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UNITED STATES  
DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

Zion NATIONAL PARK

COPY

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1940

Inspections, Branch of Operations, Region IV  
(Administration)

Inspections, Branch of Operations, Region IV (Administration)

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ARNO B. CAMMERER,  
*Director.*

## ZION NATIONAL PARK

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### Annual Report

1940

The following is the annual report for Zion National Park covering the fiscal year ending June 30, 1940.

#### General

The past year was again characterized by an effort toward park development through emergency programs. Large CCC, PWA, WPA and WPA programs were undertaken; and considering the limited amount of funds provided for the purchase of materials in all except PWA projects, good results were obtained. It is estimated that more volume of construction was completed during the past year than during any year since the lush days of large allotments of PWA funds.

A few of the highlights of the past year are: the transfer of areas administered by this office from Region IV to Region III; establishment of a new annual travel record; a successful Zion Easter Pageant; good progress on the Zion-Bryce Canyon National Parks Approach Road; the beautification of five miles of state highway approach road to the park's south entrance; frequent changes of the administrative head of the park; a drastic reduction in park operator's rates for cafeteria and cabin services; a new record maximum temperature of 112°; and flood damage from rain storms in September.

#### Administration

Regional jurisdiction over Zion and Bryce Canyon National Parks, Cedar Breaks, Timpanogas Cave, Capitol Reef and Zion National Monuments was transferred from Region IV to Region III at Santa Fe on April 1. Jurisdiction of WPA activities remained with Region IV until the end of the fiscal year and the termination of this program.

#### Personnel

Effective August 1, 1939, Superintendent Paul R. Franke was transferred to the superintendency of Mesa Verde National Park and Mr. C. Marshall Finnan was appointed Superintendent of Zion and Bryce Canyon National Parks. Mr. Finnan continued in office until June 22, 1940, when he resigned due to ill health. Assistant Superintendent John M. Davis was designated Acting Superintendent for the remainder of the fiscal year.

No new positions were established during the year, and other than the change of superintendents the permanent park organization remained the same. The following are appointive positions in Zion National Park:

- |                            |                   |
|----------------------------|-------------------|
| 1 superintendent           | 1 chief clerk     |
| 1 assistant superintendent | 1 senior clerk    |
| 1 chief ranger             | 2 clerks          |
| 2 permanent rangers        | 1 general foreman |
| 3 temporary rangers        | 1 junior foreman  |
| 1 park naturalist          | 1 mechanic        |
| 3 ranger-naturalists       |                   |

Technicians assigned from the Regional Office included 1 associate landscape architect from July 1 to December 27, 1939, 1 assistant engineer, and 1 junior engineering aide.

CCC personnel assigned to Bridge Mountain Camp NP-4 are 1 project superintendent, 5 foremen, 1 clerk, 1 mechanic.

WMA appointed personnel includes 1 senior foreman, 1 junior clerk and 1 junior clerk-stenographer.

PMA personnel consists of 1 storekeeper.

This makes a total of 36 regular and emergency program appointive positions assigned to this park.

Receipts

The receipts during the year were as follows:

Permits to enter national parks. . . . .	\$29,147.00
Rent of public buildings. . . . .	6.50
Sale of unserviceable CCC property. . . . .	90.28
Sale of Government property, all other. . . . .	115.38
Total. . . . .	\$29,359.16

Expenditures

The following is a list of regular park and emergency program expenditures during the past fiscal year:

Emergency reconstruction and fighting forest fires	1,824.24
Forest protection and fire prevention	330.43
National Park Service, regular	48,478.00
Civilian Conservation Corps	29,479.69
Emergency Relief Administration	47,234.25
Public Works Administration	5,441.24
Roads and Trails:	
Lion-Bryce Canyon Approach Road	67,810.33
Emergency construction	2,907.86
Other	2,635.71
	<u>\$206,161.49</u>

## Protection

### Law Enforcement

Only one arrest was made during the past year, when three deer hunters, Messrs. Merwin Brown, Rowland Crosby and Bert Millett of Kanab, Utah, were caught inside the park boundary with firearms. The men were taken before the U. S. District Court at Provo, Utah, found guilty of possessing firearms inside a national park, and fined.

### Accidents

The only serious accident during the past year occurred on March 24, when Mrs. Baker of Fillmore, Utah, stepped between two rocks, fell, and broke her right leg five inches below the knee. No deaths occurred in the park.

### Forest Protection

Control of tent and ash caterpillars was again carried on during the spring months by spraying cottonwood and ash trees with an arsenic solution. This operation was entirely successful and brought these insect pests under control. A new insect pest made its appearance later in the summer, when a cottonwood leaf miner infestation broke out around the Zion Lodge area. Control measures were only partially successful because of headway gained before the infestation was recognized and before a means of control could be placed in operation.

Two reportable forest fires occurred, both of which were quickly brought under control before doing serious damage.

The new fire equipment shed was completed and placed in operation. This new building, constructed of cut stone with an asbestos shingle roof, is practically fireproof and provides first-class facilities for the storage of fire-fighting equipment and fire truck.

A fire protection water system was constructed during the year, serving the utility and residential areas and providing for the first time an adequate supply of water and hydrants to properly protect the Government's large investment in these areas. A 200,000-gallon reinforced concrete water storage tank was also constructed and insures adequate water for fire protection in all developed areas in the south end of the park.

Frequent fire inspections were made in both Government and park operator's buildings, and no building fires occurred during the past year.

### Wildlife Control

The trapping and transporting of surplus deer from the floor of Zion Canyon was continued during the fall and early winter months again this year.

A total of 62 animals was trapped, of which 2 were killed during trapping operations. As many deer as practicable were transported to Bryce Canyon National Park for liberation. All animals were tagged with a metal ear clip bearing "Zion National Park Surplus 1940" and an identifying number. Since the beginning of this wildlife control measure in the fall of 1938, 192 deer have been removed from the canyon floor. Very little change has been noted in the condition of remaining deer, and the increase in the amount of palatable food for them has not noticeably increased. Further study will be made to determine the cause for the poor condition of deer; it is possible that inbreeding may be partly responsible.

### Weather

After an unusually hot and dry spring and summer, a series of rain storms occurred between September 4 and 12, dropping 5.74" of precipitation, almost half the average annual amount. These storms severely damaged roads, trails, water systems and other physical improvements.

A new record was established for maximum temperature on August 17, when the thermometer rose to 112°. The previous record of 111° was set on July 13, 1939, and prior to that time 110° had stood as the all time maximum for a good many years. A mild winter with very little snow in the high country adjoining the park was also a characteristic of the past year.

The following is a detailed summary by month:

	<u>Mean</u>	<u>Maximum</u>	<u>Minimum</u>	<u>Precipitation</u>
July 1939	86.68	111	65	.15"
August	86.5	112	61	.41"
September	73.85	100	54	6.70
October	61.56	80	29	.44
November	54.45	78	29	.53
December	47.3	75	17	.11
January 1940	42.97	67	22	3.39
February	43.54	67	21	3.90
March	54.277	81	25	.35
April	59.3	85	35	1.24
May	72.2	96	45	.87
June	82.88	110	50	.04

### Travel Summaries

Annual travel records were again broken this year, when 165,029 persons in 51,451 cars were registered. This is an increase of 6,966 visitors over the 1939 season. Of the total number of park visitors, 73% came from states outside of Utah, which clearly shows the nation-wide use of this area. An all-time monthly travel record was established during August, 1939, when 34,814 persons and 10,353 cars entered the park.

During the 1940 travel year 298,165 visitors were registered in the two national parks and four national monuments administered by this office.

The following is a detailed summary of Zion's travel by months for the 1940 travel year:

	1940	1939
October 1939	8,066	7,467
November	3,632	2,663
December	2,556	1,997
January 1940	1,786	1,921
February	1,632	1,386
March	13,195	3,170
April	6,464	12,886
May	12,832	12,242
June	25,829	27,762
July	32,308	34,115
August	34,814	33,749
September	21,915	18,705
	<u>165,029</u>	<u>158,063</u>

#### Interpretational Activities

The utilization of the educational program by the visiting public continues to show an upward trend over that of last year. The problem of furnishing the visitor with a program that will encourage him to spend additional hours in the park, especially during the heat of the summer months, is yet to be solved, although progress is being made. The canyon possesses the essentials for such a program, but the personnel and facilities necessary to carry it to fulfillment are not yet available. The museum was open throughout the year. In addition, two short hikes up the Narrows Trail, one on the Emerald Pool Trail, an attendant at the Temple of Minerva exhibit, and a campfire and lodge lectures were daily features throughout the summer travel season.

#### Research and Collection

Several valuable additions have been made to the museum biological collection during the year. These included several fine specimens of the typical Mesatch snail (*Planorbis*), several reptiles, a number of bird study skins, and a number of insects. Extensive studies were made on the black widow spider in captivity as well as several species of reptiles.

#### Publications and Sales of Books:

The sale of publications reached a new high this year, with the two new bulletins on the geology of Bryce Canyon and Zion, by Dr. Herbert F. Gregory, showing great popularity. Of the 10,000 copies of these bulletins ordered during the winter, more than half has already been sold. Ancient Landscapes of the Grand Canyon Region, by E. P. McKee, has also been popular with the visitors. It is hoped that two new bulletins, one on the history of the Zion region and one on reptiles of the area, can be worked up during the next year.

STATEMENT OF EDUCATIONAL ACTIVITIES  
 ATION NATIONAL PARK  
 July 1, 1939 to June 30, 1940

Month	Employees Form. Resp.	Museum	Trail	Lodge	Campfire	Harrison Exhibit	Outside Park	Total Contacts	Total Visitors Contacted	Percent
July 1939	1	14,229	4,375	6,170	1,232		480	26,406	34,115	77%
August	1	15,732	5,520	5,615	1,645			26,312	33,749	78%
September	1	7,250	916	2,745	225		35	10,236	18,705	54%
October	1	3,091			88			3,214	8,066	40%
November	1	1,059						1,059	3,632	30%
December	1	579					700	1,279	2,556	22%
January 1940	1	470					750	1,220	1,786	24%
February	1	436						436	1,632	26%
March	1	2,808	26		56		125	2,870	13,195	81%
April	1	2,609	98					2,832	6,464	48%
May	1	6,450	75					6,525	12,892	50%
June	1	11,304	2,761	2,842	1,260	9,653		27,900	25,829	108%
<b>Total</b>		<b>66,117</b>	<b>11,771</b>	<b>16,278</b>	<b>4,486</b>	<b>9,653</b>	<b>2,010</b>	<b>110,289</b>	<b>162,961</b>	<b>66.6%</b>

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## Maintenance and New Construction

### Maintenance

The purchase of a No. 112, reversible blade, tandem drive caterpillar motor grader, along with a gravel spreader, a portable insulated oil tank, and an additional  $1\frac{1}{2}$ -ton dump truck has greatly improved the efficiency of road maintenance in the park. Three carloads of road oil were used in patching road surfaces and paving drainage ditches. Unusually heavy maintenance was necessary on roads and trails as a result of severe rainstorms occurring during September.

### Emergency Activities

#### Civilian Conservation Corps

Bridge Mountain Camp NP-4 operated with good results throughout the year, and many difficult construction jobs were successfully completed. The largest single unit of construction undertaken entirely with CCC labor and funds was the 200,000-gallon concrete and steel water tank providing storage for the Oak and Birch Creek water systems. The new Birch Creek water system, a FWA project with CCC participation, was also started and completed within the past fiscal year. Water line laid on this job totaled 18,100 lineal feet, and head-works for two springs were also constructed. Only a very small amount of skilled labor was used. Other jobs of importance that were completed include the construction of a fire protection water system from the 200,000 gallon storage tank to the park's utility and cabin residential areas, with a total of 1775 feet of pipe line; completion of the park headquarters' fire equipment shed, a masonry building with asbestos shingles; the construction of an underground power line serving the Grotto Campground; a trailside exhibit at the Temple of Sinawava; a masonry entrance marker for the east park entrance; the production of approximately 2,000 cubic yards of crushed rock; the installation of three orientation stations at prominent viewpoints; a fire danger weather station; excavation for a garbage pit for the entire park area; and the reconstruction of  $3\frac{1}{2}$  miles of road shoulders on the Mt. Carmel section of the park highway.

Other jobs included a large amount of landscaping; bank sloping; control of tent caterpillars on cottonwood and ash trees on floor of the canyon; fire fighting training for all enrollees; educational guide and contact station work; maintenance of roads, buildings, sanitation, boundary fences, trees and shrubs by irrigation, lineal surveys, and trapping and transporting surplus deer from the floor of the canyon.

The main camp was moved to Bryce Canyon National Park early in the spring of 1939, where it remained until November, when it was returned to Zion. During this period, a large side camp was retained at Zion. In the spring of 1940 a side camp was sent to Bryce Canyon, with the main camp left at Zion. No

changes were made in camp supervisory or facilitating personnel during the year. Recreational and educational programs were carried on successfully, and the camp maintained a good safety record, with only 13 lost time accidents occurring.

An average of 122 men per work day was turned over to the technical service, while the Army overhead averaged 24 men, ten on camp conditioning projects and 14 on sick leave, absent with leave or absent without leave.

#### Public Works Administration

With an allotment of \$30,000 of PWA funds, the Birch Creek water system was completed during the year. This job called for the laying of 15,100 lineal feet of steel pipe, the construction of handbooks on two springs, and the construction of a masonry dam across the Virgin River to protect the pipeline crossing. Practically all of the funds available were used for the purchase of materials, with a small amount for the employment of skilled labor. The balance of both skilled and common labor was furnished by CCC enrollees, and the job was supervised entirely by CCC foremen. A warehouseman was employed out of PWA funds to handle equipment and material records.

#### Emergency Relief Administration

An allotment of \$47,274 of ERA funds was made for work in Zion National Park during the past fiscal year. With these funds many valuable jobs were completed, which include the following: construction of two 3-stall masonry garages; 250 lineal feet of sewage filtration trench; 300 lineal feet of rock-filled basket dam on the Virgin River; a trail bridge over Cable Creek on the Weeping Rock and East Rim trails; five large masonry retaining walls on the Mt. Carmel section of park highway; quarrying and dressing of 1,500 cubic yards of building stone; flagstone walks and curbing, transplanting trees and shrubs; and grading and landscaping residential areas. The quality of skilled work produced by these workers was outstanding, and the volume of work accomplished is believed to be far above the average for work programs of this type. Three certified office and supervisory workers and an average of 72 security wage workers were employed each month during the past year. Even though a very heavy burden had to be carried by the regular park personnel to successfully execute this program because of complicated and changing procedures, particularly in the accounting and purchasing of materials, it was felt that the extra effort was justified by the excellent results obtained on the job.

#### Works Progress Administration

Work on the park-sponsored WPA road betterment project was resumed on December 3, 1939, and was continued through May 2, 1940, when the project was canceled. During this period many yards of rock and earth materials were removed from two cut road slopes on the main park highway adjacent to the park operator's utility area. The cutting back of these slopes to an angle of repose will reduce future maintenance costs for this section of road and will

also eliminate the hazard of rolling rocks. An average crew of 30 WPA workers was employed.

#### Park Approach Roads

Construction on Section A, surfacing, and Sections A and B, grading and surfacing, on the Zion-Bryce Canyon National Parks Approach Road, under contract to Moffett Brothers of Oregon, was completed during November, and inspection and acceptance was made on November 30, 1939.

Contract award for the construction of Section C-1 on this same park approach road was made to the Wheelwright Construction Company on November 20. Work on this job was not started until early summer of 1940, and up to the end of the fiscal year good progress was made by the contractor.

On November 21, 1939, work was started on the beautification and improvement of the Utah State Highway approach to the north park entrance. This job, undertaken by the State Highway Department partly through a state sponsored WPA project and partly by regular contract work, has greatly improved six miles of approach highway beginning at the village of Altonville. Work completed includes the widening and graveling of road shoulders; flattening road slopes; widening of the right-of-way, which necessitated the moving back of a number of unsightly barns and sheds; planting of road slopes; construction of paved walks, masonry curbing, irrigation ditches and fences; widening of road bridges and culverts; and other general landscape improvement work. At the end of the year this work was approximately 70% complete.

#### Park Operator

The outstanding feature of the Utah Parks Company's operation during the past year was the reduction of cafeteria meal and cabin prices, placed in effect the spring of 1940. These reduced prices were enthusiastically received by park visitors, and as a result both the operator's volume of business and gross revenue showed large increases over those of the previous year. The increased volume of business in the park has tended to decrease the patronage of small cabin camp and lunch-room operators immediately outside the park who, for the first time have met with price competition, especially on meals.

The installation of air-cooling units at the cafeteria and Zion Lodge has been a valuable improvement in operator's service. This evaporation type cooler proved very satisfactory and inexpensive to operate.

The only trend of importance noted during the year was a steady decrease in the number of guests using the standard cabins at Zion Lodge. This decrease is attributed to the lack of running water and toilet facilities in these cabins.

Superintendent

 **COPY**

July 11, 1940

Memorandum for the Director:

Enclosed in duplicate are briefed annual reports for the fiscal year 1940 for the following areas under the supervision of this office:

- Zion National Park
- Bryce Canyon National Park
- Cedar Breaks National Monument
- Zion National Monument
- Capitol Reef National Monument
- Timpanogas Cave National Monument.

Acting Superintendent

CC to Regional Director, Region III

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UNITED STATES  
DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

ZION AND BRYCE CANYON NATIONAL PARKS

UTAH

July 11, 1940

ZION NATIONAL PARK

Briefed Annual Report

Fiscal Year 1940

Effective April 1, 1940, technical supervision of all activities in Zion and Bryce Canyon National Parks and Cedar Breaks, Timpanogos Cave, Capitol Reef and Zion National Monuments were transferred from Region IV to Region III with the exception of ERA programs, which continued under the direction of Region IV until July 1, 1940.

The superintendency was changed on August 1, when Superintendent Paul R. Franke was transferred to Mesa Verde National Park as Superintendent and Mr. C. Marshall Finnan was appointed Superintendent of areas administered by this office. Before his assignment to these areas, Mr. Finnan was Superintendent of the National Capitol Parks in Washington, D. C.

Again this year the outstanding event was the Zion Easter Pageant, which was held on March 24 and attended by 8,922 people, resulting in the largest travel day of the year.

During November work was started on the improvement and beautification of six miles of state Highway approach to the park south entrance leading through the small communities of Rockville and Springdale. This work, directed by the Utah State Highway Department, was carried on as a state-sponsored WPA project and by contract financed with state highway funds. By the end of the fiscal year the project was well on its way towards completion.

On the Zion and Bryce Canyon National Parks Approach Road over Cedar Mountain, Section B, 1.9 miles of grading, and Sections A and B, 6.8 miles of surfacing under contract to McNutt Brothers, was completed and accepted on November 20. On this same date contract for the grading and surfacing of Section C-1, 4.6 miles, was awarded to the Wheelwright Construction Company. Contract for the grading of Section A was completed on July 21, 1939.

Construction of the Birch Creek Water System, a PWA project with CCC participation, together with the construction of a 200,000 gallon storage tank as a CCC project, was completed during April. This new water system and storage tank replace the inadequate Oak Creek system and serves the National Park Service administration, residential, utility and campground areas in the south end of the park as well as the park operator's cafeteria development.

A successful ERA program was terminated in June under which was completed the construction of two 3-stall garages, two sewage filtration trenches, five highway retaining walls, one trail bridge, 300 feet of basket dam on the Virgin River, a large amount of landscaping, grading, flagstone walks, curbing, planting, and quarrying of sufficient building stone for the proposed administration building and employees' dormitory.

An extensive park-sponsored WPA bank sloping and stabilization project was carried on most of the year and terminated during May.

Outstanding improvements affecting the Utah Parks Company's operation were the reduction of rates for cabins and meals, air cooling of the cafeteria, and general improvement of the grounds surrounding this unit. These improvements have resulted in a large increase in business.

The publication of A Geologic and Geographic Sketch of Zion National Park, by Herbert E. Gregory, as Zion-Bryce Museum Bulletin No. 3, during March was enthusiastically received by park visitors.

The trapping and shipping of surplus Rocky Mountain mule deer from the floor of Zion Canyon was carried on during the late fall and winter months. Sixty-two animals were removed from the park this year, bringing the total deer shipped out during the past two years to 192.

The previous record of 110° maximum temperature, which had stood since 1905, was broken on August 17, 1939, when a temperature of 112° was recorded.

Heavy rains totaling 6" between September 4 and 12 broke a long period of drought and did serious damage to park roads, trails and water systems. An emergency allotment of \$4,000 was made to repair the damage resulting from this storm.

*John M. Davis*  
Acting Superintendent