

GRAND CANYON Nature Notes

July 1932



Vol. VII

No. 4

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GRAND CANYON NATURE NOTES

Volume 7, Number 4
July, 1932

National Park Service
Grand Canyon National Park

Grand Canyon Natural
History Association

This publication is issued monthly for the purpose of recording observations and of making known the results of research and scientific investigation in the Grand Canyon region in the fields of natural history, history and related subjects. It is published by the Natural History Association for the Grand Canyon National Park. Membership in this Association is \$1.00 per year and includes a subscription to Nature Notes. Additional copies of Nature Notes may be obtained at 10¢ each by addressing The Grand Canyon Natural History Association, Grand Canyon, Arizona.

M. R. Tillotson,
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Edwin D. McKee,
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Game Survey of Walhalla Plateau

By Ranger Perry E. Brown.

IN THE MONTH of March, 1932, Ranger Satterwhite and I were assigned to a winter game patrol on the North Rim. The patrol was made to that part called the Walhalla Plateau, a peninsula extending southeastward into the Canyon. It forms the extreme eastern part of the North Rim.

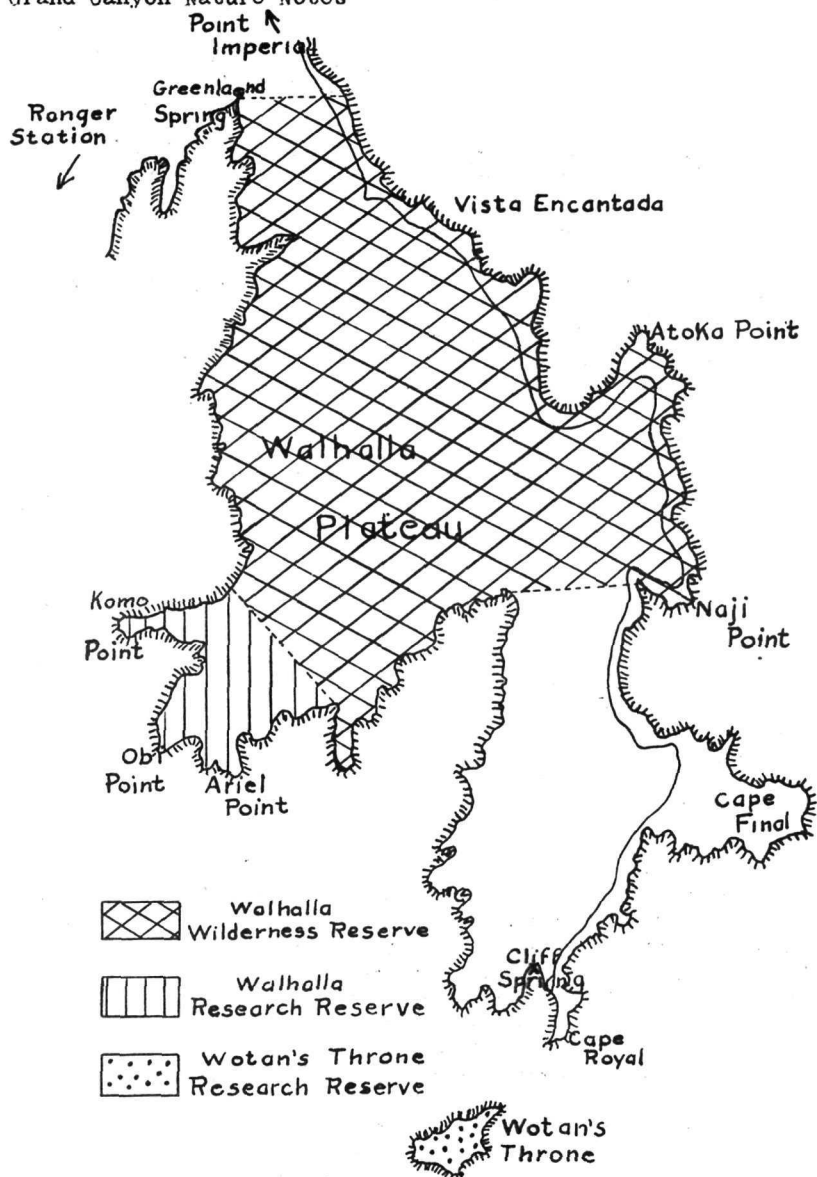
The purpose of this trip was to find out whether deer could winter out on the points along the rim of the Walhalla Plateau and also to find out what other types of wild life were to be found there at that season.

On March 19th we left Bright Angel Ranger Station on the North Rim and went by road and trail to Farview. Since our packs were quite heavy we used a small sled, one of us pulling it while the other broke trail. After a few spills and minor accidents we finally reached Farview about night-fall and made camp there the first day. At that place we cached some supplies, but took with us enough for the next three days.

On March 20th we left Farview and followed the Canyon rim to Point Imperial. Snow fell the entire day and a cold heavy wind made it necessary to snowshoe all the way. At Point Imperial we camped for two days in five feet of snow. The first day was spent in following the rim to the Park boundary overlooking South Canyon. The second day, March 22nd, we followed the road from Point Imperial to Farview. Here we loaded the sled again and continued on by road to Greenland Lake. At Greenland Lake we cached some supplies and went south to Obi Point to camp for the night. At this point the first sign of a deer was noted.

On March 23rd we tramped to Ariel Point, camped that night at the head of Clear Creek Canyon and next day arrived at Cape Royal where the night of March 24th was spent.

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Following the rim from Cape Royal on the 25th we went to Points Final, Naji, and Atoko and back to Greenland Lake. On this occasion we covered the greatest number of miles of any one day, despite the fact that it was necessary to snowshoe the entire distance. At Point Atoko we left the rim of the Canyon and took the road back to Greenland Lake where we made the last camp of the trip. The next day was spent in returning to the Bright Angel Ranger Station by way of Neil Canyon and along the rim to Nachi Point.

The first deer signs were seen near Komo Point on the evening of March 22nd, as already stated. The tracks led up from the slopes below the Coconino sandstone and covered quite an area along the rim. On the morning of March 23d six deer were sighted at this point. They were quite wild and could not be approached closer than a hundred yards. They were young animals and seemed to be in fair condition. Later the same day remains of two freshly killed deer were seen and the scattered hide and hair in the vicinity indicated that coyotes had feasted sumptuously.

On the morning of March 24th, five more deer were seen on Komo Point. One, an old doe, was in very poor condition and probably will die before summer, but the four young ones seemed to be in fine shape. At Cliff Springs we found another carcass. In this part of the plateau - around Cape Royal - conditions seemed the most favorable for deer to live through the winter, but from signs it appeared that not more than four or five were in the vicinity. North of Cape Royal - around Point Imperial - the snow was too deep for the winter range of deer.

The only coyote sighted was near Naji Point. No bobcats were seen, but many signs indicated that they were there. As might be expected, signs of coyote and bobcat were numerous where deer tracks were the most noticeable. Many old tracks, too old to identify definitely, may have been those of cougars.

Throughout the forest we saw squirrels, and the carpet of needles and cones at the base of trees seemed to prove that they were having "three square meals" a day. Their

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tracks were all very plain in the snow where they had traveled from tree to tree.

Many birds, mostly crested jays, were noted every day. During the trip we counted three grouse, six ravens, three hawks, three golden eagles, and numerous nuthatches and juncos. At Cape Royal a large band of bluebirds were discovered and on all bare southern exposures other smaller birds were finding the month of March not too cold for them.

Due to the blanket of snow which covered the ground along most of the route, very little vegetation except for evergreens was found. On the few bare patches some of the earlier plants were starting and a few shrubs were sending forth new leaves. The trees in the forest showed the result of a hard winter. Many branches were broken entirely off and the smaller trees were bent over from the weight of snow.

All southern exposures were bare above the Kaibab limestone, but western exposures were covered to the top of the Coconino sandstone. Eastern exposures had quite a little snow on the slopes below the Coconino sandstone and the snow on the northern exposures reached down into the Canyon as far as the Tonto Platform. This was especially noticeable from Atoko Point, Farview and Point Imperial where the rim faces east.

Saddle Mountain and the ridge east and west were bare to the top. Komo Point, Honan Point, Naji Point, Points Final and Nachi were all bare on the south side and for about thirty yards back from the rim. The north side of these points was covered with about thirty inches of snow. On



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the south slope of Point Imperial there was about an acre of bare ground above the Kaibab limestone. Obi Point, Ariel Point, and the unnamed points in their vicinity were mostly bare, with a few patches of snow about 12 inches deep. About 100 acres of ground at Cape Royal and to the west were bare with scattered patches of snow.

The following table shows the average depth of snow on the trip:

Ranger Station to Farview (along trail)	60 inches
Farview to Point Imperial (rim)	48 "
Point Imperial to Park Boundary "	48 "
Point Imperial to Greenland Lake (road)	60 "
Greenland Lake to Komo Point (rim)	36 "
Komo Point to Clear Creek "	30 "
Clear Creek to Honan Point "	30 "
Honan Point to Cape Royal "	24 "
Cape Royal to Naji Point "	24 "
Naji Point to Vista Encantada "	40 "
Greenland Lake to Ranger Station "	40 "

The following is a summary of the wild life counted during the trip:

- 11 deer seen - 5 more estimated
- 3 grouse seen - 4 more estimated
- 1 coyote seen - 25 more estimated
- 15 oats estimated
- 124 white-tailed and pine squirrels estimated
- 2 pine squirrels seen
- 3 golden eagles seen
- 6 ravens seen
- 3 hawks seen
- numerous nuthatches, juncos, bluebirds and jays were seen.

Except in a very mild winter no more than fifteen or twenty deer could survive on the Walhalla Plateau and it is doubtful that the deer noted had wintered there of their own accord. Most of them were of young stock and due to the early snow storms were probably forced to remain on the points.

Approximately 72 miles were covered in eight days in making this survey of the Walhalla Plateau. Since the area includes a recently formed Wilderness Reserve which is never to be opened to construction work by man, and also a Research Reserve, unenterable except with permit from the Park Superintendent, it was particularly important that we gain what knowledge we could concerning it. The trip as a whole was considered successful as well as very interesting.

Concerning the Age of the Grand Canyon

By Edwin D. McKee, Park Naturalist.

IN A PREVIOUS ISSUE of Nature Notes, (vol. 4, no. 5), the writer pointed out the difficulties and the several uncertainties involved in determining the age of the Grand Canyon. He showed that, based on the radio-active method of calculating and on Capt. C. E. Dutton's(1) theory of origin, the age may be roughly placed between seven and nine million years.

It seems only fair to point out, therefore, that there are other theories of origin of the Grand Canyon and that according to those held by Dr. H. H. Robinson and by Dr. Eliot Blackwelder, its origin has been since the beginning of Pleistocene time, or less than a million years ago.

The conclusions of Dr. Robinson (2) concerning the origin of the Grand Canyon are based on a reconstruction of the major events in the region and on a study of the

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sequence of periods of folding, faulting and erosion. He sums up the history of the region since the start of the Colorado River in the following way:

1. First part of Quaternary - Land stood at no great height above the sea.
2. Middle or latter part of Quaternary - Region raised from 4,000 to 6,000 feet.
3. Latter part of Quaternary - Canyon cycle of erosion marked by the development of a canyon system of drainage of extreme youthfulness.

Dr. Blackwelder (3) considers that the Colorado River has had its origin since the beginning of the Pleistocene Period because the Tertiary deposits along its lower course are local - of the types made by short streams in interior basins and because they show no evidence of a large river.

In accordance with the theory of a comparatively recent origin of the Grand Canyon (less than one million years) is the narrowness of its gorge. A great river whose valley has an average width of only ten miles and a maximum of eighteen, is certainly in a youthful state of development.



(1) Dutton, C. D., "Tertiary History of the Grand Canyon District". U.S. Geol. Survey Mon. 2, pages 77, 221.

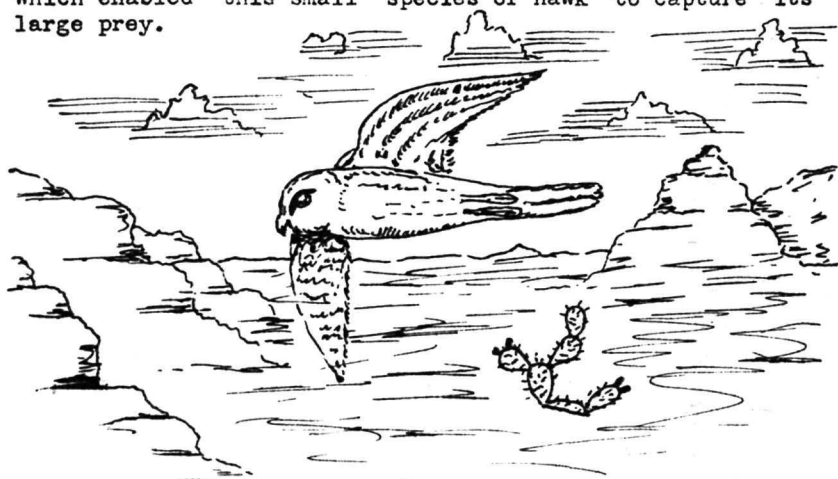
(2) Robinson, H.H., "A New Erosion Cycle in the Grand Canyon District, Arizona". Jour. Geology, vol. 18, no. 8, (Nov. Dec. 1910) pp. 763 ff.

(3) Blackwelder, Eliot, "Physiographic History of the Colorado River", Abstract G.S.A. 1931.

Food for the Hawk

By Ralph A. Redburn, Ranger Naturalist

MR. WILLIAM VOGELSANG, Forest Ranger of the Tusayan National Forest, informed me that on the 29th of May this year, in the vicinity of Hull Tank, he had the interesting experience of witnessing a Desert Sparrow Hawk swoop down and capture a full grown Rock Squirrel. The hawk, as it flew away, had a good grip on the back and neck of the mammal. While carrying it through the air, the hawk pecked it numerous times on the head, and after flying a distance of about three hundred yards, came to rest upon the ground without relinquishing its hold. Throughout the whole flight the squirrel was not heard to utter a sound. Those of us who know how quickly a Rock Squirrel can dart under a rock or log, can readily appreciate the speed and accuracy which enabled this small species of hawk to capture its large prey.



WEEDS

By Clyde C. Searl, Ranger Naturalist



THE DEFINITION of the word "weed" is necessarily very broad, and its application determined by the uses, either good or noxious, of a plant. Many plants which are harmful to some people are a great boon to others. Weeds are often introduced, either accidentally or purposely, from foreign countries.

In the Grand Canyon National Park, as throughout the entire west, are a number of plants introduced from other countries. Some have been in the region so long and are so common and widespread, that it is often a surprise to people to learn that they are not

native. Some such plants at Grand Canyon are the White Pigweed or Lambs Quarters; the Common Horehound; Malva, or Cheese-Weed; and Filaree; all having been introduced from Europe.

Two of the most recent arrivals in the Grand Canyon National Park are the Russian Thistle* and the Common Mullein. To refer to the Russian Thistle as a noxious weed would not hold good in all localities. In many places of the Middle West it is cut when young and used as a forage for stock. It was probably introduced into the Grand Canyon region by means of baled hay brought in to feed

mules and horses used by the Government and Fred Harvey interests. At the present time the growth of this plant is thick through the open spots near the village and along the trails leading into the canyon, where it matures and becomes a tumble weed. It has become a serious problem along the highways in southern California.

The Russian Thistle, salsola
kali var. tenuifolia, is
neither Russian nor
thistle. It is a native
of Asia and belongs to
the Chenopodiaceae, or
Saltbush family.

The Common Mullein,
naturalized from Europe,
and common in the pine
belt of the western part
of the United States, is
very rapidly getting a
foothold in the Grand
Canyon National Park, in
spite of protective meas-
ures. During 1931 a pro-
gram of hoeing was carried
on along the road leading
to Desert View, but this
season the growth is heav-
ier than ever.

- * Grand Canyon Nature
Notes, vol.6, no.2,
p.18, Dec., 1931.
"Russian Thistle".



FIELD OBSERVATIONS

By Naturalist Staff.

An Abert Squirrel was found building its nest in a large bird house near the residence of Mr. Clark Carrel, Park Engineer, on May 16th. This apparently is an unprecedented procedure, at least in this immediate region, for this little tree-inhabiting mammal.

* * * *

On June 3rd and 4th, natives of Grand Canyon were greatly surprised to be greeted by a cold spell accompanied by flurries of snow. On both days patches of ground near Grand View Point were actually white with snow.

* * * *

The first report this year of a fawn mule deer on the South Rim of Grand Canyon was made on June 19th. A little spotted fawn was seen near the Yavapai road by Ranger Naturalist A. R. Croft.

* * * *

A total of eight kid pronghorn antelopes from either four or five mothers is reported from Indian Gardens this year.

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