spring has shown some activity during the past month, and is doing well.

Clayton Spring - Water continues to be discharged from the spring in full and continues to raise the spring to normal level.

Clayton Spring - About the same activity as during winter.

Clayton Spring - During the past month the flow of water from this spring has noticeably increased.

Orange Spring - Apparently the flow is returning to normal.

Clayton Spring - The temperature here has during winter to show a heavy fall of the water, from one of these and water 10 feet. Sided during the winter and I had to watch the water level on November 20.

Clayton Spring - The water from the spring of the mountain of the spring dried up during winter.

Upper Layer Spring

Clayton Spring - The temperature at 8:00 a.m. the spring was found to be 6 inches at an estimated 10 ft of water with 100 feet. The situation was normal and not the result of weather.

Clayton Spring - The active three times during winter, from the 15th of the spring was high 10 times, only one of these springs occurring at night.

Clayton Spring - The average amount of the ground water observed has less than during July and August. As until the last the average level was 38 to 40 ft, this being 6 hours less than the average of the two previous months.

Daisy - During September the Daisy played with its old time regularity. The longest period checked was 2 hours and the shortest 90 minutes. These fluctuations of the length of the interval are due to conditions wholly residual within the geyser itself. They are rhythmical in nature. From about 50 to 60 hours the intervals would all be of about the same length and during the next period of hours would be longer or shorter within the time range mentioned.

Rainbow - Since the middle of June when this geyser became very active it has continued to make a very fine display. The activity during September was about the same as for August.

Castle - Observed playing once during each 24-hour period. The length of the interval of this geyser has showed steady increase during the season.

Lion - Varying between two and six days this geyser played with the same frequency as during the previous months of the season. There are probably never less than six eruptions during each of its active periods.

Great Fountain - Intervals vary between about ten and fifteen hours. The overflow precedes the eruption by about one hour and fifteen minutes. This overflow never seems to be less than one hour and seldom more than one and one-half hours. Eruptions spectacular and fascinating and quite variable in magnitude and character. Usually three active periods at each eruption. The duration of the entire period of activity varies between about 45 minutes and one and one-half hours.

Riverside - Continued to be one of the most predictable geysers in the basin. The character and frequency of its play was about the same as during July and August.

Oblong - While unpredictable and not playing to a height of more than 20 feet, is one of the most interesting ones to watch if anyone is fortunate enough to be at the immediate scene of the activity. As during the previous months of the season, it played two or three times each day.

Old Faithful - The shortest interval for Old Faithful during the season was in September. One interval was timed at 37 minutes. It was also during this month that the only 60-minute interval of the season was checked.

Norris Geysers Basin

Valentine Geysers - Closer to the 1936 normal than any time since June, 1938. Eruptions have thrown out several thousand gallons of water, and the height of the water column has run from 65 to 85 feet,

July - During September the Great Lakes were in the
to activity. The lowest period of activity was in the
90 minutes. These fluctuations of the water level were
due to conditions wholly unrelated to the water level. They
are rhythmic in nature. From about 10 to 15 minutes the water
level all of about the same height and activity level of
hours would be lower or higher than the other hours.

August - Shows the middle of the year with a very low
active in the afternoon to a very low activity. The activity
during September was about the same as for August.

October - Shows a very low activity level with a very low
level of the interval of this year has been a very low activity level
the season.

June - Varies between two and six days the water level with
the same frequency as during the previous months of the season.
There are probably never less than six or seven days of the
active periods.

Great Lakes - Intervals vary between about one and three
hours. The overall period of activity is about one hour
fifteen minutes. This variation never seems to be less than one hour
and a half more than one and a half hours. Intervals are irregular
and fluctuating and date variable in activity and activity.
Usually these active periods are irregular. The duration of the
active period of activity varies between about one and a half hours
and one and a half hours.

Hydrology - Continued to be one of the most productive periods
in the basin. The character and frequency of the flow was about the
same as during July and August.

October - While hydrological conditions were not as active as in
the past, it was one of the most interesting periods to watch. It shows
it fortunate enough to be at the maximum level of activity.
As during the previous months of the season, it rained two or three
times each day.

Mid Interval - The longest interval for the Great Lakes during the
season was in September. One interval was as long as 17 hours. It
was also during this month that the only 60-minute interval of the
season was observed.

Water Level

Water Level - Shows to the 1913 normal level any rise or fall
June, 1908. Stations have shown out several thousand gallons of
water, and the height of the water column has risen 25 to 35 feet.

estimated heights. The geyser however, while it has been erupting on a schedule approaching that of 1936 when the average was 17.5 hours interval, still shows the effect of the Ledge Geyser in interfering with its water supply.

Nameless Geyser of July 1, 1938 - Located on east side of path just north of Whirligig Crater. Eruptions on the July-August scale continued to and including September 9, though with some decrease in height toward the end of the period, i.e., the last few days.

Ebony Geyser - Has gone back to a schedule of about 4 or 5 hour intervals. By the 10th of September this schedule was in effect, three eruptions having been seen during that day. It has continued since that time on about the same average.

Jim Bridger Geyser - Has been erupting more frequently than usual, playing from two to four or five times during museum hours, and at a maximum height of about 15 feet.

Other activity in this area was about the same as reported for August.

490 - Miscellaneous

Fish Culture - The following number of fish were planted during the month in park waters:

	<u>Advanced Fry</u>	<u>#1 Fingerlings</u>	<u>#1 & #2 Fingerlings</u>
Blackspotted	1,433,300	50,000	44,646
Rainbow Trout			129,500

Fish distribution was completed September 22 and the following table shows the number of fish planted by species during the season:

Blackspotted Trout	-	8,762,076
Montana Grayling	-	2,608,210
Rainbow Trout	-	595,270
Loch Leven Trout	-	257,742
Eastern Brook Trout	-	57,960
1938 Total	-	12,281,258
1937 Total	-	16,850,747

The Yellow Perch in Goose Lake were eliminated on September 9 by distributing a derris root solution in the water. It is estimated that 11,000 or 12,000 perch were killed in the 48-hour period that the solution was effective. No other species of fish were found in the lake and the largest perch seen weighed 1/4-pound and measured 8½ inches in length. The average size was 4 to 5 inches in length.

estimated weight. The present findings, which are based on a sample of 100 fish, show that the average weight of a fish is 1.25 pounds, which is about 25% above the average weight of the fish in the lake.

Length of fish - The length of the fish in the lake is estimated to be about 12 inches. This is based on a sample of 100 fish, which shows that the average length of a fish is 12 inches.

Age of fish - The age of the fish in the lake is estimated to be about 3 years. This is based on a sample of 100 fish, which shows that the average age of a fish is 3 years.

Sex of fish - The sex of the fish in the lake is estimated to be about 50% male and 50% female. This is based on a sample of 100 fish, which shows that the average sex ratio is 50% male and 50% female.

Other activity in this area was about the same as reported for the lake.

400 - Miscellaneous

Fish Culture - The following species of fish were raised in the lake:

Species of fish raised in the lake

Brook Trout	1,400,000	50,000	1,450,000
Brook Trout	1,400,000	50,000	1,450,000

This distribution was completed between 1912 and the following table shows the number of fish raised by species during the period:

1913 Total	12,000,000
1914 Total	12,000,000
1915 Total	12,000,000
1916 Total	12,000,000
1917 Total	12,000,000
1918 Total	12,000,000
1919 Total	12,000,000
1920 Total	12,000,000
1921 Total	12,000,000
1922 Total	12,000,000
1923 Total	12,000,000
1924 Total	12,000,000
1925 Total	12,000,000
1926 Total	12,000,000
1927 Total	12,000,000
1928 Total	12,000,000
1929 Total	12,000,000
1930 Total	12,000,000
1931 Total	12,000,000
1932 Total	12,000,000
1933 Total	12,000,000
1934 Total	12,000,000
1935 Total	12,000,000
1936 Total	12,000,000
1937 Total	12,000,000
1938 Total	12,000,000
1939 Total	12,000,000
1940 Total	12,000,000

The Yellow perch in Lake Erie were first introduced in 1886 by distributing a large stock of fish in the lake. It is estimated that 11,000 or 12,000 yellow perch were killed in the lake during the period. The other species of fish were raised in the lake and the largest perch was an 18-inch long and 12-inch high. The average size was 4 to 5 inches in length.

On September 30 the lake was tested with five pounds of derris root to see if any perch had survived. No sign of fish life was found and so it was assumed that the perch had been successfully eliminated from Goose Lake.

500 - Use of Park Facilities by the Public

510 - Increase or Decrease in Travel

The number of first-entry cars entering the park during September was 11,955 as compared with 12,631 for the same month last year. The total number of visitors this month is 50,928 as compared with 51,451 for the same month last year.

The grand total of visitors for the 1938 season is 466,185 as compared with 499,242 last year. This is a decrease of 33,057 visitors or -6.6 per cent.

530 - Special Visitors

September 6 - John Thomas Taylor, Director, National Legislative Committee, American Legion, Washington, D. C., in east; out south 8th.

September 10 - Phil Conley, National Vice-Commander, American Legion, Charleston, West Virginia, in west; out west 12th.

September 13 - Lynn J. Frazier, U. S. Senator from North Dakota, in north; out east 14th.

September 23 - William T. Finley, nationally known wildlife photographer and lecturer, in north; out east. Mr. Finley returned to the park again on September 30.

600 - Protection

610 - Police Protection

Seven arrests were made during the month and convictions were secured in all cases. The cause and number of arrests are as follows:

Traffic violations. . . .	6
Fishing violations. . . .	<u>1</u>
Total -	7

620 - Fire Protection

Four reportable forest fires occurred during the month. Two were caused by lightning and two man-caused. All were Class "A" in size. The total fires to date is 12 and all have been Class "A".

On September 30 the total number of visitors to the park was 11,431. This was a record for the year and it was noted that the number had been consistently estimated from 1935.

500 - Use of Park Facilities by the Public

510 - Increase or Decrease in Income

The number of first-class seats occupied was 11,335 as compared with 11,111 for the same month last year. The total number of visitors for the year is 11,431 as compared with 11,431 for the same month last year.

The grand total of visitors for the year 1935 was 11,431 as compared with 11,335 last year. This is a decrease of 996, or 8.8 per cent.

520 - Special Visitors

September 6 - John Thomas Taylor, Director, National Wildlife Committee, American Legion, Washington, D. C., in party; out north 5th.

September 10 - Phil Coffey, National Fire-Lighters, American Legion, Charleston, S. C., in party; out west 10th.

September 12 - Lynn J. Trester, U. S. Senator from North Carolina, in party; out east 14th.

September 28 - William T. Taylor, National Wildlife Committee, photographer and lecturer, in party; out east. Mr. Taylor returned to the park again on September 30.

600 - Protection

610 - Police Protection

Seven arrests were made during the year and the following are the names of the persons arrested. The names and number of arrests are as follows:

3	...	Traffic violations
1	...	Firearm violations
V		Total

620 - Fire Protection

Four considerable forest fires occurred during the year. Two were caused by lightning and two were caused by carelessness. The total loss to date is \$12 and all have been cleared.

On September 19 a fire occurred on the Absaroka National Forest. Yellowstone furnished 102 CCC enrollees, two CCC foremen and two rangers for use on the fire. The fire was caused by dumping hot ashes and burned an area between 500 and 600 acres.

630 Accidents

Twelve automobile accidents were reported and investigated during the month. Two visitors involved in the accidents were seriously injured and three automobiles were seriously damaged.

900 - Miscellaneous

Post Office - September, 1938 was the only month during the park season in which the business was equal to the corresponding month of last year. The quarter just ending shows about a 7 per cent decrease over the corresponding quarter of last year. The post offices throughout the park were closed September 30, with the exception of Thumb and Tower Falls which closed on September 20 and 26, respectively. Old Faithful and Lake were the only stations in the park that showed an increase in business.

Church Services - Regularly scheduled church services were held on September 4 at the Mammoth Chapel, Old Faithful Amphi-Theater, Old Faithful Lodge, Fishing Bridge Amphi-Theater, Lake Lodge and Canyon Lodge. There were no church services the remainder of the month.

Hospital and Medical - The Mammoth Hospital was open from September 1 to 14, inclusive. There were 19 patients admitted to the hospital during that period. Dr. Windsor traveled 500 miles and Dr. R. E. Fallis traveled 300 miles making calls at the various points in the park and checking dispensaries, and the ambulance was driven 1,130 miles to the close of September 14. Dr. Robert E. Fallis reported 100 office and 15 home calls after September 14.

C.C.C. - Progress on all operating CCC jobs during the month is reported as good. The crews have been cut down considerably as 113 boys left for their homes on September 23. Replacements have not yet been made.

The new comfort station constructed at Tower Falls by the CCC was completed on September 23.

During the month 454 man-days were spent in suppressing forest fires. Eight man-days of this total were used on a fire in the National Forest near our Gallatin spike camp which was promptly extinguished. The balance of this total were used on a large fire in the National Forest near Chico Hot Springs. The boys did excellent work and through their efforts the fire was kept well under control.

On 1-1-54, the company in the amount of \$100,000.00
for the year 1954. The balance of the account for
the year 1953 was \$100,000.00.

1954 - 1955

The following information was received from the
company for the year 1954. The balance of the account
for the year 1953 was \$100,000.00.

1955 - 1956

On 1-1-55, the company in the amount of \$100,000.00
for the year 1955. The balance of the account for
the year 1954 was \$100,000.00.

The following information was received from the
company for the year 1955. The balance of the account
for the year 1954 was \$100,000.00.

On 1-1-56, the company in the amount of \$100,000.00
for the year 1956. The balance of the account for
the year 1955 was \$100,000.00.

The following information was received from the
company for the year 1956. The balance of the account
for the year 1955 was \$100,000.00.

The new contract for the year 1957 was
signed on 1-1-57.

During the month of 1-1-57, the company in the amount of \$100,000.00
for the year 1957. The balance of the account for
the year 1956 was \$100,000.00.

On September 27 word was received that CCC Camps 3 and 5 were scheduled for movement to winter quarters October 11 and 13, respectively.

- - - - -

On September 1 the Yellowstone Park Company gave a party for the Park Service officials, including heads of departments and district rangers at their Mammoth Hotel. The evening was spent in dancing in the recreational dance hall after which a sumptuous buffet supper was served. The party was given by the Company in order to cement a better feeling of friendship and cooperation between the operators and the National Park Service employees.

The Western Association of State Game and Fish Commissioners held a meeting at the Canyon Hotel from September 1 to 3 at which were present State Fish and Game Commissioners from the various western states as well as Government officials representing the National Park Service, Forest Service, Biological Survey and Bureau of Fisheries.

The regular annual meeting of the Directors of the Dude Ranchers' Association was held at the Canyon Hotel on September 7, followed by a banquet in the evening at which were present Messrs. Rogers, Joffe and LaNoue representing the National Park Service. Livingston, Montana was selected as the meeting place for the annual convention of the Dude Ranchers' Association on October 20, 21 and 22.

A son was born to Park Ranger and Mrs. Verde Watson at the Park Hospital in Livingston on September 10.

A 9 $\frac{1}{2}$ -lb. baby boy was born to Mr. and Mrs. Edwin E. Bird at the Park Hospital in Livingston on September 23. Mr. Bird has been employed as a clerk with the National Park Service during the summer.

Activities for the winter were started near the end of the month in the Canteen building and Mr. Charles Blackburn of Thornton, Idaho was selected to police the recreation hall and to supervise the recreational work.

A ranger picnic was held at Mammoth on September 24, which was participated in by all members of the ranger force and a number of the Park Service employees at Mammoth. Two teams were selected to play kitten ball during the afternoon and in the evening dancing was enjoyed in the Canteen building.

Chief Ranger and Mrs. George Miller of Glacier National Park returned to the Yellowstone on September 27 to visit with their many

friends here. Mr. Miller was a ranger and assistant chief ranger in the Yellowstone since 1925 having been transferred to the Chief Rangership in Glacier in the spring of this year.

Edmund B. Rogers,
Superintendent.

VG

UNITED STATES
 DEPARTMENT OF THE INTERIOR
 NATIONAL PARK SERVICE

TRAVEL REPORT

National Park for the month of _____

	This Month	This Travel Year To Date	This Month Last Year	Last Travel Year To Date	Increase for Travel Year	
					Number	Percent

PRIVATE TRANSPORTATION:

first entry,
 reentry,
 motorcycles,

Total motor vehicles,

Persons entering via motor
 vehicles,

Persons entering via other
 private transportation,

Total persons entering via
 private transportation,

OTHER TRANSPORTATION:

Persons entering via stages,

Persons entering via trains,

Persons entering otherwise,

Total other transportation,

GRAND TOTAL ALL VISITORS,

	This Year	Last Year	Increase	
			Number	Percent

Automobiles in public camps during month,

Persons in public camps during month,

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

TRAVEL REPORT

National Park for the month of

Increase for Travel Year	Last Travel Year	To Date Year	This		To Date Year
			Month	Year	

TRANSPORTATION:

... entry, ...
 ... entry, ...
 ... motor vehicles, ...
 ... entering via motor ...
 ... entering via other ...
 ... persons entering via ...

TRANSPORTATION:

... entering via stages, ...
 ... entering via trains, ...
 ... entering otherwise, ...
 ... other transportation, ...
 ... TOTAL ALL VISITORS, ...

Increase	Last Year	This Year	Number	
			Number	Percent

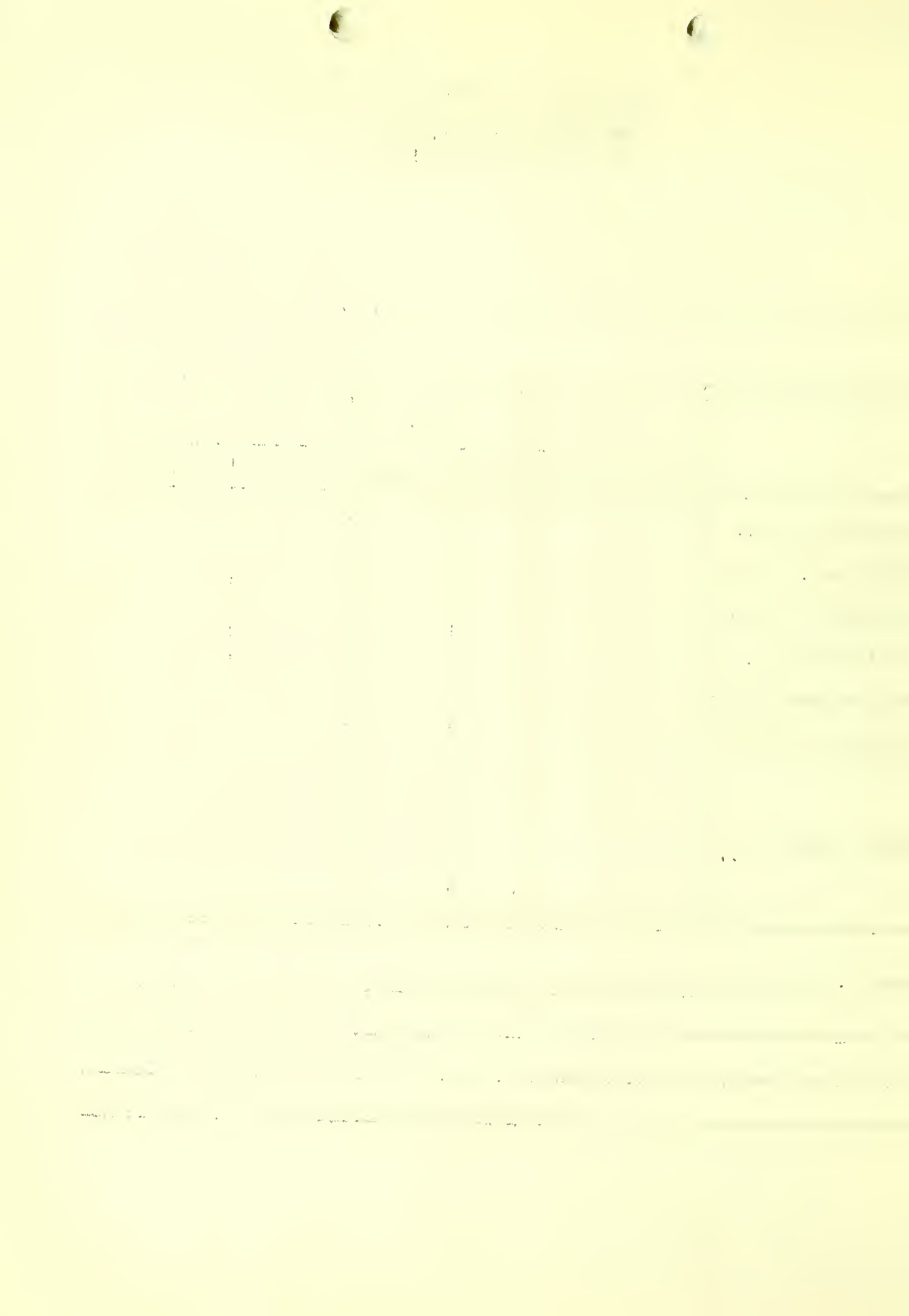
... in public camps during month, ...
 ... in public camps during month, ...

United States
 Department of the Interior
 National Park Service
 Yellowstone National Park

Travel report for half month ending

	193__		193__		Percentage	
	Cars	People	Cars	People	Increase	Decrease
By private car						
By rail						
By airplane						
Miscellaneous						
TOTAL FOR HALF MONTH						
Previously reported						
TOTAL TO DATE						

Remarks: _____



UNITED STATES
DEPARTMENT OF THE INTERIOR
National Park Service
Yellowstone National Park
Yellowstone Park, Wyoming

1938 Comparative Travel Figures with 1937 and 1936
Season through September 15, 1938

1938

ENTRANCE	Rail	By Automobile		Motorcycles		Miscel. Visitors	Total People
		Cars	Pass.	Mach.	Pass.		
North	4211	17759	55581	44	52	142	59386
West 1-	8664	38538	132691	175	251	100	141706
East	3124	40259	132708	141	190	47	136069
South	71	17273	56750	44	63	6561	63445
Northeast	941	14570	49524	49	63	52	50580
T O T A L	17011	128449	427254	453	619	6902	451786

1937

North	5253	18875	58271	24	27	149	63700
West 2-	9693	41998	145903	170	225	58	155879
East	3444	44229	145849	192	238	16	149547
South	75	17143	56024	28	38	7509	63646
Northeast	786	15610	53128	67	81	131	54126
T O T A L	19251	137855	459175	481	609	7863	486898

1936

North	5493	18700	57215	35	50	188	62946
West 3-	9305	37094	128456	83	111	92	137964
East	3426	37705	125072	127	154	147	128799
South	75	14895	49675	19	25	2388	52163
Northeast		11662	39881	31	36	34	39951
T O T A L	18299	120056	400299	295	376	2849	421823

The season to date decreases from 1937's record-breaking figures are tabulated as follows:

	Rail	By Automobile		By Motorcycle		Miscel. Visitors	Total People
		Cars	Pass.	Mach.	Pass.		
Number	2240	9406	31921	28	inc. 10	961	35112
Per Cent	11.6	6.9	7.0	5.8	inc. .2	12.4	7.2

The average daily travel for September 1 through 15, was 2,435 visitors and 729 cars as compared to 2,607 visitors and 812 cars for the same period last year. This is an average daily loss of 172 visitors and 83 cars.

Travel has been unusually strong the last few days due considerably to the wonderful autumn which the park is having. Figures indicate that many tourists are taking advantage of the season of the year which to many is the most beautiful, and are registering at the stations in greater numbers than in 1937.

1- Union Pacific, 7239; C.M. St. P. & P., 1420; Northern Pacific, 5; Total, 8664
 2- " 8324; " 1358; " 11; " 9693
 3- " 7880; " 1406; " 19; 9305



DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

REPORT OF PARK REVENUES

Yellowstone

National Park for the Month of

September, 1938

	This Year	Last Year
Park revenue on hand beginning of month,	-	-
Received,	\$41,949.59	\$67,799.90
Total,	41,949.59	67,799.90
Remitted,	41,949.59	67,799.90
On hand close of month,	-	-
Park revenues received this year to date,	\$291,058.68	
Park revenues received last year to date,		333,314.11
Increase,	42,255.43	
Per cent of increase,		12.67

NATIONAL PARK SERVICE

REPORT OF PARK REVENUES

National Park for the Month of _____, 19__

Last Year	This Year	
---	---	Revenue on hand beginning of month
50,412.50	51,200.00	Received
57,702.70	51,200.00	Total
57,702.70	51,200.00	Expended
---	---	Revenue on hand close of month

Revenues received this year to date, _____

Revenues received last year to date, _____

Increase, _____

Per cent of increase, _____

UNITED STATES
 DEPARTMENT OF THE INTERIOR
 NATIONAL PARK SERVICE

STATUS OF PERSONNEL

Yellowstone National Park for the Month of September, 1938

	This Month		This Month Last Year	
	Appointed	Non-Appointed	Appointed	Non-Appointed
Number of employees beginning of month	Reg. 157 CCC 29	** 271	Reg. 141 ECW 34	236
Number of additions	Reg. 0 CCC 1	11	Reg. 1 ECW 0	3
Total	Reg. 157 CCC 29	282	176	239
Number of separations	Reg. 54 CCC * 1	85	Reg. 44 ECW 4	224
Number of employees close of month	Reg. 103 CCC 29	197	Reg. 98 ECW 30	15
Number of promotions during month	Reg. 1 ECW 0		0	
Aggregate amount of annual leave taken	Reg. 241-27/32 CCC 22-1/2	892	Reg. 152-1/8 ECW 53-25/32	
Aggregate amount of sick leave taken	Reg. 41-3/8 CCC 1/2	31	Reg. 1-1/2 ECW 7	
Aggregate amount of leave without pay	0		3	

*Separation in July, 1938

** A total of 290 was shown in error in August report as there should have been 28 separations in August instead of 9 as shown.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

1231
1931

STATUS OF PERSONNEL

National Park Service No. 100-10000

This Month Last Year	Appointed Non-Appointed	Appointed	Non-Appointed	Total
17	1	17	1	19
12	1	12	1	14
10	1	10	1	12
8	1	8	1	10
6	1	6	1	8
4	1	4	1	6
2	1	2	1	4
0	1	0	1	2
0	1	0	1	2
0	1	0	1	2
0	1	0	1	2
0	1	0	1	2
0	1	0	1	2
0	1	0	1	2

A total of 100 was used in 1931 in the National Park Service. This report is based on a survey of the personnel in the National Park Service as of December 31, 1931.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

*ELECTRICITY GENERATED, SOLD, USED, ETC.

Yellowstone National Park for the Month of September, 1938

	This Month	This Travel Year To Date	This Month Last Year	Last Travel Year To Date	Increase for Travel Year	
					Number	Percent
Current generated,	100,700	342,500	95,800	310,600	31,900	10.2
Sold to park operators,	10,719	56,767	10,562	51,233	5,534	10.8
Sold to others,						
Sold Furnished to other Governmental agencies,	715	2,649	-	-	2,649	-
Used by National Park Service, lost in transit, etc.,	89,266	283,084	85,238	259,367	23,717	9.1
Total current generated, . . .	100,700	342,500	95,800	310,600	31,900	10.2

(1938) \$512.04

Amount receivable from the sale of electricity, in Mammoth (1937) . . \$284.48

*Indicated by K. W. H.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

ELECTRICITY GENERATED, SOLD, USED, ETC.

California National Park for the month of

Increase or Travel Year	Number	To Date	Last Year	This Month	This Year	Last Year	This Month	This Year	To Date	This Month	This Year	To Date	This Month	This Year	To Date
19.1	2,400	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
20.2	1,200	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000

Electricity from the sale of electricity in amount (100,000) \$10,000

Checked by K. W. H.

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

REPORT OF TELEPHONE AND TELEGRAPH BUSINESS

Yellowstone

National Park for the Month of September, 1938

	This Month	This Month Last Year	Increase	Percent Increase
--	---------------	----------------------------	----------	---------------------

LOCAL BUSINESS

	<u>Mammoth</u>			
Files of circuit maintained,	excluded	527	620	93
No. of telephones connected,		284	265	15
No. of measured service calls,				7.16
No. of other local calls,				
Total No. of local calls,				
Peak load in calls per day,				

Receipts from measured service calls, . . .	
" " coin boxes,	
" " telephone rental,	

TOTAL RECEIPTS

LONG DISTANCE BUSINESS

No. Outbound calls,	
No. Inbound calls,	

TOTAL LONG DISTANCE CALLS

Peak load in calls per day,	
Receipts from Long Distance business, . . .	

TELEGRAPH BUSINESS

Messages via Western Union,	
Messages via	

TOTAL MESSAGES

Receipts from telegraph business,	
No. of money transfer messages,	
" " " " receipts,	

TOTAL RECEIPTS TELEPHONE & TELEGRAPH DEPTS-

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

Yellowstone National Park

Monthly Report of
Minor Roads and Trails Projects

(Area)

As of September 30, 1938
(Date)

Total Mileage for Area: _____ Miles
Minor Roads _____ Miles
Trails _____ Miles

Proj. No.	Description of Project	Type of Work	Mile- age of Proj.	% Com- plete	Appropri- ation Symbol	Amount Allotted	Amount Expended	Remarks
		No Minor Roads & Trails Projects active.						



United States
Department of the Interior
National Park Service
Yellowstone National Park
Yellowstone Park, Wyoming

September 6, 1938

CIRCULAR NO. 17:

Due to the pending transfer of Jack J. McNutt to the U. S. Forest Service, which it is expected will be completed in the near future, the following changes in permanent ranger assignments will be effective September 8:

Frank H. Anderson, District Ranger Bechler River District

Earl M. Semingsen, Acting District Ranger Canyon District,
with headquarters at Mammoth.

Edmund B. Rogers
Superintendent

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United States
Department of the Interior
National Park Service
Yellowstone National Park
Yellowstone Park, Wyoming

September 14, 1938

CIRCULAR NUMBER 18:

Effective September 14, District Ranger David deLancey Condon is being assigned as Acting Custodian of Scottsbluff National Monument. This is a temporary assignment for an indefinite period. Earl M. Semingsen has been assigned as Acting District Ranger of the Lake District, effective September 14.

Wayne B. Alcorn will be assigned to Mammoth effective September 21 and John Lewis will be assigned to Snake River effective September 21.

Edmund B. Rogers
Superintendent



United States
Department of the Interior
National Park Service
Yellowstone National Park
Yellowstone Park, Wyoming

September 10, 1930

SPECIAL MEMORANDUM NO. 29- 38:

Authorization was received from Washington on September 10 to discontinue the sale of entrance permits at all entrances in Yellowstone Park at the close of business on the night of September 19.

Beginning on the morning of September 20 no entrance fees will, therefore, be charged, but checking of travel and furnishing of information to visitors will continue throughout the month.

Francis D. LaNoue
Chief Ranger



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United States
Department of the Interior
National Park Service
Yellowstone National Park
Yellowstone Park, Wyoming

September 14, 1938

SPECIAL MEMORANDUM NO. 30 - 38:

Effective on the morning of September 20, the radio schedule from park headquarters will be changed to 7:45 A.M. and 5:15 P.M. instead of 7:00 A. M. and 6:00 P. M. as at present.

Effective September 24, the 24-hour duty in the Chief Ranger's Office will be discontinued and office hours of 8:00 A. M. to 5:00 P.M. will be maintained with night calls being routed to the residences of those on emergency duty.

Effective on the morning of September 19, the Canyon ranger station will be closed and the Canyon district will be considered a part of the Lake district during the winter.

Francis D. LaNoue
Chief Ranger



United States
Department of the Interior
National Park Service
Yellowstone National Park
Yellowstone Park, Wyoming

September 22, 1938

SPECIAL MEMORANDUM NO. 31-38:

Reference is made to part 10 on page 20 in the Entrance Manual, entitled TRUCKING PERMITS, Because of technicalities involved with reference to Interstate Commerce Commission permits and the necessity of cooperating with the Commission, no additional permits for commercial hauling through or into the park will be issued by the entrance stations.

Anyone with a truck making application for entrance on such a basis should be referred to this office and the truck will not be admitted to the park until a permit has been properly issued by the Superintendent's Office. This does not apply to Government trucks, trucks owned by park operators, or trucks owned by contractors which are to be used on their projects in the park.

Francis D. LaNoue
Chief Ranger



UNITED STATES
DEPARTMENT OF THE INTERIOR
National Park Service
Yellowstone National Park
Yellowstone Park, Wyoming

PRESS MEMORANDUM

Release on Receipt

1938 - 91

o-o

Yellowstone Park, Wyo., September _____. (Special) The isolated Montana mining village of Cooke is going to move three days nearer civilization this winter.

During previous winters it has taken a mail sled three days to travel from Gardiner, Montana to Cooke, a distance of 56 miles, but this winter a modern truck will be able to cover the distance most of the winter in a couple of hours.

In a tiny valley surrounded by the lofty Beartooth range, the rugged Absarokas and the high plateau of Yellowstone national park, the citizens of Cooke in previous years have had only their mail sled contact with the outer world from early in December until late in April because of the heavy snowfall. Only two roads enter the village. One climbs to 10,940 feet over the Beartooth range and the other approaches through the park.

But this year things are going to be different. A Congressional appropriation is going to make it possible for Yellowstone officials to attempt to keep this highway open except during heavy storms by running the rotary plows about once each week when necessary.

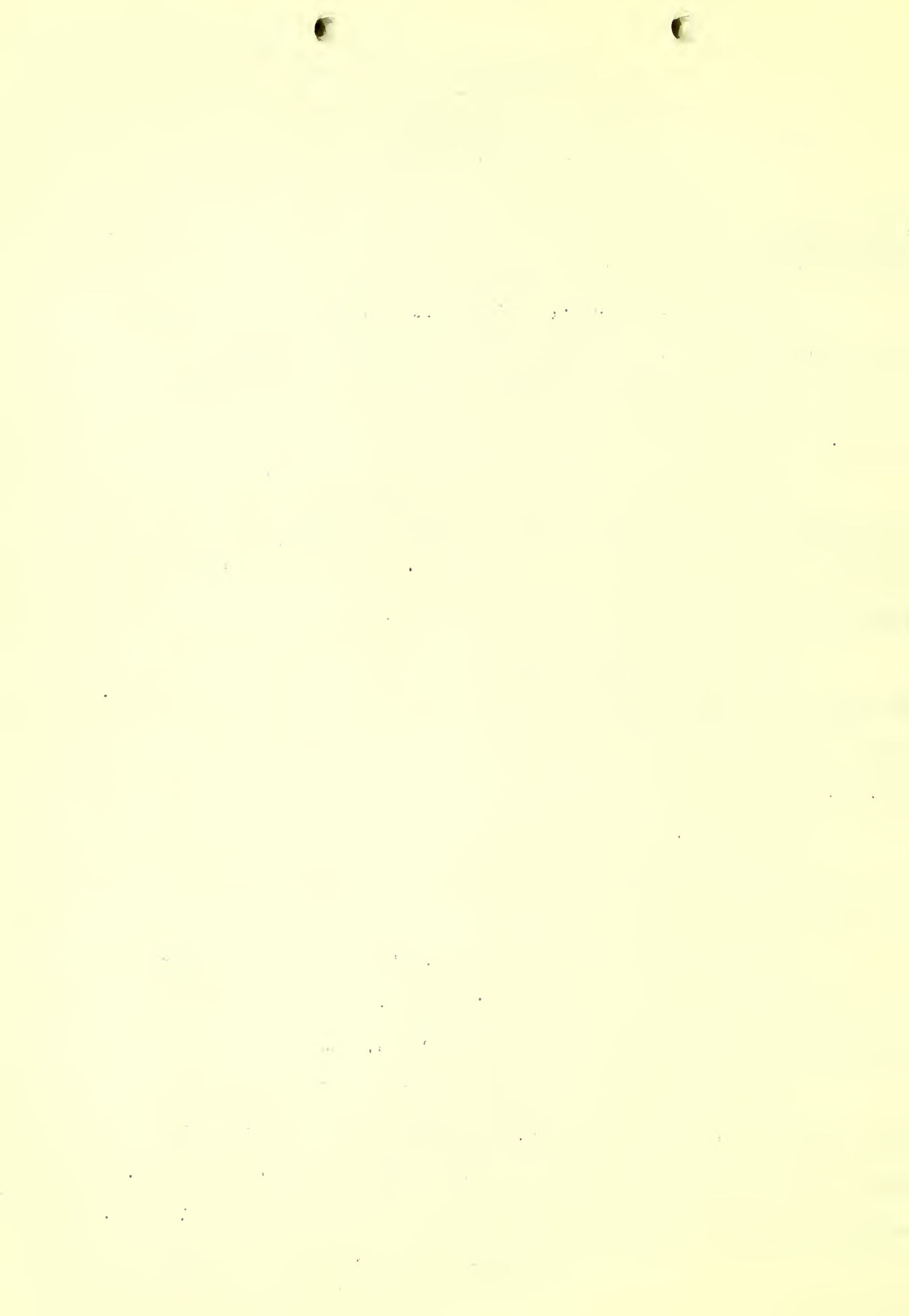
Yellowstone officials are enthusiastic about the opening of the road because it is going to make a spectacular wildlife show available to the public. The entire 56 miles of highway pass directly through the winter feeding grounds of the park's elk, buffalo, mountain sheep, antelope, and deer.

Winter residents maintain that there is no time like January and February to see wild animals at close range. The superintendent's office will keep posted with road information for winter visitors.

-oOo- Superintendent's Office
September 8, 1938 SM







UNITED STATES
DEPARTMENT OF THE INTERIOR
National Park Service
Yellowstone National Park
Yellowstone Park, Wyoming

PRESS MEMORANDUM

Release on Receipt

1938 - 95

-o-

Yellowstone Park, Wyo., September___. (Special) A total of 91 persons failed to heed the warnings of Yellowstone national park officials and made the serious error of getting too near the friendly-looking black bears, superintendent Edmund B. Rogers said today.

For 91 names are recorded on the books as having suffered reportable bear wounds during the season up to September 1.

The one favorable sign in the report, superintendent Rogers said, is that not as many people were injured as in 1937 when the total read 95. The 1938 season started off with a rush that promised the most bear bites in history but a vigorous campaign to educate the public evidently did some good, the superintendent believes.

-oOo-

Superintendent's Office
September 8, 1938 SM

-o-

PRESS MEMORANDUM

1938 - 96

Yellowstone Park, Wyo., September___ (Special) Memories of the days when poachers roamed unmolested through Yellowstone national park were revived this week by the visit of Miss Margaret Anderson, Bernardsville, New Jersey, whose brother, Captain William Anderson, was military superintendent of the park from 1891 through 1896.

Miss Anderson recounted that it was during the superintendency of her brother that Ed Howell, one of the most notorious of all poachers was apprehended and held throughout the winter while Congress was passing the famous law of 1894 under which Howell was prosecuted. The law is credited with having made a genuine fool-proof game sanctuary out of Yellowstone.

The abundance of wild animals and the ease with which one may travel through the park in 1938 were noted by Miss Anderson.

-oOo-

Superintendent's Office
September 8, 1938 SM





UNITED STATES
DEPARTMENT OF THE INTERIOR
National Park Service
Yellowstone National Park
Yellowstone Park, Wyoming

PRESS MEMORANDUM

Release on Receipt

1938 - 98

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Yellowstone Park, Wyo., Sept.____. (Special) Despite predictions to the contrary, 15 per cent fewer motorists towed trailers into Yellowstone national park during August of 1938 than in August of 1937, superintendent Edmund B. Rogers said recently. The 1938 totals show an increase of approximately twenty per cent over 1936, however.

A survey conducted at all checking stations of the park showed that only 1.5 per cent or 597 of the 39,690 cars registering during August were pulling trailers. In 1937 the records showed 1.76 per cent or 777 of the 44,219 cars with houses on wheels in tow; and in 1936, 1.23 per cent or 436 of 35,263 motorists had trailers.

Officials consider August, the heaviest travel month of the year, representative of the entire park season.

While use of trailers was dropping, costs of the houses rose slightly. Figures for 1937 showed the average trailer cost at \$691, but in 1938 the price had risen to \$704.

Only 72 of the 597 trailers were used for permanent homes, the remainder being used for vacations only.

Business men were the best trailer users, 231 of the 597 belonging to persons of that classification. Professional men followed with 136. Seventy-nine belonged to retired individuals, most of whom used the trailers as permanent homes. Farmers owned only 51 of the total, and persons of miscellaneous classification totaled 101.

(more)





UNITED STATES
DEPARTMENT OF THE INTERIOR
National Park Service
Yellowstone National Park
Yellowstone Park, Wyoming

PRESS MEMORANDUM

Release on Receipt

1938 - 100

-o-

Yellowstone Park, Wyo., Sept. _____. The commonly held and widely publicized notion that Old Faithful geyser, Yellowstone national park's most famous, erupts every 63 minutes will have to be revised in the light of scientific evidence, the Yellowstone naturalist's office said recently.

The naturalists have just completed what they believe to be their most accurate observation of the geyser and they found that the average interval for 917 daylight eruptions was 66.39 minutes.

A similar survey kept in 1936 including 455 daylight eruptions showed an average 67.76 minute interval and the longest record of all, 1187 eruptions in 1932 put the average at 65.712.

No other known accurate records have been kept, the notion of the 63 minute interval having been based mostly on guesswork, so the naturalists believe that hereafter Old Faithful should be given credit for erupting at intervals of a little more than 66 minutes.

That does not mean, the naturalists maintain, that the geyser will stage its show each 66 minutes. They point out that intervals as short as 34 minutes and as long as the 115 minute record established this year, have been recorded, but usually the white steam plume will appear between 60 and 70 minutes.

Rangers and ranger-naturalists maintain that they answer more questions concerning Old Faithful's eruption time than on any other park phenomenon.

-oOo-

Superintendent's Office
September 13, 1938 SM



UNITED STATES
DEPARTMENT OF THE INTERIOR
National Park Service
Yellowstone National Park
Yellowstone Park, Wyoming

PRESS MEMORANDUM

Release on Receipt

1938 - 101

-o-

Yellowstone Park, Wyo., Sept. ____ . (Special) More than \$1,200,000 will be spent to improve 70 miles of Yellowstone national park roads in the next few years, superintendent Edmund B. Rogers said recently.

An appropriation by the last Congress made the road improvements possible. Bureau of Public Road officials, which bureau handles road construction in the national parks, hope to let contracts as soon as possible.

Largest individual project is the construction of a bridge across the Gardiner river near Mammoth Hot Springs. With approaches the job will cost approximately \$375,000.

Each of the other specifications calls for bituminous surfacing of sections of highway already graded and to which a coat of palliative oil has already been applied.

The projects call for completion of 22 miles on the Northeast entrance road, 10 miles on the East entrance, 14 miles on the South entrance, and the remainder on the grand loop. The bulk of the grand loop work is in the vicinity of Old Faithful and West Thumb.

Application of finishing touches to these segments will leave only limited sections of the park's 360 miles of highway without modern hard surfacing.

Workmen recently completed hard surfacing of a new approach to Mammoth Hot Springs for the north and the streets in the Mammoth area.

-oOo- Superintendent's Office
September 13, 1938 SM



UNITED STATES
DEPARTMENT OF THE INTERIOR
National Park Service
Yellowstone National Park
Yellowstone Park, Wyoming

PRESS MEMORANDUM

Release on Receipt

1938 - 102

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Yellowstone Park, Wyo., September___. (Special) Yellowstone

national park officials are confident that no matter how much traffic into the park jumps in the next few years there will still be enough fish for all.

They base their confidence, Superintendent Edmund B. Rogers explained, on the fact that more fish are growing to legal size each year than are being caught, and that on the basis of this year's fish plant the population will continue to jump in the future.

Rangers just completed the task of planting 10,000,000 advanced fry of assorted species. Most authorities estimate that from 5 to 10 per cent of such a plant live until they reach legal frying pan size.

That means that the park's legitimate catch population will jump between 500,000 and 1,000,000 within two years. The fish-take count kept by the chief ranger's office indicates that not more than 300,000 fish are taken from park waters during a season.

That leaves plenty of margin for a sizeable number to die natural deaths and still permit a population increase. Rangers do not greatly fear overstocking because of a steady growth of travel and because of the increasing popularity of Yellowstone fishing waters.

Seven million of the 1938 plant were black spotted trout, 2,250,000 grayling, 500,000 rainbow, and 250,000 loch leven.

-oOo-

Superintendent's Office
September 13, 1938 SM



UNITED STATES
DEPARTMENT OF THE INTERIOR
National Park Service
Yellowstone National Park
Yellowstone Park, Wyoming

PRESS MEMORANDUM

Release on Receipt

1938 - 103

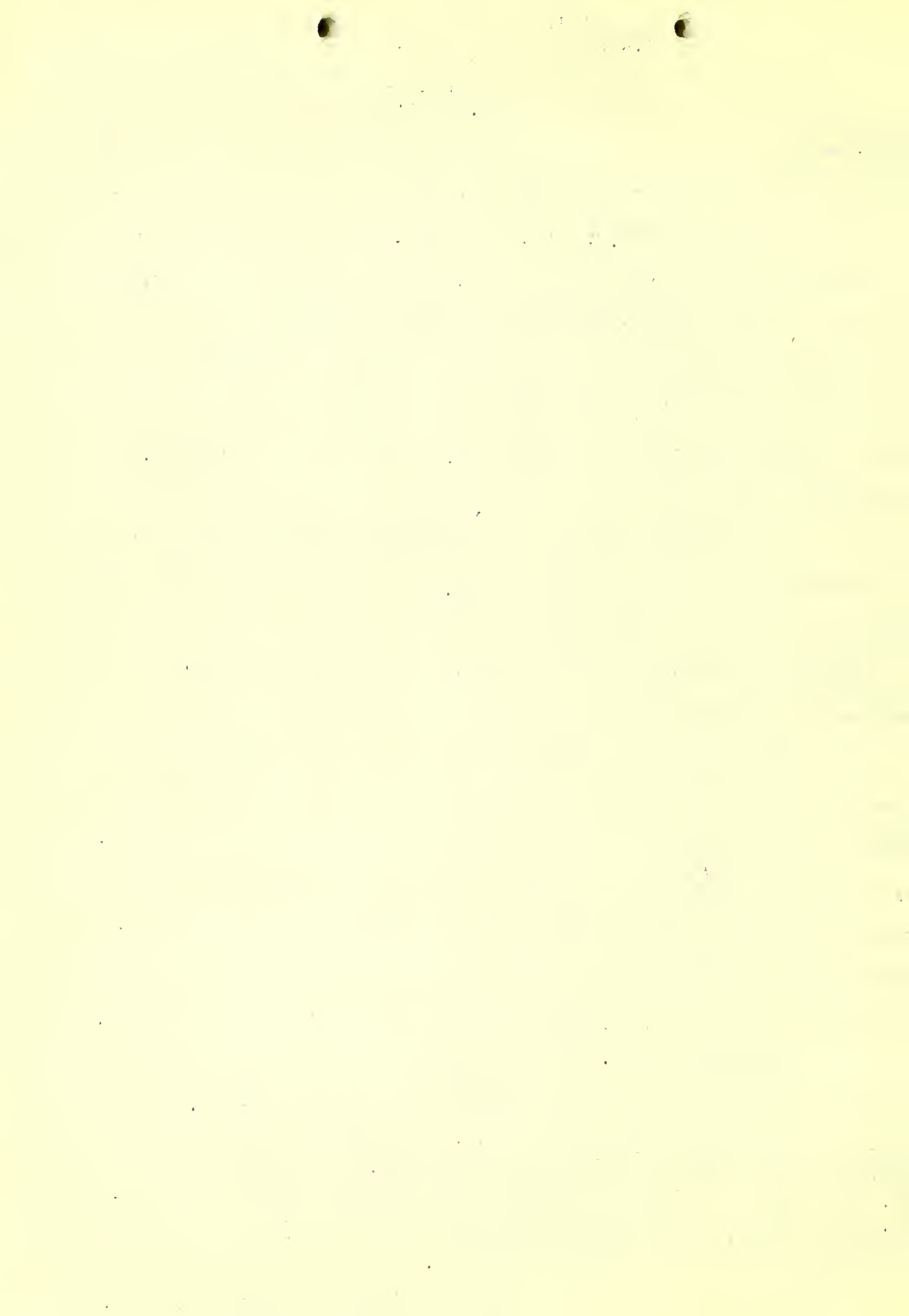
o-o

Yellowstone Park, Wyo., September 27. Balmy Indian summer days with a gorgeous display of fall coloring and wild animals grazing and browsing in the lower elevations have attracted late visitors to Yellowstone national park, bringing the season's total to but 7 per cent below the record-breaking season of 1937. With but four days left in the travel year to the end of September the park entrances have recorded 463,371 visitors as against 498,170 to the same date last year.

The park has never been more beautiful than it is at present, superintendent Edmund B. Rogers reported today, and late visitors are thoroughly enjoying their park stay. No storms have occurred as yet to close any of the park's highways and motorists should be able to visit most of the park's attractions until late in October.

While the hotels, lodges, cabins, and cafeterias are all closed for the year, meals and lodgings are obtainable at the general stores at Old Faithful and Lake which operations will continue until the roads are blocked by snow. The general stores and gasoline filling stations at these points and at Mammoth Hot Springs will remain open to take care of late visitors. The lectures, museums and guide service have been discontinued and the collection of the \$3 motor vehicle license fee was discontinued on September 20.

Many of the park's late visitors are bringing their fishing tackle with them to test their skill in the various lakes and streams. Most popular for late fishing is the Madison River which stream will close on September 30 while Grebe Lake holds first place among the popular lake fishing spots. Most of the other streams and lakes will close October 20, but Heart, Lewis, and Shoshone lakes, and the Yellowstone river from the mouth of the Lamar to the north boundary of the park will remain open for fishermen until October 31. No fishing license is required in the park.



MONTHLY METEOROLOGICAL SUMMARY

YELLOWSTONE PARK, WYOMING

Month SEPTEMBER 1938

Table with columns: TEMPERATURE, °F. (Maximum, Minimum, Mean, Normal mean); RELATIVE HUMIDITY (percentage) (A. M., Local noon, P. M.); PRECIPITATION (Total inches, Snowfall, inches, p. m. to p. m.); WIND (Average hourly velocity, Prevailing direction, Highest velocity, Direction); WEATHER (Sunshine: Total hours, Percentage of possible; Character of day); Date; Rise stage (feet). Rows 1-30 and summary rows.

SUMMARY

Barometric pressure (inches; sea level)—Mean 30.13
30.43, date 26; lowest 29.78, date
Temperature—Highest 80, date 21; lowest 35,
; greatest daily range 44, date 18; least
range 15, date 9; average daily depart-
ure 1.4; average daily departure since Jan. 1 +1.8°;
highest this month since 1904 highest 84°, lowest 7°
Precipitation—Greatest amount in 24 hours .19,
; accumulated +0.24 since Jan. 1st
0.0; greatest 24-hour snowfall
; snow on ground on 15th 0.0; at end of
0.0

Wind—Highest velocity this month since 1904 40
from SW, on 22, in 1938
Weather (number of days)—Clear 13; partly cloudy 14;
cloudy 3; with measurable precipitation 8
Miscellaneous phenomena (dates of)—Auroras 27, 30
halos, solar 0, lunar 0
hail 0; sleet 0
fog, dense 0, light 0
thunderstorms 1, 4, 5, 8, 23, 25, & 29
; dust storms 0
frost, light 14, 27, heavy 0, killing 0
(Frosts not recorded in autumn after first "killing", except in Florida and along the im-
mediate coast of the Gulf of Mexico.)

MEAN TEMPERATURE THIS MONTH IN—

Table with columns: Year (1884-1896) and Mean Temperature (50.3, 49.0, 42.8, 50.4, 49.8, 47.4, 49.0, 52.3, 53.8, 53.0, 50.6, 52.4, 51.4)

TOTAL PRECIPITATION THIS MONTH IN—

Table with columns: Year (1871-1896) and Total Precipitation (0.6, 1.1, 0.54, 0.36, 1.30, 0.47, 1.73, 0.95, 0.55)

Charles L. Howard
10-1-38-75
Weather Bureau.

WEATHER BUREAU

MONTHLY

METEOROLOGICAL SUMMARY

STATION

MONTH

, 19



