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UNITED STATES DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE Yellowstone National Park

FILE NO.

MONTHLY REPORT

April, 1932

IMPORTANT

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HORACE M. ALBRIGHT, a softeneent printing office 102, 6-7410 Director.



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DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE YELLOWSTONE NATIONAL PARK YELLOWSTONE PARK, WYO.

E OF THE SUPERINTENDENT

May 4, 1932.

The Director, National Park Service, Washington, D. C.

Dear Mr. Director:

Following is a report of the activities of the Yellowstone National Park for the month of April, 1932:

000 - General

010 - The weather during April was very unsettled and all kinds of weather were experienced. Several good warm days resulted in the disappearance of the snow around Mammoth, but the snow was slow to move in the interior of the park. The road from Mammoth to Tower Falls was opened by the contractor by April 8 and the road to Golden Gate was broken through with a tractor in order to give it a chance to open. The drift in Golden Gate was broken out, although no attempt was made to open any of the roads past Golden Gate. All roads are very slow to open this year and it is doubtful if any of them will be passable for travel before June 1.

Bids have been issued by our San Francisco office for a snow plow which bids are to be opened on May 4. The plow is badly needed if we are to get all the roads open to travel by the opening of the park season.

020 - General weather conditions

April began with mild temperatures, but from the 3rd to the 10th, inclusive, mean temperatures dropped to normal or below. A period of nine days warmer than normal followed. Then, from the 20th through the rest of the month, every day was subnormal except the 25th, which coincided with the normal. The monthly mean temperature was 36.6 degrees, which is 0.4 degrees below normal, and 1.2 degrees per day cooler than last April. So close an approximation to normal usually indicates that there was little remarkable in the temperature of a month, which was the case this month. The highest temperature, 64 degrees on the 16th, was 13 degrees lower than the maximum of record for 45 years; while the lowest of the month, 12 degrees above zero, on the 6th, was 15 degrees above the minimum of the extended record. The temperature failed to fall as low as 32.0 degrees, the freezing point, on only four days, and there was no day during the month when the daily maximum temperature was not higher than 52 degrees, the

DEPARTMENT OF THE INTERIOR

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 lowest daily maximum, in fact, being 35 degrees on the 8th. Although February of this year was well above normal in temperature, the average daily departure in temperature since January 1, 1932, is 1.9 degrees.

The total monthly precipitation was 1.06 inches, nearly all falling as snow, of which the total amount was 12.2 inches. The greatest amount on the ground at the daily 6 p.m. measurement was 8.0 inches on the lst. By the 7th this was reduced to extensive patches and drifts, with much bare ground. There was again considerable snow on the ground on the 20th and 21st, when the greatest 24-hour fall, 3.9 inches, occurred, but the month closed with the ground bare. The season's total snowfall, September 1 to April 30, has been 115.6 inches, a very gratifying total which has been exceeded only four times since the corresponding period in the years 1888-89. During the present season November, December, January, March, and April were all above average in regard to snowfall. The same eight months in 1930-31 produced a total of 65.1 inches of snow, - little more than half of this season's, and only the first three months, September, October, and November, gave more than an average emount, the favorable beginning of the season not being sustained.

There were three clear, nine partly cloudy, and 18 cloudy days in April, 1932. While remarkable, this is not exceptional. April has frequently had only two clear days, and cloudy days, in the past, have run as high as 23. The percentage of possible sunchine, 42, equals the second lowest of record. The sunshine of April, 1920, was only 34 per cent of the possible; and that of 1918, also 42. The prevailing wind direction was southwest, although northerly winds predominating towards the close of the month greatly cut down the majority of the southwest wind. The average hourly velocity was 8.7 miles, and the maximum velocity, duly corrected, was at the rate of 30 miles per hour, from southwest, on the 2nd.

021 - In the Park

Typical spring weather with occasional storms was the order of the day throughout the entire month. However, warm weather settled snows considerably over the preceding month.

The Tower Falls-Mammoth road was opened by the Groves Construction Company. A great deal of difficulty in deep snow was encountered before they reached Mammoth on April 8. The road for the balance of the month was in bad condition due to the melting snow and mud and no travel other than was absolutely necessary was allowed. From Tower Falls to Soda Butte the road was opened a few days later by one of the trucks owned by the Glengary Mining Company.

Silver Gate and Golden Gate were cleared of snow by blasting from April 7 to April 12.

Snow depths throughout the park ranged from 0 to several feet on the roads. The drifts in Sylvan Pass at the end of the month ranged from 20 to 25 feet in depth with a considerable amount of rock which was mixed in with them, the rock having slid off from the hillsides above. 55 to 60 inches of snow cover nearly the entire balance of the road in the vicinity of Sylvan Pass. The following are the snow depths at the end of April throughout the entire park according to drainages:

| | | pril 930 | | April 1931 | | April 1932 | |
|--------------------------|-----|-------------|-----|---------------|--------|---------------|------|
| Yellowstone Drainage: | :D | rifts | 3: | | : | | |
| Lake | : | only | * | 0 | * | 22 | |
| Canyon | : | 17 17 | : | | | 33 | |
| Cooke | : | 27 79 | | only | 3 | 10 | |
| Thorofare | | and a | : | 20 | : | 27 | |
| Upper Slough Creek | : | 0 | 2 | 0 | * | Drifts | only |
| Lower Slough Creek | : | 0 | : | 0 | * | 0 | |
| Shoshone River Drainage: | | | | | | | |
| Sylvan Pass Station | : | 0 | : | 0 | 8 | 10 | |
| Snake River Drainage: | D | rifts | 3 : | | | | |
| Snake River | : | only | | 2 | 8 9 | 51 | |
| 7 M. P. Snake River | : | | 8 | 51 | 8 | 105 | |
| Aster Creek | : | - | : | 42 | : | 75 | |
| Madison Drainage: | | | | | | | |
| Riverside | : T | race | * | 0 | : | 20 | |
| Old Faithful | : | 0 | - | 0 | | 40 | |
| Bechler Drainage: | D | rifts | 3: | | | | |
| Bechler River | : | only | : | 14 | | 53 | |
| Cascade | : | 65 | : | 28 | : | 110 | |

Other snow depths for April 1932:

| Norris | 30 |
|--------------|----|
| Fountain | 18 |
| Madison Jct. | 24 |
| Park Point | 23 |

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| Two Ocean | Plateau | 107 |
|--------------|----------|-----|
| Crystal S | orings | 34 |
| Soda Butte | • | 10 |
| Gallatin H | Road: | |
| M | ile Post | |
| | 28 | 22 |
| 7 ft. drift | 127 | 29 |
| on horseshoe | | 38 |
| CULLA | 25 | 39 |
| | 24 | 41 |
| | 23 | 40 |
| | 22 | 45 |
| | 21 | 47 |
| | 20 | 39 |
| | 19 | 48 |
| | 18 | 47 |
| | 17 | 47 |
| | 16 | 42 |
| | 15 | 40 |
| | 14 | 35 |
| | 13 | 33 |
| | 12 | 33. |
| | | |

022 - In approaches to the park

The Bozeman-Gallatin road was opened up on April 19. The last five miles to the Gallatin Ranger Station are in very bad condition due to mud. The Grayling Creek bridge, about 15 miles north of West Yellowstone, has gone out. This old bridge was being replaced last fall by a new one at the same site and the new one will probably be completed sometime this spring.

The Cody-Sylvan Pass road opened up on April 15. The road was in fair condition with the exception of a short stretch near the Sylvan Pass Ranger Station.

The Idaho snow plow which started from Ashton, Idaho, for West Yellowstone on April 11, after breaking down several times, broke down again on April 29, approximately 17 miles from Ashton. Snow on the Ashton-West Yellowstone road is extremely deep.

The road from Jackson, Wyoming, to Jenny Lake is open and with very little snow from Jenny Lake to Moran this section should open within the next few days.

The Hobach Canyon road is open but very wet and muddy and it is necessary to travel over this road during the night or at such times when the ground is frozen.

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The road from Dubois to Moran is open as far as Brooks Lake, and the road is being opened from Turpin Meadows to Moran.

Teton and Twogotee Passes are closed.

The Livingston-Gardiner road has been open the entire month and is in excellent condition.

100 - Administration

110 - Status of work

The work in all departments was kept current and by the end of the month the final 1934 estimates were practically completed, being held up pending the return of Assistant Superintendent Edwards. The practice of granting spring leave was continued and several employees were permitted to take some vacation during the month so as to avoid complication in December when everyone seems to expect leave, the granting of which greatly handicaps the organization.

Superintendent Toll left Denver on the first of the month for Hot Springs, Arkansas, to attend the Superintendents' Conference from April 4 to 8, following which he returned to Denver to continue his work on proposed parks and monuments.

Assistant Superintendent Edwards departed from the park on March 29 for Hot Springs, Arkansas, to attend the Superintendents' Conference and, following the conference, left for Washington, D. C., by car, visiting the Great Smoky Mountains National Park and several national monuments enroute. The remainder of the month was spent around Washington and vicinity. Ho is expected to return to the park about May 6.

Miss Verna Roe, clerk, reported for duty on April 15 for temporary work.

120 - Perk inspections by

121 - Acting Superintendent

Acting Superintendent Joffe made the usual inspections around headquarters and on the 20th attended an American Legion meeting in Livingston, where a matter of vital importance to the park was discussed.

122 - Special field representatives of Mational Park Service

Mr. George Wright of the Wild Life Research Division of the Park Service arrived here on April 10 and expects to spend most of the summer on research work in connection with park animals and the trumpeter swan. He was accompanied by Mrs. Wright. the four the state is in the state of information and

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125 - Other governmental officers

Engineers H. E. Dalton and E. O. Anderson of the Denver office of the Bureau of Public Roads arrived in the park on April 23. They are looking after the Bureau contract jobs in the park.

C. F. Capes, engineer in charge of the Bureau of Public Roads work in the Yellowstone, arrived on April 26 and departed on April 28 for Denver, to be gone until some time next month.

| 130 - F | inance and accounts | | | | Expended | |
|----------------|--------------------------------|-------|---------------|-----|-------------|---------------|
| | | | Appropriated | | to date | Balance |
| 41/2433 Y. | Y.N.P. 1931-32 | ŝ | 535,660.00 | Ş | 374,425.58 | \$ 161,234.42 |
| | Encumbered | | | - | 43,932.22 | |
| | Balance | -27 h | 535,660.00 | 100 | 418,357.80 | \$ 117,302.20 |
| 40/1433 | Y.N.F. 1930-31 | - | 497,715.00 | | 494,381.48 | 3,333.52 |
| | Encumbered | - | | _ | 429.38 | |
| | | \$ | 497,715.00 | | 494,810.86 | 2,904.14 |
| 49/0433 | Y.N.P. 1929-30 | \$ | 448,700.00 | | 447,333.39 | 1,366.61 |
| | Encumbered | | | | 32.27 | |
| | Balance | at S | | | 447,365.66 | 1,334.34 |
| 4 x 456 | Roads & Trails, | | | | | |
| National Parks | | \$1 | ,833,568.67 | | 705,383.07 | 1,128,185.60 |
| | Balanco | \$1 | ,833,568.67 | | 705,383.07 | 1,128,185.60 |
| 41/2405 | Emergency Reconst. | | | | | |
| | &F.F.F. 1931-32 Encumbered | - | 122,616.82 | | 122,616.82 | 0.00 |
| | Balance | - | 122,616.82 | | 122,616.82 | 0.00 |
| 41/2406 | Forest Protection | | | | | |
| , | & Fire Provention '3 | 1-3 | 2\$ 16,300.00 | | 14,810.08 | 1,489.92 |
| | Encombered | -12 | | | 719.04 | |
| | Balance | 20- | 16,300.00 | | 15,529.12 | 720.88 |
| 45 470 | National Park Ser- | | | | | |
| | vice Donations Encumbered | ŝ | 101,211.63 | | 1.00,134.19 | 1,077.44 |
| | Balance | - | 101,211.63 | | 1.00,174.19 | 1,077.44 |
| 4 x 409 | Extension of Winter | | | | | |
| | Feed Facilities of | | | | | |
| | Yellowstone Game Encumbered | - | 12,022.50 | | 12,022.50 | 0.00 |
| | Balance | \$ | 12,022.50 | | 12,022.50 | 0.00 |
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140 - Labor situation

With the approach of the park season and the disappearance of the snow around headquarters, the employment situation becomes more acute. Each day men come to the park seeking work and much time is required in taking care of them and answering questions. Arrangements have been made to do all the hiring in Gardiner so that persons seeking employment will not find it necessary to come to headquarters to take up the time of employees there. Applications continue to pour in by mail.

The first large crew, consisting of about sixty-five men, will be placed on May 1 to begin work on the Manmoth sewer system. Preference is being given to old employees with satisfactory service records, to married men with families residing nearby the park and others dependent upon park work for a livelihood. As the park season advances, the situation becomes more critical and many pathetic cases come to our attention.

150 - Equipment and supplies

The storehouse received and distributed four carloads of egg coal to quarters, shops and the office building, as well as one carload of slack coal to the jail building. A carload of timothy hay was purchased and stored. Other stock received included a large shipment of tires, emergency fire rations, motor oil, building materials and cases of milk. Miscellaneous equipment was received as follows: one range, sixteen filing cases, hand snow shovels and china dishes. The storehouse has been preparing for the coming season by enlarging shelf space in the grocery room, by building bins for root vegetables and by reorganizing stock.

170 - Plans, maps and surveys

Work under this item consisted of preconstruction engineering for the Mammoth sewer system. A survey party of two men began setting grade and alignment stakes on April 22, preparatory to opening the work on the project on May 2.

180 - Circulars, placards, publicity bulletins, etc.

No circulars or publicity stories were issued during the month. The policy of converving mimeograph paper for summer publicity was continued. The March issue of Nature Notes was mimeographed and 570 copies were franked. A copy of Nature Notes for March is attached hereto.

200 - Maintenance, improvements and new construction

210 - Maintenance

Road maintenance consisted almost entirely of snow removal

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between Mammoth and Golden Gate. The first work was attempted on April 5, using a sixty caterpillar tractor equipped with a bulldozer, but with unsatisfactory results. The road was opened from Mammoth as far as the parking area at the terraces and further work abandoned until more favorable weather prevailed. On April 7 the tractor, dragging a heavy dump wagon, broke trail as far as a large drift, fifteen feet in depth, at Silver Gate. Weather conditions again became unfavorable and no further work was attempted until April 12 and 13, when a track was cleared through to Golden Gate. Snow depths ranged from a few inches for short distances to a general average of three feet on the level and with side hill drifts of five to eight feet.

220 - Improvements

Carpenter Shop: The Master Carpenter was engaged in general maintenance work in employees' quarters, in the Government messhouse and in the Mammoth Museum.

Painting Department: The members of this department were engaged in painting woodwork, screens and signs, oiling, filling and varnishing floors, replacing window glass, etc., in various quarters, the commissary, Mammoth Museum and the bunkhouse.

<u>Senitary Department</u>: The operation and maintenance of the water, sewer and heating systems were carried on as usual. The refrigeration plant in the storehouse was completely overhauled. The old coal-fired steam boilers in the north end of the barracks building were repaired, cleaned and operated. Installation of one bathroom was completed and installation of another bathroom was begun. Repairs were made to water heaters and one new water heater was installed. The usual hauling of ashes and garbage and cleaning activities were maintained.

Shops: The following equipment has been overhauled and made ready for service during the month: Trucks Nos. 19, 19, 23, 511, 514, 516, 525, 540, 565 and 582 and Tractors No. 2 and 4. Also one sludge pump, concrete mixers Nos. 2 and 3, two power lawn mowers, nine Pacific fire pumps, one air compressor and four air drills were overhauled. Four fire trailers were manufactured. In addition, the usual repair of equipment in operation and repair of small tools was carried on and considerable time was spent pressing on solid tires used with motor graders.

Electrical Department: The Chief Electrician and his assistants were engaged in installing new wiring, in rewiring several buildings, in repairing field telephones, in rewinding and repairing telephone wire and and in cleaning electric water heaters.

230 - New construction

No construction projects were active during the month.

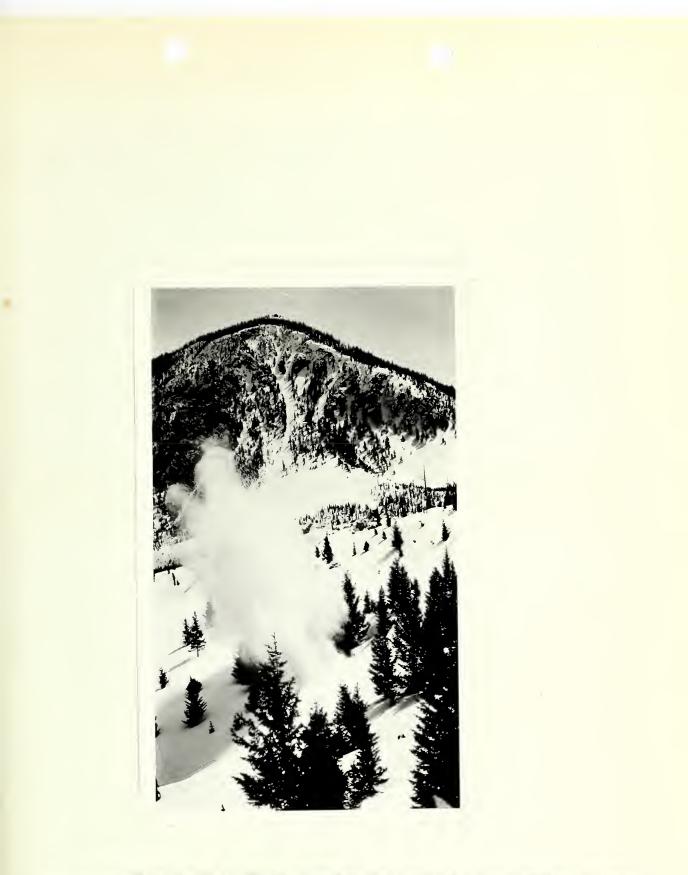
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Taken April ?, 1932. Opening the road near the Hoodoos. Bunsen Peak in background. One of the shots going out in large drift.





Taken April 7, 1932. Opening the road near the Hoodoos. Placing powder for blowing out drift.



Taken April 7, 1932. Opening road between Hoodoos. Picture taken after drift blown out.



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Taken April 7, 1932. Opening road near Silver Gate. Digging holes for placing powder to blow large drift south of Silver Gate.



Taken April 7, 1932. Opening road near the Hoodoos. Bunsen Peak in background. A caterpillar 60 was used on this work and it was necessary to blow out many large drifts.



300 - Activities of other agencies in the park

310 - Public service contractors

Arrangements were completed for the sale of the George Whittaker interests in Yellowstone Park to Mrs. Anna K. Pryor and Miss Elizabeth Trischman, owners of the Park Curio Shop, and Mrs. Pryor and Miss Trischman took over Mr. Whittaker's activities effective Aprill. Mr. Whittaker left the park on April 6 and will engage in business in West Yellowstone. Mrs. Fryor returned from Washington on the 6th and left on the 7th for California, returning to Mammoth on the 26th with Miss Trischman and members of their crew.

Mrs. Pryor notified the local residents that she would discontinue the granting of ten percent on all sales, but that arrangements were being made to reduce the price of articles sold in her store to meet competition in Gardiner and Livingston.

The Yellowstone Park Transportation Company started operations at its Gardiner garage on April 1, employing thirty-three men.

314 - Complaints

Many complaints have been received from Mammoth residents regarding the prices charged at the general store here and few people are purchasing any more than is absolutely necessary from this store. Mrs. Pryor, after taking over Mr. Whittaker's store, continued prices in force, but has advised that she will have a man go over her entire stock and expects to sell at prices comparable to Livingston and Gardiner prices. There is considerable business to be had from local residents, with sure pay, and it is not understood why the local merchant would not take advantage of his position to get this business.

350 - Donations and accessions of all kinds

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410 - Ranger, naturalist and guide service

The usual activities have been carried on by the Protection Department throughout the entire month. Various patrols were made and observations of geme conditions and wild life were made as much as possible.

A deer and antelope count was made on April 12 and an elk count on April 19 and 20. These counts were very intensive and the plans as laid out were carried forward to such an extent that the best counts for the past several years were obtained on deer, antelope and elk.

Fred T. Johnston left headquarters on April 3 to attend the Forest Protection Board meeting which was held at Missoula, Montana. He returned to headquarters on April 5.

During the month several rangers were on leave and at the end of the month several more were taking their leave.

420 - Museum Service

The following report is submitted by the Acting Park Naturalist for the month of April:

I. Current Operation

A. Ranger School

Contact with Ranger School. On April 6 the Rangers' Training School, which was in session, spent the morning in the Mammoth Museum. The Educational Department, its origin and purpose, was presented by George C. Crowe. Mrs. H. A. Baggley, Junior Naturalist, discussed the library and the Information Service, and Mr. Norman Scherer told of the system of museums in the park and their importance in the program. Questions and discussion followed. Such a period of instruction would be valuable for temporary rangers at the beginning of the season.

B. Ranger Naturalist Staff

The appointments of fifteen ranger-naturalists who served during 1931 and six new ranger-naturalists have been approved. The alternate list is now being completed. Total ranger naturalist positions filled 22.

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II. Permanent Projects

B. Nature Notes.

The mailing list has been completely revised and brought up to date with the stamping of 100 addressograph plates. Six hundred copies were printed and mailed. Copy is in hand and the editing underway for the April issue. Requests are still being received from readers asking that their names be continued on the mailing list.

C. Library.

The most outstanding contribution of the year was made to the Yellowstone National Park library by William T. Jackson, pioneer photographer with the Hayden Surveys. The six books received include 5 volumes of the original pictures which Mr. Jackson himself labeled.

Total books and pamphlets received and accessioned 9. 21 old books and pamphlets accessioned. Current periodicals received and filed 24.

All work of cataloging is being held in abeyance due to pressure of current work and preparatory activities with relation to summer's program.

E. Museum Work.

Projection lanterns were converted from carbon arcs to 1000 watt incandescent bulbs.

The work on Mammoth Museum has been delayed at intervals, as the carpenters were called away to work on various quarters for incoming employees. Less than half of the floor is still to be laid. The new floor laid received two coats of Floor Seal. All cases have been moved over on the new floor and the old is torn up. The painters have given the ceilings 2 coats of paint and the woodwork 1 coat. Caretaker Mead with some help shifted the cases. The Post Office moves shortly to the permanent quarters, making the winter office available for further enlargement of the museum exhibit rooms.

Two buffalo heads, 2 elk heads and one deer head were processed.

One marten, 1 coyote, 1 fox and 1 otter were shipped to Harold Clements, Carnegie Museum, Pittsburgh, Pennsylvania, for mounting.

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 Herbarium specimens cataloging completed.

F. Lantern Slides.

Thirteen slides are to be made from Grant negatives. These are to fill in our series of slides for educational activities, and are from the list requested to be photographed last summer. They show caravans, large guide parties and lectures.

G. Equipment.

A complete check has been made of camp equipment for the ranger naturalist staff. Repairs and replacements are now being provided for. No new equipment has been received.

H. Photographs.

Negatives in circulation 329. New negatives with prints turned in but not labeled or filed 48.

Mr. Mead devoted five days to the completion of photographic files, pasting, cataloging and filing of prints and negatives. 750 prints hendled.

I. Publicity Clippings.

Three days were spent in sorting and pasting clippings under their respective topics. Some time will be required in May to bring this work up to date.

J. Sales Publications.

Twenty copies of Jim Bridger have been shipped. Other books and maps shipped to us by the publisher are the Joe Mora Map, "Oh, Ranger!" and "Our Wilderness Neighbors". The price of the "Oh, Ranger!" book has been reduced to \$1.00, which should greatly increase the sale of this popular book throughout the park. No sales made during the month.

K. Personnel.

Acting Park Naturalist George C. Crowe and Museum Caretaker W. J. Mead were on duty the entire month. Junior Park Naturalist Herma A. Baggley was on leave one-half day.

George Wright arrived in the park April 10 to resume his wild life observations.

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 Former Assistant Park Naturalist Norman W. Scherer left the park on April 11 for Lassen Volcanic National Park where he is to assume the duties of park naturalist.

L. Nature Walks.

A trip over the formation was made at Mammoth and certain changes were planned for the walks, to include new centers of activity. The proposed route will shorten the guided trips a little, which is desirable. New signs "Keep Off" and "Follow the Walk" will be required.

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440 - Insect Control

A Forestry Policy for Yellowstone National Park prepared in the Chief Ranger's office was completed the latter part of April. Copies have been sent to the Director, Chief Forester and Superintendent Toll, for approval.

Observations of the aphis infested trees in the Mammoth camp grounds have been made several times during the month. The infested trees appear to be in a serious condition, and preparations for spraying them are being made.

450 - Animal Disease Control

The work of the wild life research laboratory during the month consisted of the preparation of a report on condition of the mule deer, photographic work in the laboratory, and trips of inspection over the winter game ranges by Assistant Shief Ranger LaNoue and Ranger Chapman. A ranger was assigned to refill the game salt troughs which are located on the spring game range.

460 - Birds

Spring birds are being reported as very numerous over the entire park. Geese and ducks of various species are being reported on all of the open waters in the park with several swans being seen on the wing at Snake River. The swans which were previously reported as being noted on the Yellowstone River from the Mud Volcano to Fishing Bridge have scattered over a wider range since many of the waters have opened up.

470 - Animals

The game animals came through the past winter in a great deal better condition than was anticipated. As the snow gradually recedes the elk gradually move into higher country. Excellent counts of animals were obtained during the past month.

Elk. The following list discloses the locations and numbers of elk counted; also, the number of winter kills located. We might mention here that the winter kills as noted are not to be considered as very high in view of the fact that for the past few years of light winters no large number of old animals which ordinarily would have died were reported.

(Table on next page)

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| Over Mt. Everts : | 39 | And the owner of the owner of the | : | 1 | | 1 : | | ; | | | 2 |
| Bunsen Peak and Swan Lake : | - | 1 | • | | 0 | | | | | | |
| Mammoth and vicinity : | 22 | | : | | : | | a 9 | | | | |
| Slough Creek : | 67 | - | • | - | • | | | | | : | 60 |
| Slough Creek Transfer barn hills : | 43 | | : | | • | | • | * | | | |
| Slopes - rear of Lower Slough Creek : | the state of the state of the | The other states and the | • | | • | | • | : | | : | |
| Mt. rear of Buffalo Ranch : | 8 | - | • | | • | | | | | * | |
| Little Specimen Ridge : | 28 | | • | | • | : | | * | | : | |
| Upper Blacktail and S.W. Mt. Everts : | 91 | - | • | 1 | • | 3 : | | : | | | 4 |
| Lower Blacktail to Rifle Rge-Turkey Pen | and the second second second | Production - 1000 | • | | 3 | | • | | | 8 | |
| Beaver Ponds to Park Line : | 71 | | • | | : | 2 : | : 3 | | | : | 5 |
| Crevice Basin | 27 | 2 | • | | : . | 4 : | : 10 | : | 1 | * | 15 |
| Specimen Ridge : | 10 | 6 | • | 2 | • | | | * | | 0 | 2 |
| Jct.Butte, Lamar Flats, Crystal Ca to LamarGan: | 39 | 3 | 0 | | : | 4 | | * | | 0 0 | 4 |
| Sl.Cr. to Trans.barn, N. side Lam. to Lam. Ford: | 46 | 5 | • | | : 1 | 6 | : 8 | * | 2 | 0 | 26 |
| Lam.Fd.N.side Yel.RUp.trail to Hellroar: | 113 | 5 | • | 1 | | 6 | : 4 | * | | | 11 |
| Little Buffalo : | 11 | 2 | a 0 | | • | 0 | | * | | * | |
| Coyote and Hellroaring Basin : | 11 | 9 | • | | • | 1 | | : | | * | |
| Antelope Creek : | 2 | 2 | | 1 | | 1 : | | : | | * | 2 |
| Tower Falls to Cottonwood via Yel. River: | 21 | 0 | • | 3 | : 1 | 9 | : 8 | * | 1 | | 31 |
| Cottonwood to Blacktail : | | 5 | | 2 | : | 3 | 9 | * | 1 | : | 20 |
| Soda Butte : | 78 | 7 | | | • | - | | : | | | 14 |
| Outside Park, East of Yel. River : | 135 | 9 | | | : | | : | : | | | 21 |
| Outside Park, Trail Creek : | 32 | 6 | | 3 | | õ : | : 1 | : | | * | 9 |
| Tower Falls to Blacktail, south side Yel: | 66 | 9 | • | | | 4 | | : | | * | 7 |
| Tower Falls and vicinity : | 13 | 8 | | | • 1 | 7 : | : 1 | • | | 8 8 | 8 |
| Game Preservation Ranch and vicinity : | 15 | 4 | • | | | 1 : | : 10 | | de de la constante de la const | * | 11 |
| Totals: | 1062 | 4 | : 1 | 4 | : 7 | 7 | 54 | : | 5 | 0 8 | 252 |
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The herd of elk which was wintering at Bechler River, as mentioned in last month's report, made it through to better forage and the elk are coming through the winter in fine shape. However, such was not the case with the hundred elk which were trapped on Duck Creek near West Yellowstone. A late report on March 27 gave the following dead animals which total almost fifty per cent of the number which was wintering there:

| 33 | calves |
|----|--------|
| 4 | spikes |
| 4 | bulls |
| 7 | COWS. |

The balance of this group of elk has scattered over the country since the warm weather melted the snows to such a depth that they could travel freely. A complete list of all the losses of elk will be shown in the monthly report for May as our total

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counts of losses have not been completed yet.

A newly born elk calf was found dead near the Gallatin Ranger Station on April 25. This is the first 1932 calf elk to be reported.

Deer. All deer noted are in good condition with forage conditions fair. The deer count on April 12 showed a total of 885 of these animals. The localities and counts are shown as follows:

| Name and Location | Deer Count |
|---|------------|
| Lava Cr. so.side to Gardiner River Between Gardiner River and the road | 8 |
| to ridge below dump ground Game Preservation Ranch to Park Line to Gardiner, west of old road | 41 |
| through foothills Game Preservation Ranch to Park Line, | 57 |
| following snowline | 66 |
| Lava Creek over Mt.Everts to Target Ran | |
| Gardiner to Sepulchre to Beaver Dams Lava Creek to Target Range east side | 9 |
| river | 79 |
| Game Ranch to Reese Creek | 115 |
| Rifle Range | 5 |
| Rifle Range, Turkey Pen trail | . 0 |
| North side Mt. Everts | 0 |
| Mammoth and vicinity | 131 |
| Old Faithful | 60 |
| Fountain | 8 |
| Excelsior Basin | 21 |
| Madison Junction | 5 |
| Gallatin | 10 |
| Soda Butte | |
| Bechler River | - |
| Yellowstone River - Gardiner to Blackta | |
| Blacktail to Hellroaring (Mar. 29) | |
| Tower Falls | |
| Lamar Ford to Hellroaring | 23 |
| Garnet Ridge | |
| Snake River Hot Springs | 5 |
| Total | . 885. |
| | |

In connection with this deer count 44 dead ones were located.

Moose. Nothing of interest to report.

Antelope. A small increase is noted in the antelope herd as was disclosed in the count obtained on April 12, which is as follows: tt marker of the source of the

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Name and Location

| Lava Cr. so.side to Gardiner River Between Gardiner River and the road to | 0 |
|--|------|
| ridge below dump ground | 0 |
| Game Preservation Ranch to Park Line to Gar- | |
| diner west of old road - through foothills | 200 |
| Game Preservation Ranch to park line, | |
| following snowline | 0 |
| Lava Creek over Mt. Everts to Target Range | 37 |
| Gardiner to Sepulchre to Beaver Dams | 89 |
| Lava Creek to Target Range, E. side river | 50 |
| Game Ranch to Reese Creek | 29 |
| Rifle Range | 0 |
| Rifle Range, Turkey Pen trail | 17 |
| Rifle Range, Turkey Pen trail | 57 |
| North side Mt. Everts | 185 |
| Mammoth and vicinity | 4 |
| Old Faithful | 0 |
| Fountain | 0 |
| Excelsior Basin | 0 |
| Madison Junction | 0 |
| Gallatin | 0 |
| Soda But te | 0 |
| Bechler River | 0 |
| Yellowstone River - Gardiner to Blacktail | 0 |
| Blacktail to Hellroaring | 0 |
| Tower Falls | 0 |
| Lamar Ford to Hellroaring | 0 |
| Garnet Ridge | 0 |
| Snake River Hot Springs | 0 |
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The condition of all antelope seen was noted as good with forage conditions fair.

Sheep. 79 mountain sheep were counted in connection with the deer and antelope count. Their condition is noted as fair with forage conditions fair; also, 21 sheep are known to be wintering at Tower Falls, but were not seen at the same time that the deer and antelope count was being made.

Buffalo. During the forepart of the month the main buffalo herd started drifting away from the Buffalo Ranch proper and on April 16 the feeding of these older animals was discontinued. However, the calves were kept in the corrals and were fed during the entire month. All of the buffalo came through the winter in excellent shape with the loss of only 2 calves. The herd total at th. present time is 1016 animals. The first of the 1932 buffalo calf crop was seen on April 19 in the Lamar Valley and consisted of 4 buffalo calves. SIL G TOTES

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 <u>Small Animals</u>. Woodchucks and picket pins are making their appearance in vast numbers. Rabbits are plentiful and have changed to their summer coat. Otter, marten, beaver and muskrats are being reported from all localities in the park. One cross fox was found dead on Capitol Hill early in the month but it was not discovered until the fur had been spoiled.

Bears (Black). These animals have made their appearance over the entire park but to date have caused no trouble as compared with last year when during this same month it was necessary to give three of them free rides out of Mammoth. One black bear has been reported as killed at the Gardiner dump grounds.

Bears (Grizzly). Four grizzly bears were reported at the Mud Volcano on April 30. They are out in many places in the park and are following the movement of the game to pick up the dead animals.

Buffalo and Other Ranch Activities.

Activities at the Slough Creek Ranch and the Buffalo Ranch consisted mainly of feeding the elk and buffalo, respectively. The buffalo calves were fed in the buffalo corrals during the entire month. The main herd was fed until April 16. 23,200 pounds of cottonseed cake were fed at the Buffalo Ranch in addition to 26 tons of hay. Elk were fed at the Lower Slough Creek Ranch during the entire month. After running out of hay on Upper Slough Creek on March 29 all elk moved to the lower ranch where at one time 1500 were being fed. They slowly started to drift away from the ranch on April 12 and at the end of the month very few of them were left.

The horse herd was fed at the Gardiner ranch from April 1 to 23, after which they were taken to the Buffalo Ranch and are being taken care of there at the present time.

All of the ditches and fences at the Game Preservation Ranch were repaired during the month and at the end of the month some plowing was being done and plans for reseeding and for the eradication of the foxtail grass, which is prevalent on that ranch, were being made.

480 - Natural Phenomena

The monthly trip over the hot springs formation was made on April 29, and the following changes and conditions were noted:

Hymen Terrace - Continues to be active on the northeast face and on the lower slope has spread about 8 feet toward Liberty Cap and is flowing down to the little footbridge opposite Judge Meldrum's the state of the s

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The most active portion is covered with yellow, residence. pink and brown algae. The top pool is almost dried up and is colored dark brown. Water is flowing from only one vent. A little steam was noted at the old went on the west side. Diana - is still spreading to the east of Devils Thumb while the west side has dried up a little during the month. However, a portion of the trail used last season on the west is covered with water, up near the vent. Two new vents have opened during the month, the largest 5 feet to the south of the old vent and a small one about 2 feet to the west of the old one. bubbling intermittently. Brown colorspredominate. About 100 feet southeast of Diana we found a small pool 18 inches in diameter bubbling quietly at temperature 53° C. Minerva - Faint wisps of steams were in evidence in a grotto

near the top, on the southeast side. Close to this spot had been some crumbling.

<u>Mound</u> - No changes on lower side, but the activity and flow has increased at the group of springs on top. The largest vent is about 2 feet across. It was impossible to take temperature readings here. Brown shades predominate with greenish tints intermingled. The flow is still divided to the east and west. Pulpit - shows no change from March other than an increasing flow

over it, from Mound.

Main - One small vent active in March has dried up; otherwise no change from last month.

Blue Springs - Basins are still dry toward the auto highway, but it has spread over toward the mound near Cupids cave. The runoff fills all the basins west of Jupiter and flows toward Mound. Close about the new spring on the northwest end there is great deposit of the sulphur bacteria and the flow appears to have increased along the crack, in evidence in March.

Cleopatra - The small flow on the south is drying up a little. The main flow has increased somewhat and below the basins has spread out about 10 feet to the west. Colors white, yellow, greenish tints and browns.

Narrow Gauge - No change - almost quiescent.

Orange Mound - No change.

A large hole has opened to the south of Cheops Mound about 200 feet, just across the auto road to Orange Mound. The ascending steam is so dense, one cannot see more than 8 feet in depth. The opening is about 4 feet in diameter.

<u>New Activity</u> - not reported in March is located just at the west edge of the auto road above Cupids Cave. There are three small vents along a crack an inch wide and the flow has spread over an area about 60 by 100 feet in the past two weeks. Little color in evidence.

Highland - is quiescent.

Angel - has changed greatly during the last days of April. The main flow is coming from vents in the grottos, 4 or 5 feet below

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the top. A new crack has opened on the extreme south end, so nearly all the water misses the basin directly bilow the middle formation. The flow is still heavy on the extreme north where the water covers the trail, spouting horizontally about 20 inches. This terrace has lost some of its beauty for the time being.

Jupiter - shows no change, except the color is becoming lighter.

Only a portion of the temperature readings could be taken as the thermometer broke while in the water at Blue Springs.

The outstanding features are the increasing flow in the majority of the springs, no doubt due to melting snow on the higher slopes; the new activity above Cupids Cave; the large steam vent near Cheops Mound; the changes at Angel Terrace.

Upper Geyser Basin

Ranger Curtis K. Skinner reports that activity is increasing throughout the basin.

500 - Use of Park Facilities by the Public

510 - Increase or decrease in travel

Pre-season travel for the month consisted of 344 visitors traveling in 127 cars, all entering and leaving via the northern gateway.

The total pre-season travel at the end of the month consisted of 7,864 visitors, traveling in 2,789 cars, as compared with 6,283 visitors traveling in 2,134 cars last year.

530 - Visitors

April 22. Rev. W. B. Cox, Executive Secretary-Treasurer, Board of the Church of Extension of the Evengelical Church, Harrisburg, Pennsylvania. As no roads were open Rev. Cox confined his observations around Mammoth.

April 25. Dewey Albinson, Delphic Studios, New York City, artist for Northern Pacific Railroad. Expects to paint park features for railroad this summer. Accompanied by Mr. Thornton, Northern Pacific Agent, Livingston, Montana.

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620 - Fire Protection

Fire Prevention: Considerable time was consumed during April in reconditioning fire equipment preparatory to establishing the revised fire caches. All equipment used during the 1931 fire season has been overhauled or reconditioned and will be assembled into 6-men, 15-men and 25-men outfits, during May, for distribution to caches throughout the park.

The preparation of a fire manual for Yellowstone National Park was completed in April and is being typed in rough draft at the present time.

Considerable time was also spent in preparing visibility maps from prospective lookout points and in preparing triangulation maps for fire protection work.

640 - Destruction of Predatory Animals.

During the past winter 109 coyotes were destroyed by the rangers throughout the park. This is a slightly lower total than was made in 1931 and 1930, in which years 98 and 134 coyotes, respectively, were killed. The first sale of coyote hides was made on February 24 and they were sold to the highest bidder who was J. P. Evans of Livingston, Montana, bidding for the Stevens Fur Company of Denver, Colorado. 51 private hides were sold at \$5.10 each and 43 Government hides at \$5.35 each. Two additional hides, one private and one Government, were sold in Livingston on April 9 for a price of \$2.50 each to J. P. Evans. 8 additional Government hides were given to various persons and museums as requested by the Director. We have on hand at the present time 5 additional coyote hides which are to be sold at a later date, which will make a total distribution of hides as follows:

> Government coyote hides - $54\frac{1}{2}$ Private coyote hides - $-\frac{54\frac{1}{2}}{109}$. Total - 109.

The following table shows the number of coyotes killed during the winter of 1931-1932 and also the person destroying these animals:

(Table on next page)

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| Rush | * | 支 | ę 0 | 2 | : | 1 |
| Phillips | * | 11 | : | 11 | * | 22 |
| Baggley | | 1 | * | 0 | * | 1 |
| Anderson, C. L. | * | 4 | * | 4 | : | 8 |
| Trischman | : | 0 | : | 1 | : | 1 |
| Total | : | 51 | * | 51 | * | 102 |

900 - Miscellaneous

Hospital & Medical Service: Dr. Ivan Budaeff, resident physician, reports as follows: 102 office calls;

125 home visits.

Post Office: Business during April was normal for this time of the year, and nothing special to report.

Church Services: Episcopal services were held in the chapel on Sunday evening, April 24, by Rev. L. D. Smith.

English Lutheran services were held in the Lodge Room by Rev. Webster M. Clement on Monday evening, April 25.

Mr. William Rush, who was assigned for several years on special investigation work in connection with the northern elk herd, left the park to resume his duties with the U. S. Forest Service in Missoula. The cooperative investigation work in which Mr. Rush was engaged had to be discontinued due to shortage of funds.

On April 15 a number of the Government employees in the park met in the canteen to form a local chapter of the Federal Employees'

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Union. There was a good response and officers were elected as follows: C. A. Lord, President

George W. Miller, Vice-President William Wright, Secretary-Treasurer Lloyd Holman, Guardian R. R. Robinson, Jr. : Francis D. LaNoue : Executive Officers Margaret Sabin :

Application has been made for a charter and by the end of the month employees had signed up for membership. 23

The Interior Department Appropriation Bill was signed by the President on April 22, being the first of the department bills to be approved.

- - - - - -

Mrs. Lusetta Bowman, mother of Alfred Bowman, Master Carpenter of the park, died at her son's home at Mammoth on April 25. She was 73 years of age and had been in failing health for a number of years, being bedridden for more than a year. She was buried in Gardiner on the 28th and a number of Mammoth persons attended the funeral.

Very truly yours,

Joseph Joffe Acting Superintendent

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UNITED STATES DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE

TRAVEL REPORT

Yellowstone National Park for the month of April, 1932.

| | This Month | This Travel Year To Date | This Month Last Year | Last Travel Year To Date | 1 | ease for el Year | |
|---|---|-----------------------------------|---|--|--|---|--|
| | 1 | | | | | | |
| JATE TRANSPORTATION: | | | | | | | |
| s first entry, | 127 | 2607 | 261 | 2029 | 578 | 28 | |
| s reentry, | | 182 | | 104 | 78 | 75 | |
| prcycles, | • • energy with demaker on one | | en ang san ang ang san ang kapina manaka ang kapina | 1 | -1 | -100 | |
| otal motor vehicles, | 127 | 2789 | 261 | 2134 | 655 | 30 | |
| sons entering via motor icles, | 344 | 7864 | 756 | 6283 | 1581 | 25 | |
| sons entering via other vate transportation, | • • emerged to the observation of | | ille nammangang sitter an- nana gant inan | Politikatika manimu manda a Politikatika | , a saaa hi waxaa katii adhisha dalah ka saara shabada | ىلۇم كەرىپىرى تەركىلە ت | |
| otal persons entering via rivate transportation, . | 344 | 7864 | 756 | 6283 | 1581 | 25 | |
| ER TRANSPORTATION: | | | | | | | |
| sons entering via stages, | | | | | | | |
| sons entering via trains, | | | | | | | |
| sons entering otherwise, | 0 0 <u></u> | | Radiuse as a feat to the star and startage damagement | | e Sentilizatio qua a cananza seggio dire a constantibilitza gapa d | ana ang ang ang ang ang ang ang ang ang | |
| otal other transportation | Substantiants summer a magnetion variant | | | | | | |
| ŅD TOTAL ALL VISITORS, . | · · 344 | 7864 | 758 | 6283 | 1581 | 25 | |
| | Net gegen ige gegennen vogeren var | | Th | is Last | Incre | ease | |
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DEPARTMENT OF THE INTERIOR DEPARTMENT OF THE INTERIOR MATIDIAL FARK SERVICE

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UNITED STATES

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

STATUS OF AUTHORIZED PROJECTS

YELLOWSTONE National Park for the Month of APRIL, 1932

| D | escription of Projects | | Percent Constructed | | Probable Tate of |
|----|--|-------------|------------------------|------------|---------------------|
| | | To Date | This Month | Last Month | Completion |
| 4 | Mammoth Sewer System* | 70 | 0 | 0 | 6-30-32 |
| .4 | - Signs | 99 | 0 | 0 | 6-30-32 |
| .5 | - Post Const. Maint. | 50 | 0 | 0 | 6-30-32 |
| - | Trails, Old Faithful | 90 | 0 | 0 | 6- 1-32 |
| - | Surface Betterments | 95 | 0 | 0 | 6-30-32 |
| - | Gallatin Road, Surf. & Oil | ing 1 | 0 | 0 | 6-30-32 |
| | Obsidian Cliff-Cascades Oi | ling O | 0 | 0 | 6- 1-32 |
| | Canyon-Tower Jct.Cleanup & | 011 0 | 0 | 0 | 10-31-32 |
| - | Norris-Madison Road, Staining rail & seal coa | t 85 | 0 | 0 | 6- 1-32 |
| - | E.Entrance Road, Sthing ra | il 95 | 0 | 0 | 6- 1-32 |
| - | Terraces-Obsidian Cliff, Oiling | 0 | 0 | 0 | 8- 1-32 |
| - | Inspiration Pt. Road Clean | up O | 0 | 0 | 6- 1-32 |
| - | Obsidian Cliff-Firehole Ca cades, Cleanup | s- 0 | 0 | 0 | 6-1 -32 |

evicually reported as 100% but status now changed by return of funds deducted or fire fighting.

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UNITED STATES

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SER ICE

STATUS OF AUTHORIZED FROZE

Matic al Park for the Youth of the 1, 2 - 1, 2 - 2

| Te dription of Projecte | Percen Con. r.i. ad To Date | r.r.cn ∏his Lor c | | 0100 |
|--|-----------------------------------|----------------------|---|---------------|
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| ani34 - 3.7 | - 28 | | 1 | - I.v. () |
| | -000 | | | Real Property |
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UNITED STATES

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

STATUS OF PERSONNEL

YELLOWSTONE National Park for the Month of APRIL, 1932

| | Thi | s Month | This Mor | nth Last Year |
|-------------------------------------|-----------|---|----------|--|
| | 11 | Non-Appointed | | |
| er of employees beginning of month | 74 | 13 | 71 | 15 |
| er of additions | 2 | 24 | 3 | 152 |
| tal | 76 | 37 | 74 | 167 |
| er of separations. | 0 | 2 | 3 | 5 |
| er of employees close of month | 75 | 35 | | 162 |
| er of promotions during month | 0 | | 2 | |
| regate amount of annual leave taken | 191 3/4 D | a <u>ys</u> | 145 3/4 | Days |
| egate amount of sick leave taken . | 35 Days | and the set functions have the set of a set of the set | 31 Days | Mallonadoridan'i dashsoquoune an rosa honomiyon pot |
| egate amount of leave without pay | 0 | ana dinanga juga tau, katanan e juga na produktaran katanang-digagan durangan | 27 | - eta rangor essano - despedidade algundarete inagiando escorego. Militerar este t |
| tary leave | | | 14 | |

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UNITED STATES

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

ST. TUS OF PERSONNEL

ational Park for the Month of _______ 123:

| BY J. E.J. Jr | This I'r | s Month | This | |
|--|-----------|--|--|--|
| Vcu-Aproint 1 | April | Non-Appointed | Appointed | ······································ |
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DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

REPORT OF PARK REVENUES

Yellowstone National Park for the Month of April, 1932

| | This Year | Last Year |
|--|--------------|--------------|
| ark revenue on hand beginning of month, | \$ 17,50 | \$ 2,20 |
| eceived, | 1,058,70 | 9,055.51 |
| Total, | \$1,076.20 | \$9,057.71 |
| emitted, | 1,022.90 | 8,980,46 |
| | A | |
| ark revenues received this year to date, | \$ 220, | 511,83 |
| ark revenues received last year to date, | . 257,9 | 915.96 |
| De Hacrease, | . 37, | 404.13 |
| Per cent of #forease, | 1450 | 22 |

10-160

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

REPORT OF PARK REVENUES

Lilo to 6 National Park for the Month of A 11, 1958

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| tshu l Itei | Thi ear | |
|----------------|-------------|--|
| 02.8 | | Park revenue on hand beginning of month, |
| 8,055.51 | 1,058.70 | Geeived, |
| 17,70,0% | . 41,076.50 | Total, |
| 6,980.46 | 2,021.30 | emitted, |
| 6345 | 0,025.30 | n hand close of month, |
| | | |
| 11,53 | | ark revenues received this year to date, |
| 188 | 257,92 | De Condes received last year to date, |
| 24.15 | · · · //22 | Marease, |
| 3 | 14501. | Per cent of Ancrease, |

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UNITED STATES

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

REPORT OF TELEPHONE AND TELEGRAPH BUSINESS

YELLOWSTONE

National Park for the Month of APRIL, 1932

This This Month Increase Percent Month Last Year Increase CAL BUSINESS 528 4 .0075 532 les of circuit maintained 10 188 178 .056 . of telephones connected of measured service calls of other local calls. 4530 121 .026 4651 tal No. of local calls. 220 244 24 .098 ak load in calls per day. ceipts from measured service calls. . . ceipts from telephone rental. TOTAL RECEIPTS NG DISTANCE BUSINESS 109 -28 -.255 157 -91 -.58 266 TOTAL LONG DISTANCE CALLS 147 - 7 nk load in calls per day. 8 15 -.46 eipts from Long Distance business. . . . LEGRAPH BUSINESS Bages via Western Union. sages via. TOTAL MESSAGES "eipts from belegraph business

of money transfer receipts.

14L RECEIPTS TELEPHONE & TELEGRAPH DEPT-

UNITED STATES

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UNITED STATES

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

*ELECTRICITY GENERATED, SOLD, USED, ETC. APRIL, 1932

| | Nationa | al Park fo | or the Mo | | AFALL, LDC | |
|--|---------|------------------|--------------|-----------------|------------|---------|
| | | | | | | |
| | | This | This | Last | Increa | se for |
| | This | Travel | Month | Travel | Travel | Year |
| | Month | Year To Date | Last Year | Year To Date | Number | Percent |
| rent generated, | 50290. | 628000. | 53800.0 | 648442.0 | -20442.0 | 03 |
| d to park operators, | 1036. | 53194. | 1161.5 | 63350.6 | -10156.6 | 16 |
| to others, | | | | | | |
| nished to other Governmental gencies, | | | | | | |
| d by National Park Service, ost in transit, etc., | 49254. | 574806. | 52638.5 | 585091.4 | -10285.4 | 02 |
| ctal current generated, | 50290. | 628000. | 53800.0 | 648442.0 | -20442.0 | 03 |

nount receivable from the sale of electricity, \$

Indicated by K. W. H.

BRATE GATINE

DEPARTMENT OF THE INTERIOR

NATIONAL PLAN SERVICE

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dicate by K. W. H.

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

MONTHLY METEOROLOGICAL SUMMARY.

ion, Yellowstone Park, Wyo. ; month, April , 1932. Character Of of day. POSSIDI Mean 29.987; highest 30.52, date 10 Sun-shine lowest 29.26 date 20 Per TEMPERATURE. (Degrees Fahrenheit.) Precipitation. Character (In inches and hnndredths.) Max. Min. Mean. TEMPERATURE. Highest 64 , date 16 ; lowest 12 , date 6 Greatest daily range 38 , date 10 52 40 46 - 0 Cloudy 41, date <u>10</u>

 Greatest daily range
 9

 Least daily range
 9

 1871
 82
 93
 04
 59
 1

 1872
 83
 94
 38
 05
 37
 1

 53 Τ. 43 33 ..., date <u>28</u> Cloudy 17 45 26 41 . 15 38 27 32 .02 Cloudy 14 16 38 27 34 1873 84 95 •• 06 <u>38</u> 17 <u>31</u> 28 <u>33</u> 41 24 32 Τ. Cloudy 21 38 14 26 .23 Cloudy 17 39 12 26 т. Clear 100 45 21 33 0 Pt.Cldy. 68 35 22 28 .05 Cloudy 17 41 16 28 Υ. Clear 82 Absolute maximum for this month for <u>45</u> years <u>77</u> Absolute minimum for this month for 46 years -354 16 35 0 Pt.Cldy. 99 Average daily excess (+) or deficiency (-) of this month as compared with the normal -0.457 28 42 0 Pt.Cldy.100 Accumulated excess (+) or deficiency (-) since January 1 -23461 34 0 48 Cloudy 50 Average daily excess (+) or deficiency (-) since January 1 -1.9 **PRECIPITATION.** Total this month 1.06; snowfall 12.2 Greatest precipitation in 24 hours 0.38, date 20-21 63 33 48 0 Pt.Cldy.100 49 32 40 .01 Cloudy 16 Greatest 24-hour snowfall 3.9 , date 20-21 0.0 Snow on the ground at end of month 54 29 42 0 Clear 99 64 30 47 0 Pt.Cldv 73 52 32 42 Cloudy 0 90 48 31 .01 40 Pt.Cldy 33 56 32 44 T. Cloudy 15 40 28 34 .28 Cloudy 0 36 26 31 .11 *dloudy* 21 Normal for this month <u>1.46</u> 40 31 36 .23 dloudy 4 40 26 33 Τ. dloudy 2 Accumulated excess (+) or deficiency (-) since January 1-2.30MEAN RELATIVE HUMIDITY (Percentage). a.m.,75.7; local noon,48.7; 6. p.m.48.6 47 30 38 .06 dloudy 29 6 WIND. Prevailing direction of the sty total movement 6, 277 miles; average hourly velocity 8.7 miles maximum velocity (for five minutes) 50 miles per hour from Southbare of the 51 28 40 0 Pt.Cldy 56 37 23 30 \mathbb{T}_{*} Cloudy 21 minutes) <u>30</u> miles per hour, from <u>SOUthwest</u> on <u>2nd</u>. 45 24 34 .01 Cloudy 9 Maximum wind velocity this month since 904. 36 (By three-cup anemometer) corrected) 38, SW, 122 27 32 .06 Cloudy 0 WEATHER. 43 22 32 .01 Number of days, clear ____; partly cloudy9____; eloudy 1.8____; Pt.Cldy. 48 on which .01 inch, or more, of precipitation occurred _____2 47 24 36 0 Pt.Cldy 36 MISCELLANEOUS PHENOMENA (dates of). Aurorashone ; halos: solar, 15, 16 , lunarnone. Hail none ; sleet none ; fog 20 1.06 none Thunderstorms .7 26.5 36.6 42 * Frost: light; heavy; killing

Note.-"T" indicates trace of precipitation.

autumn frosts are not recorded after the occurrence of "killing," except in Florida and along the immediate coast of the Gulf of Mexico.

Lowest observed relative

humidity, 21%, on 16th,

W. T. LATHROP, Meteorologist,

Weather Bureau.

