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May 1940

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SPECIAL REPORT:

ZION NATIONAL PARK AND ZION NATIONAL MONUMENT

By

W. B. McDougall

Regional Biologist

Santa Fe, New Mexico

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Zion National Park and Zion National Monument are treated in this report as one area because they are contiguous and are similar both geologically and biologically. They were inspected by the writer on May 3-11, 1940. I am greatly indebted to Chief Ranger Jolley and Park Naturalist Walker, each of whom spent the better part of five days with me in spite of the fact that they were extremely busy and had very inadequate assistance. Without their help it would have been impossible to accomplish more than a small fraction of the observations that I made during the nine days that I was in the area. My itinerary while making this inspection was as follows:

- May 3 -- Zion Canyon with Mr. Walker
- 4 -- East Rim with Mr. Walker
- 5 -- Zion Canyon and West Rim Trail
- 6 -- Kolob Plateau and Potato Hollow on
Horse Pasture Plateau with Mr.
Jolley and Mr. Walker
- 7 -- Through Zion National Monument, via
Hop Valley, La Verkin Creek, and Dry
Creek, on foot with Mr. Jolley, Mr.
Walker, and Ranger Naturalist Boyle
- 8 -- Zion Canyon, Hidden Canyon, and Echo Canyon
- 9 -- Through Rock Pasture on foot with Mr. Jolley
- 10 -- Through Petrified Forest section on foot
with Mr. Jolley
- 11 -- Parunuweap Valley on horseback with Mr.
Jolley and Mr. Walker

THE PLANT LIFE

Much of the area of both the Park and the Monument is covered with pinon-juniper woodland (Pinus edulis, P. monophylla, and Juniperus utahensis). In the higher places there is a yellow pine forest (Pinus ponderosa) but it has all been cut over in the past so that, although there are some magnificent, large trees, the forest is quite open. In the more protected places there is some Douglas fir (Pseudotsuga taxifolia)

and occasionally white fir (Abies concolor). Previous fires are indicated in many places by aspen (Populus tremuloides) and along some of the washes is found cottonwood (Populus fremontii) and occasionally the narrow-leaved cottonwood (P. angustifolia).

There are extensive areas of sagebrush (Artemisia tridentata), manzanita (Arctostaphylos patula probably), oak (Quercus utahensis), or service berry (Amelanchier alnifolia and A. utahensis). All of these shrubs are good browse plants although the oak is not so valuable as a browse plant as it is for the production of mast. Mountain mahogany (Cercocarpus montanus) and silktassel (Garrya flavescens), both, especially the former, good browse plants, are found locally. In some places in the Park there is a considerable amount of grass and other herbaceous plants. Most of the Monument is so much overgrazed that grass is much less evident than in the Park.

Some of the other plants noted as being common enough to be of some importance as food plants are buffaloberry (Shepherdia rotundifolia), cliff rose (Cowania stansburiana), black brush (Coleogyna ramosissima), and Mormon tea (Ephedra torreyana).

ANIMAL LIFE

The only large mammals in the area are the mule deer and the bighorn. Most of the Park area is excellent deer range. Most of the Monument area is very poor deer range because of excessive overgrazing. Aside from the matter of overgrazing in the Monument area, which will be spoken of again later, the only deer problem is that of overpopulation in Zion Canyon. During the winter of 1938-39, 130 deer were taken out of Zion Canyon, and 62 were taken out during the winter of 1939-40. There are still too many deer in the Canyon and more will be trapped out during the coming winter. There seem to be very few deer in the Petrified Forest portion of the Park although there is a considerable amount of both food and water available. I believe that 50 or more deer from Zion Canyon could safely be transferred to this area, as has been suggested by Chief Ranger Jolley.

Bighorns are occasionally seen in the Park. The principal range of these animals seems to be in that portion of the Park south of the east entrance road which is known as Rock Pasture. I understand that Biologist Joe Dixon has recommended that this area be kept inviolate for bighorns. I heartily concur in this recommendation.

The 1939 census gives an estimate of 10 coyotes in the Park. This number is probably too conservative. We saw a total of 9 dead coyotes within the boundaries of the Monument, probably killed by local ranchmen, and Mr. Jolley recently found two traps within the Monument, one of which contained a dead coyote. These animals receive no protection at all in the Monument portion of the area; a matter to which we will return later.

There are believed to be a considerable number of gray fox and bobcats in the Park and there are a few badgers and probably a few mountain lions.

Some attention was given to possible beaver habitat within this area. None of the aspen groves mentioned above are near permanent water. I saw no suitable beaver habitat within either the Park or Monument. There is excellent beaver habitat with plenty of water and an abundance of aspen for several miles along Big Creek, but this is all outside of and to the north of the Monument. Under present conditions I would not recommend putting any beaver in this creek even if it were within the Monument because I think the local ranchmen would speedily trap them out.

THE GRAZING SITUATION

Zion National Monument, which was established by presidential proclamation in 1937, contains nearly 12,000 acres of private lands, which is only a little less than one-fourth of the total area. These private lands are scattered in various places through the area. A survey conducted in 1937 showed that there should be a 75 per cent reduction in the number of animals grazed within the boundaries of the Monument. This seemed too drastic a reduction for the ranchmen to countenance and a compromise was made on a theoretical reduction of 44 per cent at that time. I say theoretical because, since the Monument is not patrolled, it is not known whether there was actually any reduction at all. However, even if the reduction was actually made, which is doubtful, the numbers of animals would still be about one-third above the carrying capacity of the range.

Yearly permits are issued to 13 permittees for approximately 8,000 head of stock on the Monument. Only about 300 of these permitted animals are cattle and the remainder are sheep and goats. However since there is no provision for patrolling the Monument, it is not known, as Mr. Jolley says, whether there are 8,000 or 80,000 head

of stock. I understand that there has never been a penny appropriated for the administration or protection of the Monument and, therefore, there is no possibility of a patrol under present conditions. I am told that by autumn each year the shrubbery is almost completely defoliated and that a blade of grass can scarcely be found. If this is kept up a few more years, the almost certain result will be a practical denudation of the soil.

In the Park there is no legal grazing except by one ranchman who owns 400 acres of land at the top of the West Rim trail. This man brings about 1200 sheep into the Park for a short time in spring and again in the fall. In accordance with a verbal agreement, however, he grazes these animals about 4 miles back from Zion Canyon rather than on his own land. He does not overgraze and it is not believed that his flocks do any permanent damage to the vegetation. Due to the lack of rangers in the Park, however, and the consequent lack of adequate patrol, there is often illegal grazing within the Park. On our trip up Parunuweap Canyon we found 10 horses and about 15 cattle illegally within the Park. We drove the horses out but could not spare the time to attempt a roundup of the cattle.

PERSONNEL NEEDS

Rangers: The permanent ranger force at present consists of a chief ranger and two park rangers. The two park rangers take care of the checking station at the west gate the year round and do almost nothing else. They both live outside of the Park and, since they do not have home telephones, they are almost wholly unavailable except while on duty at the checking station. So far as protection of the Park is concerned, therefore, Chief Ranger Jolley is the entire ranger force with the exception of a short time in summer when he has four temporary rangers, two of whom take care of the east gate checking station.

The chief needs for a larger protective force are for the purpose of patrolling both the Park and the Monument to supervise and control grazing, prevent illegal hunting and other vandalism, and guard against fires during the period of fire hazard, and to keep the east gate checking station open the year round. I do not see how this large area, the Park and Monument together, can possibly be adequately protected and supervised without at least four additional permanent rangers. At least one fulltime permanent ranger should be definitely assigned to the Monument area and he should

have one or more temporary rangers to help him during the summer months. Two of the other three new rangers would spend most of their time in keeping the east gate checking station open and the other would assist the Chief Ranger in patrolling or protecting both the Park and the Monument as might be required. It is believed that the increased income from entrance fees due to keeping the checking station at the east gate open the year round would be sufficient to pay for most of the additional help needed and the prevention of loss and detriment to the area itself which would result from adequate protection is wholly beyond estimation.

Naturalists: The naturalist force for this huge area consists of Mr. Walker only, except for a short time in the summer when he has the help of ranger naturalists. Mr. Walker is attempting to keep the museum open daily the year round, to carry on a program of lectures and nature hikes in summer, and to supervise naturalist activities at Bryce Canyon and at Cedar Breaks. If he leaves the museum at any time except during midsummer he has to leave it in charge of a CCC boy or some other untrained person. There should be at least a junior park naturalist to assist Mr. Walker in supplying the public demand for naturalist activities in this large and important area.

ROADS AND TRAILS

There is one county road running through the Monument at present. In my opinion there should never be any other road in the Monument area. Probably at some time it will be necessary to construct a horse trail over the route that we followed on foot on May 7, as mentioned above, since this route passes through the most spectacular scenery in the Monument. It is believed that this is the only trail that will be needed in the Monument.

Some of the trails in the Park are in a bad state of unrepair. This is especially true of the trail to Hidden Canyon and Observation Point. This trail was never finished and I did not succeed in getting to Observation Point but I did get to Hidden Canyon. Hidden Canyon is a delightful place with a flora that reminds one of the ground cover of an eastern deciduous forest, with such plants as waterleaf, false solomon's seal, meadow rue, violets, mustards, maple trees, and many ferns, mosses, and liverworts. But the trail is completely washed out and impassable in one place. I got past this place by climbing around it, but it would be unsafe for anyone who has had no experience in climbing as is true of many tourists. Either this trail should be

repaired or there should be a sign at the turnoff from the East Rim trail warning that the trail is difficult and somewhat dangerous. The East Rim trail is safe enough but extremely sandy in places and this is true of some portions of the West Rim trail.

The nature trail into the Narrows in Zion Canyon is delightful. It is quite unique with its interesting hanging gardens but it is a difficult place to talk to parties of visitors because of competition with the roaring of the Virgin River.

FENCES

A goodly portion of the Park, but not the Monument is fenced but some of it is in a bad state of unrepair. The fence across Parunuweap Canyon, at least, should be repaired as one step toward the prevention of illegal grazing in that part of the Park.

THE SNAKE CAGE

can't see
A large cage is maintained at the north end of the museum for the display of living reptiles. I do not doubt that many visitors are much interested in this display but, personally, I do not like it. I think that anything in the nature of a zoo is out of place in a national park. I hope that in due time this cage can be done away with.

Sh

BRUNESBURG

Brunesburg was one of the first villages settled in southern Utah. The site of it lies just outside of the Park boundary in Parunuweap Valley. At one time this was a prosperous village and the valley was full of small farms. But erosion carried away most of the farm lands and the village was abandoned, the inhabitants moving to the present village of Rockville. Only one house, quite evidently that of a polygomist and probably a leading citizen, and one corn crib, built on stilts with an upside down dishpan on each corner post to prevent rodents from getting to the corn, remain standing. This is a most interesting historical spot and it seems a pity that it is not inside the Park. It is my understanding that the Mormon Church has offered a substantial sum of money to Zion National Park for museum purposes if and when a suitable administration building is erected. Possibly if the Church were properly approached it might consider the purchase

of the 40 acres on which the site of ^{Sh} Brunesburg is located for addition to the Park.

CONCLUSIONS AND RECOMMENDATIONS

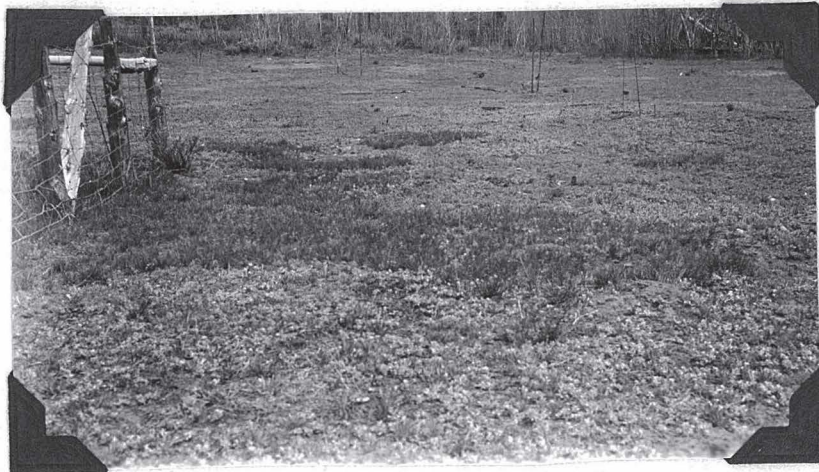
1. Zion National Park and Zion National Monument together comprise an area of approximately 135,000 acres and constitute an area that, in many respects, is excellent for wildlife purposes.
2. More deer should be removed from Zion Canyon and it is suggested that 50 or more of them can safely be placed in the Petrified Forest area of the Park.
3. The recommendation of Joe Dixon that most of the Rock Pasture area be kept inviolate for bighorns is concurred in.
4. No habitats suitable for beaver were found either in the Park or in the Monument.
5. Both plant and animal life are very inadequately protected because of insufficient personnel on the ranger force.
6. The Monument is woefully overgrazed and grazing receives no supervision or control because of lack of personnel and funds.
7. It is urgently recommended that a minimum of four additional permanent park rangers be added to the protective force of the Park and Monument.
8. It is urgently recommended that a junior park naturalist be added to the naturalist personnel of this Park.
9. CCC jobs should be set up to repair the trails leading out of Zion Canyon and especially the trail to Hidden Canyon and Observation Point.
10. The boundary fence of the Park should be put in repair. Especially urgent is that portion of the fence that extends across Parunuweap Canyon.

11. It is recommended that there be a cessation of the display of living animals in captivity in the Park.

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Vegetation inside a fenced plot in Potato Hollow,
Horse Pasture Plateau, Zion National Park.



Vegetation outside the above fenced plot. The con-
trast would be much more pronounced had the pictures
been taken later in the growing season.



View showing sparse vegetation in Rock Pasture,
Zion National Park.



Polygamist's home still standing on the site of
the old village of ~~Brunesburg~~
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