

Bear-related Material
Yellowstone Nature Notes - 1920 to 1958

compiled by Barbara Zafft

Yellowstone Research Library

July 1990

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Introduction

Yellowstone Nature Notes is a neglected source of information on the park. Over the course of several decades, it served as a unique repository for anecdotal material about wildlife, vegetation, park visitors, and issues relating to the park. When I was working on my first book about the bears of Yellowstone, it became apparent to me that some really useful information was sadly buried in the Nature Notes, where it was never seen or appreciated.

It was while working on my second Yellowstone bear book, a collection of stories, that I realized that all the bear material should be extracted and made available to at least a few interested people. Thanks to the patient labors of Research Librarian Barb Zafft, all the bear-related material has been extracted and gathered here. This same process should eventually be completed for other park mammals, and has already been done for fishes, by John Varley some years ago.

Some of the pages are very hard to read; the original material is old, often existing only in carbon or faded mimeograph. If something is just unreadable, my best recommendation is that you look at it in the Research Library, in the Albright Visitor Center at Mammoth Hot Springs, where complete sets of the Nature Notes reside.

What you have here is no replacement for the excellent systematic work of the several important research projects that have been conducted in the park. These scientific projects have given us an extraordinarily detailed biography of the bears of Yellowstone, but it seems there are always new pieces to the puzzle, and new questions to ask. Though it doesn't match any of these studies in its detail, I think the material in the Yellowstone Nature Notes fills in some gaps in the historical picture.

We see, for example, bears preying on elk and showing healthy appetites for fish, both feeding behaviors that have been more and more commonly observed in recent years. We see several revealing reports of denning behavior in black bears, and a number of reports of grizzly bear dens. We see some good information on bear sizes and weights, a topic that always seems of interest. We also see a huge amount of information on individual bear behavior that serves at least to enrich our overall image of what the bears of Yellowstone have done in the past.

If that isn't enough for you, there's always the entertainment value of all these wonderful anecdotes. One of the joys of Yellowstone Nature Notes is that it never took itself too seriously, and always had room for a little fun. Today, because of our preoccupation with such matters as grizzly bear recovery, it is easy to lose sight of why we care in the first place. This material, with its fresh and even innocent sense of delight in the ways of bears, is a balm for modern conservation anxieties, and an antidote against the grim and sometimes nasty mood that prevails in many of the bear dialogues. Have fun.

Paul Schullery

Research Division

Yellowstone Park, Wyoming

July, 1990

From June 1920

to this edition the same report was given.

1922

SEPTEMBER NOTES ON THE ANIMALS

The show herd of 19 fine BUFFALO are on view at the Corrals near Mammoth. So far, 70 calves have made their appearance in the tame herd this year. As some calves have been seen recently in the wild herd, it is evident that this herd is increasing, too.

MOUNTAIN SHEEP are on the high mountains so that they are not often seen. Lambs are now three months old.

ANTELOPE are seen occasionally near Tower Junction, and along the road from that point to Mammoth. The little kids are now four months old.

ELK are still on the high mountains but will be working lower all through the month, but are not yet apt to be seen along the tourist routes. Horns are now full grown and early in the month the elk will begin to "horn the brush" in their endeavor to rid the horns of the dried but still clinging skin. Before the middle of the month the bull elk will begin their "bugling" challenges on every side. The elk calves are now three months old and have lost their spotted coats.

DEER might be seen in ones and twos at almost any point, but more likely about West Thumb, Canyon, Tower Junction, and later, near Mammoth. Horns are full grown and losing their "velvet" covering. The fawns are four months old.

BEAVER are shy but might be seen at almost any point, in the evening. In Glen Creek below the Buffalo Corral, in Willow Park, along the Gibbon and Firehole Rivers, near the Yellowstone River bridge below Tower Falls, and beside the road from T. J. 12 miles from that junction and 6 miles from Mammoth, are the most likely places. The beaver are now returning to their homes after having spent the summer wandering about the Park, as they usually do; and they are busy patching up their dams and houses and collecting the tree trunks and branches whose bark provide the winter's food.

COYOTES are common enough and often seen, but WOLVES and MOUNTAIN LIONS are too rare to accommodate the tourist.

Black, brown and cinnamon BEARS are all the same species, just as we have black, white and yellow cats. They are to be seen about the dumps near Old Faithful, West Thumb, Lake, Canyon, Tower Junction, and Mammoth; and in addition, might be seen at almost any point along the roads and trails. The cubs are now about seven months, having been born a month or more before the parents left their places of hibernation. No matter how friendly they seem, all bears are subject to dangerous fits without warning. **Leave 'em alone!**

GRIZZLIES are comparatively rare but might be seen about the dumps near Lake and Canyon after sunset and sometimes before sunrise. Not apt to appear in daytime.

SEPTEMBER NOTES ON THE BIRDS

All the birds are now out of their nests except a few of the Osprey at the Canyon and about Yellowstone Lake, and even these will leave soon. There may be a few other nests of belated individuals when the young have not yet departed.

Fall migration is earlier than usual this year, and is on in full swing during September. Some of our birds such as: Lazuli Buntings, the Hummingbirds, Willet, some of the Spotted Sandpipers, Least Sandpipers, the Swallows, Western Tanagers, and some of the Warblers left for the south during August. During September, the rest of the Warblers and Sandpipers, the Flycatchers, many native Sparrows, the Kinglets, the Cranes and Herons, the Gulls and Pelicans, the last remnant of the Nighthawk tribe, the Swainson and Marsh Hawks, and most of the Woodpeckers will leave for the south. The main flight of Juncos will pass through very early in the month and the White-crowned Sparrows a little later. The main flight of the Brewer Blackbirds ought to occur about the fifteenth. The number of all species still remaining, except wild-fowl, will be greatly depleted. The Magpies that have spent the summer on the plains are already moving back into the Park. The Nutcrackers and the Jays are coming down from the mountain heights and alpine forests to a lower elevation.

The camp-robber, as the Rocky Mountain Jay is colloquially called, is becoming a very persistent visitor to camps and all stopping places in search of table scraps.

Some of the wild-fowl, especially Blue-winged Teal, Cinnamon Teal, and Ruddy Ducks leave for the south; but their place is taken by a much greater number of ducks of all kinds coming down from the north. Some of Canada geese breeding in Yellowstone Park, are leaving for southern waters, but their number is more than replaced by incoming Canada Geese. Probably the number of individual wild-fowl is greater in September than at any other time.

Approved:

HORACE M. ALBRIGHT,
SUPERINTENDENT.

M. P. SKINNER,
PARK NATURALIST.

and the stronger gold of wild sunflowers. In the shady valleys under the fir and spruce forests the priclas are just coming in, soon to be followed by the delicate and sweet-scented twinflower. This is also the time of the shrubs. The holly-leaved barberry, or Oregon grape, has not yet ceased to bloom, and the wild currants and gooseberries, red elder, cherry, service-berry or shadbush, and the yellow wild honeysuckle are just coming into their own. Buckbrush and meadow-sweet havenot yet appeared, but may be looked for soon.

ANIMALS

The same early, dry spring that has speeded up activity on the part of the plants has had its effect also on the animals. The usual migration of the elk and antelope up the mountains is on now, and in a few days they will not be seen in any numbers in their spring pastures on the park plateau. The open winter was very easy on the elk herd and the other game, and they came through in good shape. Bears, lean from their winter fast, are nosing for morsels in the hotel garbage pits and along the roads. The buffalo herd on the "farm" in the Lamar valley is experiencing its usual success in combating race suicide; so far nearly 100 calves have been born there.

At the buffalo corral at Mammoth the usually group of hairy old venturers has been herded in for the season. Interesting additions not on view are several young deer and elk and a pair of truculent young badgers, brought in by the Park Naturalist and the rangers.

BIRDS

The two birds about which tourists most often ask are the Mountain Bluebird and the Western Tanager. The reason for this interest is not far to seek; these are the two most brilliantly colored birds which the tourists meet with in the park.

The Mountain Bluebird is a brilliant deep blue over the upper parts; the same color extending to the entire breast, thus serving to distinguish him from the bluebird of the eastern states, for in the latter the breast is ruddy. The female, however, of both species is a plainly colored bird, the upper parts only tinged with bluish; usually they escape attention.

The Western Tanager (also known as the Louisiana Tanager) is somewhat larger than a bluebird, but smaller than a robin. As in the bluebirds, the male alone is brightly colored. The face is red, fading into yellow which extends over the entire body. The wings are black, barred and margined with yellow and white; the tail is black.

The Mountain Bluebird is much more common and more generally distributed in the park than is the Tanager. The latter, however, is often seen about the forest edges near Tower Falls, Camp Roosevelt, Old Faithful and other localities.

Eagles are much inquired about, a great proportion of the "Eagle" inquiries relating, however, in reality to Ospreys. The large birds nesting in numbers on the spire-like formations in Yellowstone Canyon, and so commonly mistaken for eagles are Ospreys. The so-called eagles nest

July 5, 1924.

Another curious plant of the same family, and found in the same neighborhood, is the dwarf purple monkey-flower, a little vegetable gnome whose flowers are almost as large as all the rest of the plant. Unlike most of the rest of the monkey-flower tribe, which prefer moist places, this species grows only in the driest and hottest of the white sands of the geyser basins.

A third odd plant of the geyser basins is the arrow-grass. This has smooth, round, dark green leaves that look like those of an onion, and a slender central flower spike. The flowers are simply tight little green balls closely arranged along the length of the spike.

In Bath Lake, on the Mammoth Hot Springs terraces, Dr. H. S. Conard, nature guide at Camp Roosevelt, has discovered a peculiar water plant. It is called Chara, and is one of the higher algae; related to the plants that cause the color of the springs, but larger and more complex in its structure. It is a very common plant of cold waters in limestone-bearing regions, but its occurrence in water of the temperature of a really hot bath is a novelty. Peculiarity of this plant is the fact that wherever it grows it gathers lime out of the water and deposits it in its leaves and stems, making them very tough and harsh to the touch.

ADDITION TO THE MENAGERIE

A black bear cub has been added to the menagerie at the Buffalo Corral. An effort will be made to tame the cub.

BLACK BEAR AT MAMMOTH

A yearling black bear of the brown color phase has for the past few days been seen each morning and evening about the grounds of the community building. When approached on the lawn this bear leisurely climbs one of the large trees on the lawn, to await on a low branch an offering of flapjacks or doughnuts.

DUCKS IN THE OLD RESERVOIR

A female mallard duck with a brood of seven ducklings is to be seen in the abandoned reservoir near the formations. This family seems to remain constantly in this artificial pond, where natural food appears to be abundant. The duck and her small charges may be approached readily within a distance of eighty feet.

REPORTED SCARCITY OF BIRDS

Tourists have lately report a scarcity of birds in general. At this season most of the birds have nests. The females are incubating or brooding, while the males are less given to singing than a little earlier in the season.

THE WHITE-CROWNED SPARROW

A bird which has been attracting much attention during the past week is the white-crowned sparrow. A few pairs of these sparrows inhabit the parade ground and vicinity. The song of the male is simple, but sweet and rather striking; the bird is a persistent singer, the song being heard with great regularity in the late afternoon and early evening. A study skin of the species is to be seen in the museum collection.

August 4, 1924.

YELLOWSTONE NATURE NOTES

Volume 1, Number 5.

ELK

A herd of fifty elk was seen crossing an arm of the Yellowstone River in Hayden Valley. At the deepest point in this fording the river reached about half way up the bodies of the elk. Notwithstanding one or two fishermen a few hundred yards away on the opposite bank of the river, the elk were unalarmed and took their time; nor did they hasten at all when several of the large yellow buses stopped to allow passengers a chance to watch them.

BLACK BEARS

Black bears, in their various color phases, seemed particularly numerous, about 25 being seen on the trip. At three widely separated points a bear "held up" the bus while passengers fed and photographed the bandit. Four bears, each with two cubs, were seen.

One of the pairs of cubs was watched for several minutes at the characteristic game of tag - bear "tree tag" as it were. This consists of one cub chasing another up a tree (in this case, a large lodge-pole pine). The pursued always tries to gain a strong horizontal branch from which he can reach a forepaw well down and so protect himself by cuffing his pursuer. During this particular game the mother bear as usual remained near the base of the tree, looking about rather languidly from time to time and occasionally turning her head up toward the cubs who were making a great racket by racing up and about the trunk and breaking off dead branches. But all these glances of the old bear were marked by the same noncommittal and inscrutable expression which only a bear has in all its perfection and aggravation.

A CONFIDING BEAR FAMILY

On the front porch of the dining hall at the Fish Hatchery was a black bear and her two cubs. Tourists were feeding and patting the cubs and walking all about them on the small porch, while the old bear seemed absolutely unconcerned. Not until several yellow buses had halted, and a battery of cameras had hedged them in, did the mother bear sound those almost inaudible little pig-like grunts which are so effective with baby bears; and the family, with the mother leading, walked away. Never-the-less, bears are dangerous, treacherous; they should never be touched.

THE MANTLED GROUND SQUIRREL

The beautiful mantled ground squirrel, resembling a large brightly colored chipmunk, was found to be very abundant all about the automobile camp ground at Old Faithful. At the Rangers' mess house here they fed from the hand and gleaned crumbs from the dining room floor.

TAMER ABUNDANT AT OLD FAITHFUL

The Western or Louisiana tanager is a very common bird about the automobile camp at Old Faithful. They are also usually fearless here, owing doubtless to the encouragement of campers and the abundance of food scattered for them and the mantled ground squirrels about the camp-fires.

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NEST OF AUDUBON WARBLER

About fifty feet from the Rangers' mess house at Old Faithful is a nest of the Audubon warbler. When found, the nest held young which were being busily fed by the male. The nest is thirteen feet up near the end of a horizontal branch of a lodge-pole pine.

VIOLET-GREEN SWALLOW AT GARDINER

Several pairs of violet-green swallows are nesting under the roof of the rustic pavilion and in crevases of the station building itself at the Gardiner Railroad Station -- the north entrance of the Park. On July 29th the parent swallows were seen feeding their well-grown young whose heads showed at the doorways of the nests. The coming and going parents, and their clamorous young, pay attention to the crowds passing or standing a few feet below their nests.

STRANGE SKY APPEARANCE

A very unusual effect in the sky was noted by several observers about seven twenty P. M., July 30th. The phenomenon is thus described by the Park Naturalist, who witnessed it.

Following a distant electric storm there appeared one east four rose-colored bars, the most vertical one reaching to the zenith, the others raying out toward the southern horizon; all converged toward a single point which would have been somewhat below the eastern horizon (in this case, from the observer's point of view, Mt. Everts). These rays were perfectly straight and evidently had relation to the clouds, for the latter were of the altocumulus and alto-stratus types. The sun at this time was hidden behind cumulus clouds, the upper edges of which showed only a golden high-light. The eastern bars in question had all the appearance of rosy sunset rays; the strange thing is that they should appear directly in the east, particularly when the sun was out of sight behind a bank of clouds in the west. Will someone offer an explanation? About five minutes after the bars were observed they steadily and very quickly faded away.

ERUPTION OF "ONCE A YEAR" GEYSER

On July 26th the "Once A Year" geyser erupted quite impressively. It is located on the red knoll in the center of the basin, and shot up fifty feet at first, after which it died down to puffings of twenty feet in height for fifteen or twenty minutes. During this time it was the source of a stream of water of an opaque kind.

ELK AND BEAR AT NORRIS

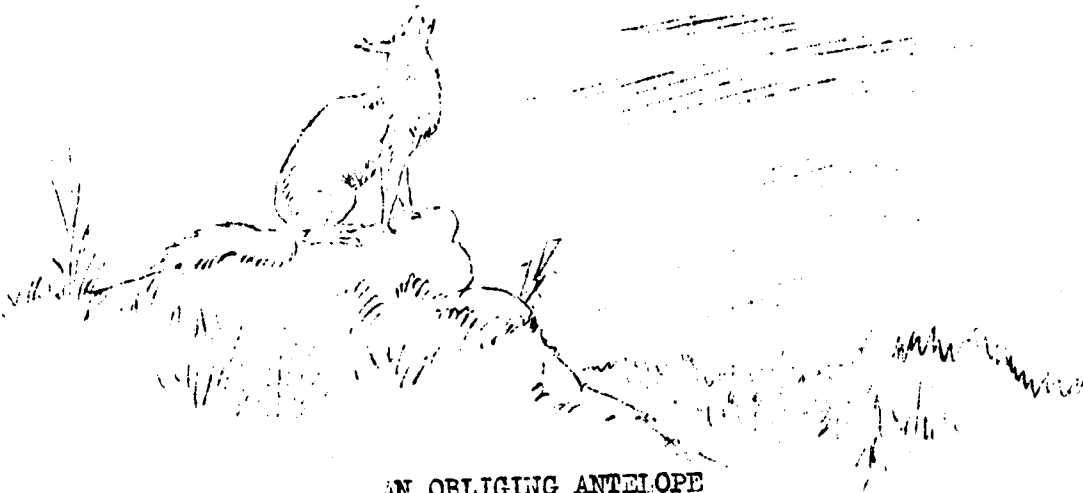
We have a magnificent 7-point elk, with horns in velvet, frequenting the timber and meadows about Norris. On the 25th of July he came from the timber to the bath house, walked across the road and grazed upstream for more than an hour. While he crossed the road at least six cars got close enough for passengers to get photos at fifty feet.

A big black bear of the brown color phase, tame as a dog, stays about the Norris Ranger Station, the road camp and Norris Lunch Station. Several tourists got good close-up photo shots at him on the 25th when he came into the back of the station. One ranger got a photo of him; then the bear wanted to follow right into the house - he seems very amiable. (Reported by Ranger T. P. Attenden, Norris Ranger Station).

OF INTEREST AT YANCEY'S

Late in the afternoon of August 22 I hiked to Yancey's -- two miles from Camp Roosevelt. Notwithstanding the flume recently built right across their rock-slide haunts, conies were busy with their hay-making and seemed as numerous and tame as ever. Two pack rats flashed in and out among the rocks, while chipmunks ran back and forth and here and there a marmot waddled about, picking his way gingerly from stone to stone. Just then a black bear came strolling down to the nearby cabin and I heard the man stationed there ask him where he had been for the past week.

When the sun was setting I climbed the hill to the beaver pond half a mile away near the Howard Eaton Trail, passing on the way an elk cow and calf. Three beavers were swimming about in the pond, one of them apparently intent on closing a leak in their dam. He swam back and forth between a low bank, where he seemed to be getting mud, and a certain point in the dam; here he would dive under water, soon reappearing. It was getting dark now. Over in the Hellroaring direction an owl was hooting. Then, toward Crescent Hill a lone coyote greeted the first stars with his weird serenade -- "taps" in the Yellowstone.

AN OBLIGING ANTELOPE

Tourists in the yellow buses were given a delightful surprise on the afternoon of August 23rd as they approached Lava Creek from Tower Falls. Few of these tourists had yet seen an antelope, and their trip through the park was nearly over. Between Blacktail Deer Creek and Lava Creek a fine buck antelope stood in a little open meadow a hundred feet from the road. Our bus stopped and soon half a dozen others had done likewise. Tourists alighted, cameras were focused, shutters clicked merrily while the buck turned slowly about as if to exhibit his foot-long horns and sleek form to the best possible advantage. The buses filled and rolled along, leaving the buck to gaze after them and then go on with his feeding, none the worse and none the wiser for all the "shooting" he had been subjected to.

NOTES FROM CAMP ROOSEVELT
(By Prof. H. S. Conard)

ANIMALS

Beavers are active in all the streams. Below the Petrified Tree, tourists sit on the logs beside the dam and watch the beavers every evening after supper. The animals in this locality are specialists at diving, with a loud slap of the tail on the water - flappers, so to speak. On the 15th

National Park Service
Yellowstone National Park
Yellowstone Park, Wyoming.

YELLOWSTONE NATURE NOTES.

November 20, 1924.

Volume 1, Number 8.

This is one of a series of bulletins to be issued from time to time for the information of those interested in the natural history and scientific features of Yellowstone National Park and the unmatched educational opportunities offered by this region. Copies of these bulletins will be mailed free to those who can make use of them. Address request to: Superintendent, Yellowstone National Park, Yellowstone Park, Wyoming.

Edmund J. Sawyer
Park Naturalist

Horace M. Albright
Superintendent

EARLY SNOW FALL

An unusually heavy fall of snow for the time of year occurred from October 9th to 11th. The depth at Mammoth Hot Springs on the latter date was 9 inches - the greatest depth recorded here in the twenty-year period covered by the weather bureau. In the high mountain passes it was much greater, the depth in Sylvan Pass being reported as two feet or more. The range of the storm was general in the park.

From October 1st to 12th the weather was exceptionally severe. For the rest of the month, excepting the last three days, it was especially fine.

THE ASPEN IN GRAY

The outstanding seasonal feature of the month of October was the sober gray of the quaking aspen. This tree, forming groves in the hollows, and extending in dense ranks up the mountain sides, added more color to the landscape than did anything else until early in the month when the saffron leaves began rapidly to fall. Now the trees are a uniform gray of bare branches, only a few sere leaves persisting.

AN OUTSTANDING WILD LIFE FEATURE

The most prominent wild life movement of the month just passed has been the coming of the big game - elk, deer, antelope and sheep - down the mountain passes to the lower levels, as about Mammoth Hot Springs and Gardiner. With these big game animals, or at least coincident with their coming, have come also many coyotes; this is the usual thing.

PERSISTENCE OF BIRDS AND OTHER FORMS.

To those who think of Yellowstone Park as a forsaken, forbidding, desolate place at all times excepting the official tourist season, the following notes may prove illuminating.

A catbird and several meadowlarks still lingered at the Buffalo Farm on October 5th.

A badger was seen active above ground on the same day. Others have

A robin and a bluebird were seen on October 10th.

A mourning cloak butterfly was seen flitting about in enjoyment of the sunshine of October 13th.

On the latter date also 5 Wilson snipe were found contentedly lingering on the grassy margin of the small conventional pond at the very north entrance of the park.

To the end of the month dandelions in full golden bloom were of common occurrence along the roads and trails.

On the 15th of October an old black bear, still evidently as solicitous as ever regarding her cubs, sent both of the latter up a large tree near me with the usual grunts, while she stayed at the base of the tree, sometimes with a forepaw on the trunk, watching me.

GRIZZLY VISITS SNOWSHOE CABIN

On approaching the snowshoe cabin on Upper Pelican Creek I met Ranger Dunrud coming from the cabin where he had spent the night. Following is the substance of Mr. Dunrud's account of the condition in which he found the cabin on his arrival the day before. The door had been opened by main force. The bedding, including the mattress, had been all taken outside and strewn on the snow for distances varying up to 100 feet. The bed itself (a large heavily built affair) had been moved two feet out from the wall; the stove had been moved from its place, the zinc-covered cupboard had been turned over, broken into and contents emptied, provisions all eaten or (such as pepper and cinnamon) at least bitten into, excepting one small specially resistant tin. Every frying pan, dish pan and kettle had been knocked from the walls. A sack of oats had been torn from its nail on the ceiling, and contents eaten.

The tracks alone of a single enormous grizzly bear coming to and leaving the cabin left no doubt of the visitor's identity. Mr. Dunrud had put the cabin in shipshape again, but I can personally testify to the tracks of the grizzly in the snow; I followed them for a mile both ways from the cabin.



The bugling of bull elk was to be heard in all directions in their territory throughout the first two weeks of October. At least as late as the 10th there was much evidence that the influence of the rut still held sway. On that date I rode through Snow Pass to the vicinity of Little Quadrant Mountain. It was supposed that the elk had all come down through Fawn Pass by that time; and, indeed, my own observations indicated that this was the case and that on arriving at the foot of the mountain I had ridden beyond their rear. As found, the elk were distributed as follows:

- 7 - 4 bulls, 3 cows;
 - 14 - 1 bull, with fine large set of antlers, 13 cows;
 - 30 - mixed;
 - 66 - 1 bull, the rest cows and, perhaps, calves.
 - 1 - bull, closely following the herd of 66.
 - 4 - 1 bull, 3 cows;
 - 3 - 2 cows, 1 undetermined;
 - 1 - bull;
 - 1 - bull;
 - 20 - scattered herd, sexes undetermined.
- Summary - 10 bulls, 86 cows, 51 mixed and undetermined; total 147.

Morehead, Kentucky; Fremont, Indiana; AuSable, Michigan; Abilene, Texas; Boston, Mass.; Warm Springs, Montana; Erie, Pennsylvania; Little Rock, Arkansas; Grenloch, New Jersey; Visalia, California; St. Anthony, Idaho; Robinson, Kansas; Perrysburg, New York; Jefferson City, Missouri; Beverly, Mass.; Jacksonville, Florida; Glen Campbell, Pennsylvania; Bristol, South Dakota; Avery, Texas; Murray, Kentucky; Orion, Michigan; Redwood Falls, Minnesota; Perry, Iowa; Willow Springs, Illinois; Hollywood, California; Hastings, New York; San Antonio, Texas; Sheridan, Wyoming; and Chippewa Falls, Wisconsin. They were sent to various establishments, including municipal zoos, private estates, game preserves, forest preserves, hospitals, insane asylums, the movies; and the largest pair shipped from the park went to Flo Ziegfeld, of Ziegfeld's Follies. Sixteen buffalo, shipped to the Famous Players-Lasky Corporation, are to be used in completing Zane Grey's "The Thundering Herd", and will later be liberated on Catalina Island. Eight were sent to the Jos-Vin Game Preserve in Pennsylvania and twelve were sent to the Forest Preserve, District of Cook County, Illinois. Before many years new herds will have been started in the United States through the shipment of these animals.

The Yellowstone tame herd at the present time numbers 689, there having been 780 on August 1st before shipments commenced. More buffalo were shipped this fall than in all other years together since the buffalo herd was established. Fifty-five had been shipped previous to this fall.

The Yellowstone buffalo herd was started in 1902, with 21 animals; 18 cows from the Allard herd of western Montana and 3 bulls from the Goodnight herd of Texas. They multiply very fast, there having been 120 calves this year, and about 100 last year.

"THE THUNDERING HERD"

On October 5th actors and camera men from the Famous Players-Lasky Corporation came to the park to film Zane Grey's "The Thundering Herd". This party included 22 Indians from the Arapahoe Reservation in Wyoming and 20 company people.. They experienced some very bad weather during the first ten days of their stay and very little progress was made, but later they were able to get some magnificent scenes and they accomplished all that they expected to. The Yellowstone buffalo herd was used in the picture, and no cruelty of any kind was practiced. This is the same company which filmed "The Covered Wagon", and they expect to make their new picture as good as "The Covered Wagon", or better.

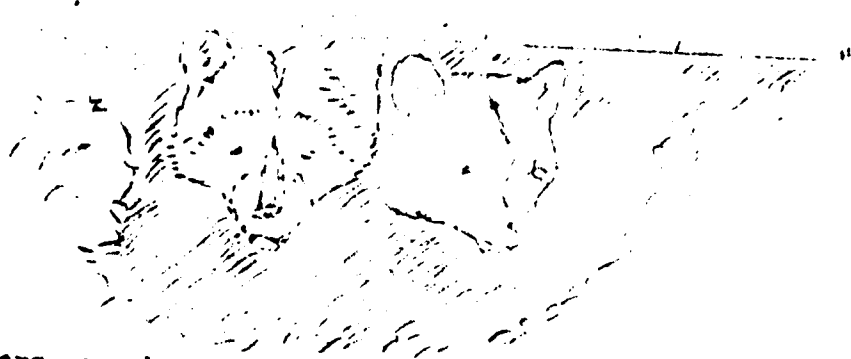
GAME ABUNDANT IN THE PARK

A recent report of game in the Yellowstone revealed the following:

Elk, including the Gallatin and Madison herds (excluding the Jackson Hole herd), approximately.....	20,000
Buffalo, (at present).....	689
Buffalo, (wild herd).....	85
Antelope, including about 75 kids of the year.....	395
Mountain Sheep.....	600
Deer, mule (black tailed)..... 1,500 to	1,800
Deer, white tailed (only 8 seen during past year.. 10 to	40
Moose.....	450
Black Bear.....	200
Grizzly Bear.....	60

Small animals - porcupines, beaver, mink, skunk, marten, weasel, otter, and so on - are known to be plentiful in the park but no estimate as to their numbers has been attempted; beaver are particularly plentiful and otter are on the increase. -

Waterfowl - Ducks of the usual species are as abundant as ever in the Gardiner river between the Boiling river and Gardiner; the species which can always be seen here are mallard, green-winged teal, Barrow Goldeneye, American merganser.



Bears - Two cub bears, one brown and one black, and possibly a third cub, spent the winter under the floor of the Transportation Company's mess-hall. The cubs were seen scratching out an entrance there last fall. The entrance is simply an excavation in the earth just below the floor level. At times one or other of the cubs shows his nose at the entrance, which is just beside a much-used back door of the building.

BLACK BEAR ABROAD IN FEBRUARY
(Reported by Ranger Lee Ottisell)

On February 13th a black bear was found traveling through the deep snow in the Heart Lake region. He was back-tracked for five miles, but no den was found.

BLACK BEAR AND CUB UNDER LAKE HOTEL
(Reported by Ranger Joseph Douglas)

On or about December 18th an old black bear and brown cub hibernated in the winter under the Lake Hotel. For several days previously the old bear had been seen taking quantities of green willow branches into the prospective den. Later she was seen scratching into the den large quantities of snow. Since the date mentioned the winter keeper has been feeding the bears about twice weekly, the animals showing their heads at the den entrance in quest of edible scraps. This is thought to be the first time a bear has thus hibernated for the winter at the Yellowstone Lake Hotel.

MARTENS FEEL GUILTY AT CANYON CAMP
(Reported by Winter Keeper C. K. Siscook)

More literal than in the foregoing instance is the connection between the animal guests at Canyon Camp and the hospitality of their choice. Here the martens have been daily guests since deep snow came. The bugle call, familiar to summer tourists, is not for the present guests; but they are late for breakfast or other meals. They share the festive board of the winter keeper, feeding from the table itself as well as from the land.

MOOSE APPROXIMATELY
(Reported by Ranger John Lauritzen)

A cow and calf moose were seen only three miles from Mammoth and on the main road to Camp Roosevelt.

Number of Elk in the Park.

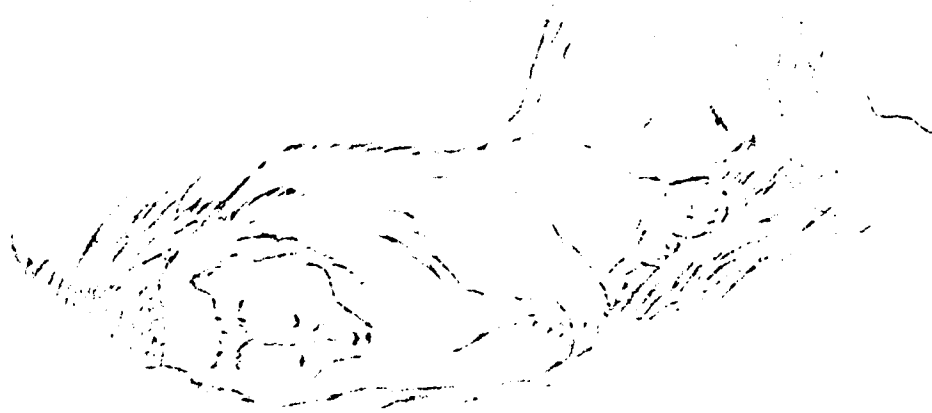
A spring counting of the elk, conducted by the ranger force, was begun on April 14, and completed on the 25th. The counting resulted in the following figures.

Cows ----- 1234
Calves ----- 1234
Bulls ----- 1234

Total ----- 1234

Adding 10% of the total counted, to allow for all not actually seen, the estimated total is 1734. These are commonly divided into two general herds -- the north side herd and the Gallatin herd. The numbers in these herds, respectively, are 1434 and 3000.

April Bears.



Toward the middle of April increased activity was noticed in the part of the cub which had spent the winter under the flank of a grizzly at Mammoth. From time to time one of the cubs would thrust his head and shoulders into the great cut-of-fur as if to feel the air and sniff the wind, prognosticating the weather.

On the 16th a black bear of the brown phase was seen lying down at the foot of a large tree. For at least two hours the bear lay curled up in the sun? except that once, as I passed near, he uncurred somewhat to see what had disturbed his slumbers.

Beaver.

Some special emphasis should be placed on the beaver of Yellowstone Park. They are very abundant, widely distributed, for the most part undisturbed in their work. So large a number of the sight of man and familiar with the human world which he has known, they pursue their various activities undisturbed by the presence of human spectators. One may study as closely as he wishes their dams, lodges, canals, passages and works in general; he may stand in open view at close distance of beavers feeding or building their dams, himself only usually interesting to the beavers. I have seen a party of seven persons bring lunch on a beaver dam while three or four beavers repeatedly swam within eight or ten feet of them as if mildly interested in their menu.

Chief Joseph's rifle became the property of an army officer and was brought into the Park during the military administration. From his hands it passed to Mr. Wm. J. O'Laughlin who has lately presented it to the Museum where it forms a vivid and intimate memorial of the unfortunate tribe and the leader whose conduct of warfare places him nearer the standard of true civilization than any other Indian who has ever waged war against the whites.

Indian Bows and Arrows

Mr. Wm. J. O'Laughlin has located to the Museum two bows and a number of arrows which he acquired from Gen. Wm. F. Cody, (Buffalo Bill) while in his employ at Cody, Wyo. Bows and arrows were still employed to hunt buffalo after the use of the rifle had become prevalent among the plains tribes. Their chief advantage--in addition to the saving of ammunition, no small matter to the Indian--was the absence of any report, which enabled the hunter to work among the herd without throwing them into a panic as rifle shooting would have done. The weakness with which buffalo could be approached made the bow a far more effective weapon on that animal than on such wary creatures as the antelope and mountain sheep. The arrows, and the influence of civilization--their steel heads, made of discarded knife blades and as keen and needle-pointed as a lancet.

Bears and the Yellow Pine at Mammoth

Donr G. Yeager,
Nature Guide.

Bear Robs Squirrel's Nest

One morning as I was going to the Auto Camp for my nature study hike, I was attracted by a large group of people near one edge of the camp. As I approached the group it parted and a black bear ambled out of the center of the party and off into the woods. Upon investigating, I was told that the bear was robbing a squirrel's nest. Sure enough the pine squirrel was sitting on a limb clattering away like mad. Upon examining the tree I found that it was hollow and had served before the raid as a store house for the little fellow. I was interested, because as a rule, a bear is not moved to robbery by such a thing as a nest full of pine cones. I found upon closer examination, however, that the squirrel had been indiscreet enough to store up some cookies and a piece of bread.

Ground Hogs Den up for the Winter.

Ground-hog

All through the summer I have been looking for signs of hares or woodchucks that dened themselves every winter, or at least just above the trail. They were there every morning without fail. One morning about the 20th of Aug. I missed them. I was surprised because we had seen them every day during the summer. The next morning they were not there, nor the next. Quite probably the little fellows had dened up for the winter. It will be interesting to know whether the same pair will be back in the same place next year.

December 7, 1925.

YELLOWSTONE NATURE NOTES Volume II, Number 6.

This ejected mass of water is thrown to a height of over 75 feet while an occasional spurt shoots through it to twice that elevation.

The present eruption occurred shortly after the full moon had arisen and the illumination of the steam column, rising several thousand feet into the night sky, was a spectacle not easily forgotten. Perhaps the most striking feature was the brilliant lunar rainbow that played on the water as it was blown into a mist by the steam. This is an exceedingly rare phenomenon and a wonderfully impressive one under such circumstances. What a land of sagas the Yellowstone would have been if it had been peopled by a race as sensitive to its wonders as the Norsemen were to those of Iceland!

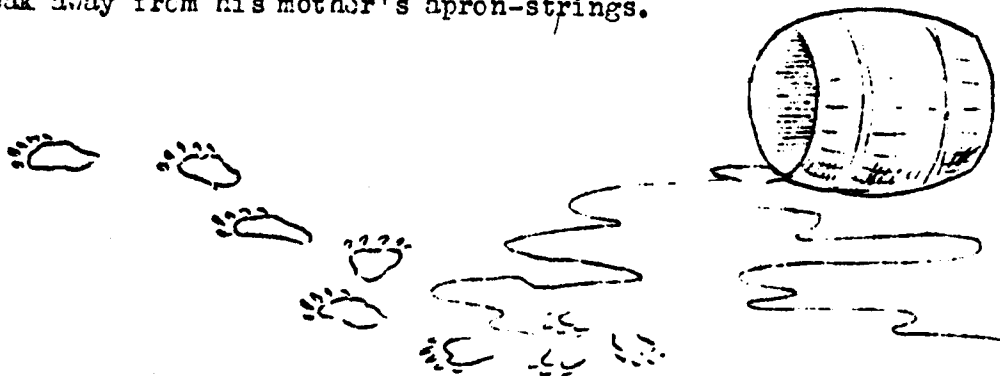
Doings of Bears

Ranger Chas. Phillips.

The bear population of the Upper Geyser Basin went into hibernation during the first ten days in November. There seemed to be little or no diminution in their ranks during the mild October but an early snow storm in November sent most of them to bed. A few individuals, who may suffer from insomnia, were to be seen as late as Armistice Day.

An elderly female and her companion have located for the winter under the foundation of Old Faithful Inn and so far they have circumvented all attempts at evacuation. A small trap-door for electric cables provides an entrance and they are able to pass from their quarters to the lobby through the tunnel that carries the annunciator wires. Their investigations took them up to the "Bats' Roost", the employees quarters under the gable, where they found a barrel of salt solution for fire protection. No park bear would think of passing a barrel without upsetting it and the liquid was spilled down the stairways through four floors. Their salty shows that they subsequently covered practically the entire building. On one occasion their perambulations took them through the dining room from the windows of which they could see the entrance to their den. This evidently suggested a short cut home, which they took, breaking through a loaded window enroute. Their automobile-camp training is apparent in their methods. All leather seats are promptly ripped to pieces while cloth cushions are left untouched. Their chief motive, however, seems to be the search for material for their winter nest, as shreds of cloth are to be found all along their trail. They have also pulled the twigs off of several small pines for the same purpose.

The identity and sex of the second bear remains a mystery. It is much smaller than the old female, who mauls it and cuffs it around in a maternal fashion that suggests that it may be a last year's cub who finds it hard to break away from his mother's apron-strings.



February 28, 1926

A Confiding FoxRanger Phillip Martindale
Lake Station.

A very unusual sight even in this great gamewarrent is the wary mountain fox, but when we see one making its home not more than 30 yards from our main road or trail and under a platform of the permanent camp property, it seems quite extraordinary.



We saw this wonderful little animal early in January and found that he had made many tracks close to the old dance platform and was making his home underneath. He is a beautiful golden yellow on the back and has a white neck and beard and brownish yellow tail. We have fed him every day or two and he is apt to be waiting outside of his lair for us to bring over the cuts which he necessarily has to beat the camp robbers and nutcrackers to. I do not think that it will be possible to ever get this fox really tame but, even so, it is gratifying to be able to get within a few feet of as shy an animal as a wild fox.

Bears Still Out

On the 6th of January a large black bear and three cubs were outside at the rear of the Lake Hotel. The old bear is seen nearly every day. In coming out they are very careful to keep in the same tracks on paths made on the previous trips and do not exert themselves very much. These bears have taken for their winter abode the cook's quarters of the hotel. The place left open is not large and underneath the floor makes a good den for them. Even after the snow was on they spent many hours in pulling coarse slough grass and dragging it in for a bed. It seems possible now that the old bear will be out almost every day during the winter, if fed.

Miscellaneous Wild Life

On our January patrol up the Pelican Flats we saw a bald eagle which was flying low and was easy to identify. This is the second one that we have seen this winter. The other was close to Steamboat Point on the northeast shore of the Lake.

Members of the wild buffalo herd, which we saw on the Pelican Flats and later on Mist Creek, in the timber, were finding food through about 30 inches of snow and looked very good. The bunch of 12 encountered in the timber were on our trail and, as the bulls showed by their actions that they were going to hold that particular section, we detoured and were not slow in doing it either.

We have a pair of martens making their home here at the station and while they are playing and hunting food we have had good opportunity to watch them at close range. Their action is that of a kitten, only faster. Their climbing and jumping ability enables them to go from trees to the buildings with ease.

The squirrel living here moves faster than usual when the martens are around and at times he has some close calls.

One of these martens, after considerable growling, has taken food from the hand.

The Captive Animals

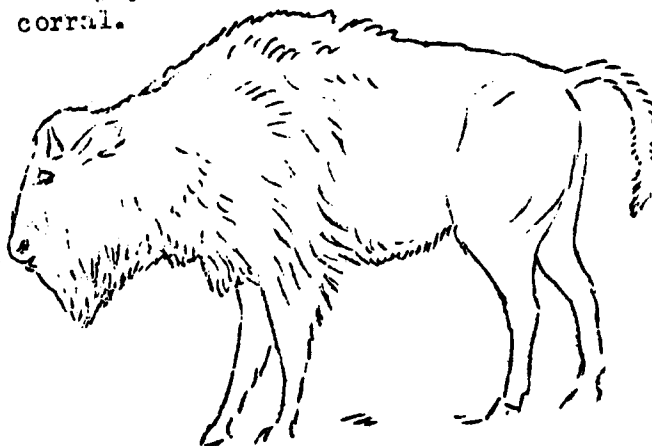
H. F. Sawyer, Park Naturalist

Due to the prevailing mild weather the two captive bears, June and Al, have been more or less active. Frequently they could be seen through canvas door of their den, their sensitive noses weaving about as they lay on their backs or sides; they were trying the mild air as if speculating on advent of spring. On exceptionally warm, sunny days one or both bears did come out of the den and might even wander sleepily about the enclosure. As was the case on February 15th, both bears coming out to walk sluggishly and quench their thirst by licking the molting snow. They are looking a little thin and "shoe worn"; feeding will soon be in order if the mild weather and their activity continues.

The large male badger continues fat and apparently quite contented with his winter quarters - a tightly made nesting box thickly banked with hay. He is usually to be seen asleep, curled up in his box; only waking to thrust his head through his doorway and grunt and hiss in approved badger fashion when being inadvertently disturbed.

A bald eagle, caught in a coyote trap by Ranger Wahl, was added to the zoo on February 16. Though sick and weak from the long ride to headquarters, when received here, the bird is now doing well and bids fair to be one of the attractions in the coming tourist season.

The last year's buffalo calf is not only tame; she is even intrusive, insisting on close and very personal and direct attention on the part of anyone who chances near her corral.



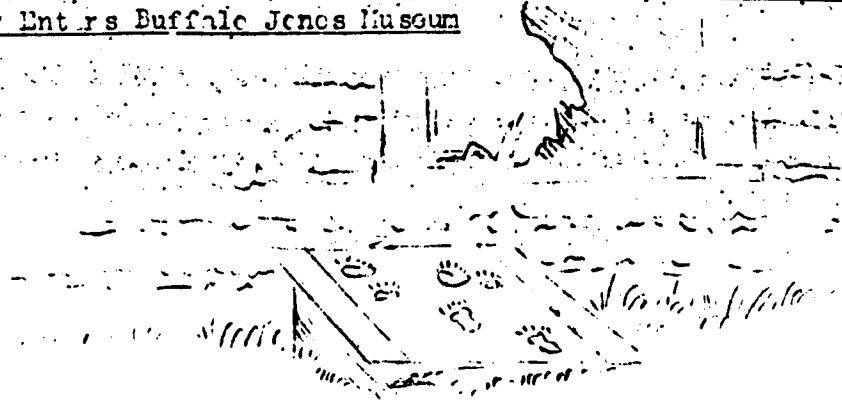
An Early Woodchuck

A half-grown marmot or woodchuck was picked up by Chief Ranger [Name] on the road between Mammoth Hot Springs and Gardiner on February 26. The animal was just able to crawl. It was terribly emaciated. Its entire tail and hind legs were entirely destitute of winter hair, only the short coat being present.

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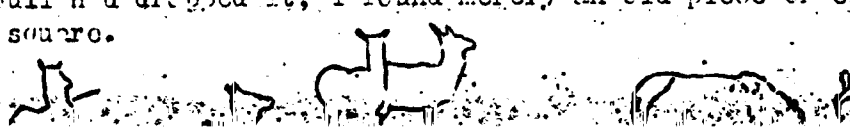
Fresh, deep footprints in the mud showed unmistakably that there had been two bears about; one a yearling cub, the other full grown. They were probably a female and her cub, of last year, which had hibernated together - a common practice. As to whether or not both had entered the building could only be conjectured. However, appearances as illustrated above called my attention to the obvious fact that a Black bear had entered the kitchen of the building which houses the Buffalo Jones Museum. Putting my head through the broken screen and sash, I beheld a very untidy looking room. On going around the outside of the building I found that the Museum room had not been overlooked. Here one of the large buffalo skulls which hung on the wall had been given a tentative cuff and now hung at a rakish angle. Entering the kitchen by the route the bear had taken, I went through each room, but my search for the house-breaker was unrewarded; yet the entering had certainly been done within the preceding 24 hours. On the kitchen stove was a note reading "Do not light fire". That is about the only injunction, written or implied, that the late guest had heeded. Fragments of the broken window-sash lay among the pieces of the panes on the sill and floor. Two potted plants were tipped over and the earth strewn about. The coal scuttle was overturned; a broken preserve jar, a butcher knife, a glass jug, milk bottles and various other things were strewn about; the shelf over the sink hung barely suspended by a nail at one end.

A Companionable Jack Rabbit

Every day the same individual white-tailed jack rabbit is to be seen crouched in a shallow "form" close against the side of the blacksmith shop and only twenty feet from the door. Horses and men pass within ten feet of him and all day he is within the din of ringing anvils and all the clatter incident to shoeing horses. Indeed this hare has selected the noisiest spot in or about Mammoth as a place of repose! That he does find rest here is quite evident from his comfortable pose and manner and half shut eyes when no one intrudes too near. Some writers of animal fiction might see a possible reason for the choice of this site in the person of Mr. Vink, the mighty blacksmith, who, when he hears strange noises outside, appears at the smithy door with sleeves rolled up and heavy sledge in hand, to inquire if anyone is bothering his "pet". This was the greeting I received when I discovered that pet in his resounding place of rest and set about making the sketch which appears on the present cover; only, I substituted, in my sketch, the more orthodox rabbit bush for the concrete wall of the smithy.

Elk At Play

One evening I saw a bull elk on the Parade Ground prancing about and thrusting with his horns, fighting I thought with another elk. Going closer, I saw that he was "carrying" some object which he would pick up and drop and push about on the snow. The light was failing, so I went up within 100 feet; whereupon the bull, who with half raised head had been watching my close approach, trotted slowly to a group of cow elk a short way off. On the snow where the bull had dropped it, I found merely an old piece of canvas a couple of yards square.



1926 The incident recalled to my mind that I once saw one of our saddle horses playing with an empty gunny sack, racing about with it, tossing it into the air and catching it and very apparently trying to tempt the other horses in the corral to join in.

Both in fall and early spring I have seen an elk running, kicking up its heels and weaving about with its head and neck after the well known manner of a colt or a calf. Mr. Joffe, Secretary to Superintendent Albright, reports an "elk race", was witnessed on March 1st by himself and Mr. Albright. On a level stretch of the lower and inactive hot springs formations two elk were seen to be running back and forth; they would start together at one end, as if from a line, and race like two boys. Soon a third elk joined in the sport which otherwise continued as before.



Black Bears are Abroad At Camp Roosevelt

About the middle of last October a mother black bear and two yearling cubs went into hibernation under the floor of Camp Roosevelt. They emerged at 1.30 on the afternoon of March 24th. They were very friendly and seemed to want nothing quite so much as to "have their heads scratched behind their ears". "They nosed around the cabin, but did not seem hungry and would eat very little." So reports Mr. Julius Fouman, Caretaker at Camp Roosevelt, and adds that this is fully a month earlier than he has ever before known bears to appear out of hibernation during his many years of residence at Camp Roosevelt. The writer knows Mr. Fouman to be a close observer of bears in particular and of wild life in general about him.

A New Hot Spring

A new hot spring has gushed from the old inactive formations between Assistant Superintendent Hill's residence and the Parade Ground and on the opposite side of the road from Liberty Camp. The main vent appears to be about three-quarters of an inch by two inches in diameter; the flow from this is constant. There are several much smaller vents near the same spot, but from these the flow is spasmodic and bubbling; an audible gurgling occurring at intervals of about one minute. The new formation or deposit from the water covers an irregular area varying from 25 to 35 feet across on the upper level which is five to six feet above the ground level. The coloring of the deposit varies from white and pale buff to deep orange brown. This is the first marked activity in that particular series of old formations for a period of at least twenty years.



Sometimes one comes upon a raven balancing himself awkwardly at the river's edge while his uncanny gaze scans the backwater for dead fish. A bald eagle remained in the Upper Basin until well into January. His observation post was a lofty lodge-pole near Morning Glory Pool. It is the divers, however, that must remain associated in the memory of the bird-enthusiast with the Firehole in winter. They love fast water and one sees them at every riffle leading and diving about in the icy water, often completely submerged. The pair at the rapids near Sentinel Geyser evidently nested there as a ball of moss still clings to a spray-washed rock. A huge block of ice in mid-stream at Giant Geyser is a favorite perch and here they may be heard singing as cheerily as a brown thrasher in June.

Innumerable game trails lead down from the slopes to the river as it is often the only cold water for miles around. Elk are much more numerous in the Basin than in the Upper Geyser Basin. The wide meadows about Fountain form unexcelled winter pasturage as the snow seldom lies too deep on them to render the natural-cared hay beneath inaccessible. On the other hand, mule deer (usually called black-tail deer in the park) are more numerous at Old Faithful than on the lower river, being infrequent below Biscuit Basin. Here they congregate in localized bands, one in the Myriad Springs area behind the Inn, another on the slopes below Solitary Geyser, a third around Grotto Geyser, etc. While an occasional moose may be encountered at almost any point along the Firehole during the summer when the "wanderlust" is on them, systematic search in likely haunts has not revealed any sign of them in the Upper Basin in winter. At Fountain, however, in the cozy, luke-warm marshland along the river, one's vigilance is sometimes rewarded by a glimpse of one of these ungainly monsters, the largest of all living deer, and surely the most



Bears Roam near at Upper Geyser Basin

The first black bear of the season at Old Faithful made his debut on the evening of March 13th and ransacked the winter-keeper's porch by way of warming up for the season's work. His appearance establishes a state of siege for the winter-keeper and the ranger with everything that might be construed as edible at behind barricades. In short, we are back on a summer basis.

The coming of the grizzlies is awaited with interest. These shy creatures, so timid in the presence of the summer crowds, are quite unabashed before the permanent residents of the Basin and wade through barbed-wire entanglements and rattle off locked doors as unconcerned as they would before the days of Lewis and Clark.

The three bears (black, brown and cinnamon, respectively) hibernating under the Inn have been heard moving noisily about in their quarters all through the winter and "Phoebe", the ornery old female who was the terror of the Basin before her social retirement in November, came occasionally to the door of her den for a breath of fresh air although her tracks in the snow showed that she did not venture more than a few feet from the opening.

the coniferous forests and the upper limit of the vegetation. In general, the last stand of aspens in the above valleys is a frontier for Transitional bird and animal life although the aspen is one of the most adaptable of trees, pushes far up into the Canadian zone or shrub, especially in burned-over country where it is able to out-compete the more vigorous conifers. Characteristic birds are the western crow, mountain song sparrow, and green-tailed towhee. Two of the typical Transition mammals within the park are the white-tailed jack-rabbit and the prong-horned antelope.

GEYSER NOTES

The period from the middle of March to the middle of April has been marked by a gradual trend back to "normalcy". An eruption of Giantess on March 20th exhibited all the characteristics of geyser activity during the low water period. Giantess usually goes into action with an explosion-like outburst that hurls the immense quantity of water in the crater into the air in a single instant. In this case the steam-pressure was apparently not sufficient to expel the contents of the tube in one effort. Instead, the geyser continued to spurt jets that seldom rose higher than 25 feet at intervals of 15 to 30 minutes from 9.30 A.M. throughout the whole day. The powerful, roaring steam-period so characteristic of the Giantess was absent altogether; in fact, the eruption was scarcely audible 100 feet from the crater. The water-level of the Vault, Tea-kettle and adjacent springs fell and rose as usual with that of their big neighbor. Giantess' crater was filled and over-flowing normally in 72 hours.

The algeous growth in the over-flow channels (that orange-yellow patch on the side of Giantess' mound so conspicuous from the Inn) lost its color during the first day of the eruption and was thoroughly desiccated by the third day, with a harsh, chalky texture due to embedded particles of silica. Algae are instrumental in removing silica from geyser waters and thus are a factor in building up the sinter mounds upon which most vents are located. The algeous areas on Giantess did not fully recover their color until five days after the crater began overflowing again.

The extensive thawing in April has raised the level of the Firehole River several feet. This melting, however, has been chiefly on the warm areas and sunny hillsides and does not affect the geysers as much as its appearance would indicate. The water-supply of the hot springs and geysers is derived largely from the rock-layers lying above the level of the basin floors which in turn are fed by the snows of the Madison and Central Plateaus where, in the dense timber, melting proceeds at a much slower rate.

On April 12th the writer observed the following geysers in eruption within a period of two hours: Riverside, Daisy, Grotto, Oblong, Grand, Sawmill, Lion and Old Faithful. Such a display of activity would not be noteworthy in midsummer but it is significant at this season of an early return to normal conditions.

MISCELLANEOUS NOTES

Two more bears have registered at the Old Faithful Inn (or rather, near it) bringing the total number of guests up to five. Rags, the amiable strawberry blonde, is the leader in every escapade and promises mischief. Recently he forced open the swinging doors of the men's lavatory in the basement. Once inside he was unable to distinguish between the window he had entered and a large plate mirror, but with a bear in the mirror and none in the window the

Department of the Interior
National Park Service.
Yellowstone National Park
Yellowstone Park, Wyoming.

May 31, 1926.

YELLOWSTONE NATURE NOTES

Volume III, Number 5.

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Horace M. Albright
Superintendent

J. E. Maynes
Asst. Director of Museum

Edmund J. Sawyer
Park Naturalist

Gallop Visits The Buffalo Ranch

Horace M. Albright, Superintendent.

May 18th and 19th I spent on inspection of our hay ranches on Slough Creek and the Buffalo Ranch. The night of the 18th was spent at the latter ranch. I was awakened early the following morning by loud "honking" of Canada geese and notes of other birds. The hay fields near the ranch house abounded with geese and meadow larks.



Joining the Chief Buffalo Keeper, Bob Lacombe, a few moments later outside the ranch house, we beheld a wonderful and beautiful scene. The Lamar River Valley, always one of the loveliest valleys of Yellowstone Park, was particularly charming that bright spring morning. A herd of cow buffalo and their calves were quietly grazing on the slopes of Specimen Ridge across the Lamar.

The big Anethyst Creek hay field at the base of Specimen Ridge was filled with elk much to the disgust of Chief Lacombe who doesn't like to see hay grasses eaten up by elk and buffalo in spring time in view of his ever growing need for hay for these animals in winter. Just above us on the hill north of the ranch house were eighteen antelope, some feeding and some lying down in the sage brush.

As we gazed at the animal herds and listened to the birds of the fields, and reveled in the wild charm of the scene, we espied a moving object on the road west of the ranch. At first our naked eyes brought us the impression of an automobile afar off. Then the Chief Buffalo Keeper became certain the object was a buffalo. I suggested getting field glasses and identifying the stranger. Upon doing this we were amazed to see one of the biggest grizzly bears we had ever observed. He walked along the road for nearly half a mile, then turned into a meadow and with quick movements looked here and there for mice and probably ground squirrels. He had an enormous body and his hump was very conspicuous. Most interesting, however, was his hair, which in the early morning sun glistened in a most spectacular way. The hair all around his body, which caught the direct rays of the sun, had the appearance of a rich silver fringe several inches in length.

Department of the Interior
National Park Service
Yellowstone National Park
Yellowstone Park, Wyo.

June 30, 1926.

YELLOWSTONE NATURE NOTES

Volume III, Number 6.

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Grace M. Albright
Superintendent

J. E. Haynes
Act. Director of Museum

Edmund J. Sawyer
Park Naturalist

Wild Life

E. J. Sawyer, Park Naturalist.

The abounding wild life of Yellowstone Park continues its strong appeal to the tourists. The bears, buffalo and elk are the animals most inquired about, as usual. A particularly outstanding feature of surprise to inquiring tourists is the great number of animals which they had thought to be extremely rare. Visitors to our Museum see the mounted specimens of mountain sheep and antelope and the antlers of moose; they are greatly pleased to know that these animals still exist, but, when told that each species is represented by hundreds of individuals in the park their surprise is even more manifest than their delight.



Perhaps no single aspect of the present wild life situation in the park is so noteworthy as that presented by the moose. These noble animals, fast increasing and spreading about the park as noted in previous numbers of the Nature Notes, have lately manifested a marked tendency to place themselves where tourists can see them. Moose have been frequently reported as seen close to the main loop road at various points. Two moose calves were reported seen near the main road and the junction of the Snow Pass road; that is, about one mile from Mammoth, eight or ten miles farther out on the road to Norris a friend of the writer stopped his car to assist a calf moose out of the bank of a creek where its front legs seemed to be stuck in the mud. However, the cow moose, with bristling mane and stiff, deliberate tread, started coming across the creek to the immediate scene of action; whereupon my friend retreated and simply reported the situation at headquarters a half hour later. The sequel is that the cow moose evidently succeeded in extricating the calf and hiding it from inquisitive rangers and others soon after.

Department of the Interior
National Park Service
Yellowstone National Park
Yellowstone Park, Wyo.

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Grace M. Albright
Superintendent

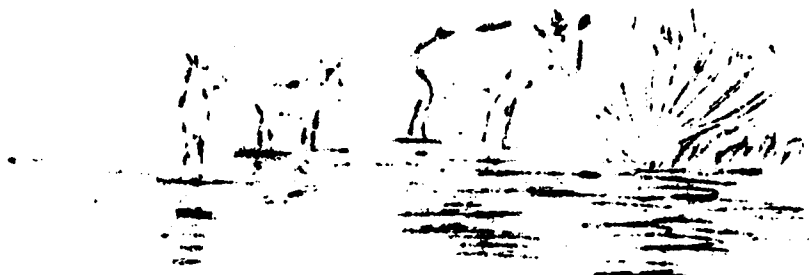
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June 30, 1926.

Page 6.
YELLOWSTONE NATURE NOTES

Volume III, Number 6.

A Partial List of Animals

Marguerite Lindsley, Ranger.

The following partial list of mammals, with names given the male, female and young, is compiled from various authorities.

<u>SPECIES</u>	<u>MALE</u>	<u>FEMALE</u>	<u>YOUNG</u>
Antelope	buck	doe	kid
Badger			
Black Bear	male or "boar"	female or "sow"	cub
Grizzly bear			
Beaver			
Bison, Buffalo	bull	cow	calf
Bobcat	tom	female	cub, kitten
Mountain Lion	lion	lioness	cub, kitten
Chipmunk			
Coon			
Coyote	dog	bitch	cub, pup
Deer (Mule)	buck	doe	fawn
Elk	bull	cow	calf
Weasel			
Fox	dog	bitch, vixen	cub, pup
Ground Squirrel			
Golden-mantled Marmot			
Lynx	tom	female	kitten
Marten			
Mink			
Moose	bull	cow	calf
Mountain sheep	ram	ewe	lamb
Muskrat			
Otter			
Pack rat			
Yellow-haired Porcupine			
Skunk			
Pine Squirrel			
Jack rabbit			
Snowshoe rabbit			
Cottontail rabbit			
Wolf	dog	bitch	pup
Wolverine			

Predatory Animals of the Yellowstone

Marguerite Lindsley, Ranger.

Yellowstone National Park is the largest wild animal sanctuary in the United States and the subject of predatory animals is an important one in that only predatory animals are destroyed by authority of the Federal Government, and then only by Government employees.

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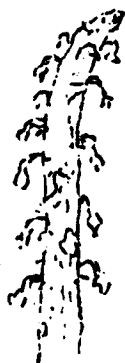
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The Mantled Ground Squirrel

The mantled ground squirrel is usually mistaken by tourists for a chipmunk. However, it is considerably larger than any of the chipmunks and differs in many other respects. The ears are smaller than in the chipmunks, and the ground squirrel is less given to tree-climbing. The stripes are fewer and broader than in the chipmunks and the stripes occur on the sides, the back being without stripes. Perhaps the most striking point of distinction in the mantled ground squirrel is the color of the head and shoulders - a bright orange-brown. Though rather generally distributed over the park area, these animals seem nowhere so abundant and domestic as in and about the auto camp ground at Old Faithful. Here they occur in hundreds, rivaling in numbers the ubiquitous Kennicott ground squirrel. These so-called "big chipmunks" are particularly numerous about the ranger and hotel mess houses and the stables, where they find an abundance of food consisting of table scraps, but they overrun the entire camp ground. Their diet here is practically the same as that of the tourists on whose leavings they depend, as do their competitors - pine squirrels, woodchucks, chipmunks and various small birds. They are certainly a feature of the camp ground and every visitor to Old Faithful should make their acquaintance.

Bear Disapproved Wearing of Elk Teeth

A tourist walking over the Mammoth Hot Springs formations recently had a very memorable experience with a black bear of exceptional tastes or sentiments. Most of our black bears are satisfied with such practical articles as cookies, chocolates and chewing gum, but the bear in this case carried his sophistication a step farther. An elk tooth watch fob, catching the eye of bruin, aroused all the covetousness of his ursine nature. Strolling casually up to the tourist, as if with the most neighborly and honest intent, he slyly reached out his muzzle, bit off the elk tooth and as casually ambled away, leaving the tourist and the other members of the guide party to look after him in open-mouthed amazement and helplessness.



PINEDROPS



HAREBELL

Fresh Flower Exhibit at the Museum

Marguerite Lindsley, Ranger-Naturalist

A great amount of attention is attracted daily by the exhibit of fresh wild flowers in the Museum at Mammoth. From thirty to fifty species are usually on display and these are replenished daily.

The flowers are kept in cans labeled with the common names and the scientific names of each species and often a short paragraph containing a description of the locality where the specimen was taken or some other interesting thing related.

Boldness of Rocky Mountain Jays

The early snows have made the "camp robbers" (Rocky Mountain jays) very familiar for this season. It is surprising, the facility with which the birds note the gesture of putting food in one's mouth. Yesterday as the writer "took out time" from wood-cutting to munch an apple several jays dropped out of the lodge-poles before the process was half finished and evinced a keen interest in the core. Eventually one ventured with considerable misgiving to pick it off his shoulder, approaching from behind on noiseless wings like an owl. Oddly enough, although the writer chewed away on several chips as enthusiastically as the nature of the material would permit, none of the jays paid the least attention to the counter-foit.

Bears

Marquerite Lindsley, Park Ranger.

Any bear may be depended upon to act queerly at this time of the year. They are hungry and restless and do things which it is impossible to anticipate. They must miss the plenty of the season at the feeding grounds and perhaps they are even a bit lonely for the tourists at this time, seeking companionship in peculiar "bearish" ways.

At Old Faithful last week I became very well acquainted with a huge black bear. The rangers' summer mess hall had been closed for some time, the large front room partly filled with winter wood and the windows boarded up. The day before my arrival food had been laid out in this room to be sent to some road crew the following day. But bruin smelled bacon and made quick work of the boards and glass, and a mess of the food.

Then I arrived and moved into the cook's room for a few days. That night the bear remembered. At 11.30 he came and every hour all night, as sure as Old Faithful roared out its eruption, he returned. It was a half-clear, moonlight night with two inches of snow on the ground and the mercury at zero - much too cold to crawl out to take after bruin with a broom every hour. He was much more patient than I - merely giving a little grunt when I launched a brick or a piece of kindling wood after him, and sauntering off into the forest, to return, giving the garbage can a cuff to announce himself, crunching just below my window, standing up against that boarded window and starting to pry it open.



The following day I tied the dinner gong and some tin cans to his favorite window and he ceased his attempts to open it.

Juno, the pet bear at Mammoth, has been freed for the winter and may be seen almost any hour of the day near some house, hoping for a morsel. Early one morning he was caught playing in a snow fort the children had built, knocking huge snowballs about and gamboling like a cub.

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To Yellowstone Bears

In answer to a questionnaire letter sent out by the National Park Service to Yellowstone visitors, Mrs. C. E. Anderson of 1410 Fairmount Avenue, Council Bluffs, Iowa, replies in verse which is most complimentary to the Yellowstone bears.

"'I'll tell the world' the bears alone
Are worth the trip to Yellowstone.
No rival star attraction
Can you find within the gates.
Tho Yellowstone has given birth
To sights, the strangest known on earth,
No bid to fame is greater
Than the humble bear creates."

Mammoth Hot Springs

Park Ranger Marguerite Lindsley

The deposit on Jupiter Terrace now being laid down is considerably harder and less profuse than was the material deposited earlier in the winter. The "sluiceways" before mentioned as having been cut in the soft travertine by the swift water are now being lined with a comparatively hard material. The result is not nearly so beautiful as when the water is more evenly spread over the whole surface of the terrace. The large new spring above Jupiter is giving out as much water as before, there are no recently dry places and there is actually some new territory covered, but, apparently, the temperature of the water is not as high, even where it first issues from the travertine for the colors of the algae are much darker. Actual temperatures read on the same thermometer at the same location (with the mercury just over the orifice) and under the same conditions by the same person show the following: October 26th, 168° Fah.; January 29th, 161° Fah., an actual lessening of 7 degrees in temperature.

Angel Terrace is dry and there is only one very small active spring at the base of Old Angel. New Highland is entirely dry for the first time since its debut of two season ago. The only other changes in the upper level of the formations is a slight lessening in the little spring by the side of Orange Spring which is now nearly microscopic, and a small new pool of luke warm water at the base of the White Elephant near its north end. Evidences are that deer and elk and jack rabbits all come to drink here as there are tracks leading to and from it in all directions.

Mound Terrace remains dry on its east face and there has been an appreciable lessening of activity at the south end during the past month. There is a moderate amount of water in the spring farther back on the Main Terrace.

Minerva has started up again. It first started in December and is now nearly as active as it was during the early summer. In December Cleopatra again showed signs of life at its eastern end and this spring is now about as it was last fall. In addition, there is a good sized stream issuing from

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Bears

J. L. Greer

Assistant Chief Ranger

A large black bear that has been hibernating under the hotel at Yellowstone Lake appeared on the trails in the vicinity of the buildings on the 19th of February. He was out during an interval of two days. His activities consisted in part of the theft of a ham from the winter keeper and after finding nothing further of interest he returned to his den. This is the first and only activity of bears reported since late last fall, with the exception of the captive bear June at headquarters station. Frequent visits have been made to his den during the past two months and we find that he is easily aroused but is very sluggish in his movements, he accepts very little food and rarely emerges from the den. His disposition is harmless and gentle.

Skiing from Mammoth Hot Springs to Ashton, Idaho

Sam T. Woodring

Chief Park Ranger

We left Mammoth February 13th and traveled by way of Norris, Madison Junction, West Yellowstone, the park boundary and Bechler River, a distance of about 120 miles, and arrived at Ashton February 21st with just one day's lay-over at West Yellowstone. The country from that point to the southwest corner is the roughest country in the Yellowstone to cover on skis at this time of year and in blizzard conditions.

There were five of us and we had difficulty in finding the park line at many points along the way. We were sixteen hours and thirty-five minutes on skis one day, and thought for awhile that we would have to sleep under the clouds; there were no stars!

The most interesting day of the trip was from Buffalo Lake to Boundary Creek. There is a warm stream rising near Buffalo Lake that we followed for about twelve miles. This entire distance had snow depths ranging from eight to ten feet. Just at the head of the stream we ran into five cow elk grazing along the edges where the warm water had melted the snow away. At a number of points along the stream the snow was completely arched over it, leaving a tunnel or passageway where the elk could go up and down stream. I noticed a few places where they had broken trails over ten feet of snow to some warm basins where they had apparently bedded down. I saw three bulls about a mile from Boundary Creek cabin in the stream, nearly twenty feet below the level of the snow (including the bank and the snow depth.) I failed to find any place where these animals had ever gone out of the stream bed. The thirteen animals I saw were all in splendid condition.

The South Riverside, Buffalo Lake and Boundary Creek cabins were all completely covered with snow and we had to burrow into them like overgrown woodchucks. The snow depths are recorded as follows: South Riverside 102", Buffalo Lake 118", Boundary Creek 108" and Bechler River 107". The birds seen along the boundary were one chickadee, two Rocky Mountain jays, one Canada blue jay and one bald eagle.

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Mammal Notes from Old Faithful

The first bear of the season made his appearance on March 26th. He was one of the local "hotel bears", having hibernated this winter in the opening of a tunnel that leads to the basement of the Inn. His first glimpse of the spring landscape evidently disgusted him and he retired to his den after a single attempt to negotiate four feet of snow. A frequent clatter under the hotel floor indicates that he is going over the place thoroughly in search of food without much apparent regard for pipes or wires. As he will probably be confined indoors until travel conditions improve his appetite when he emerges will be something to stand in awe of and the residents of the basin are already taking preliminary measures of defense.

The mating season of the pine squirrels is in full sway and the frequent battles that may be witnessed are evidently serious affairs in spite of the noise and chatter that accompanies them. The writer has seen one "buck" badly mangled and has encountered several tracks in the snow with drops of blood gleaming red against the white background.



The marmots hibernating under the ranger station are now awake and are apparently in a quandary as all their exits are closed by the accumulated ice and snow from the roof that has frozen about the foundation in a mass several feet thick. The animals are in constant movement at all hours of the day and night and the grunts, squeaks and whistles that issue from beneath the floor would lend to the supposition that they are engaged in some unusually strenuous activity. They are also frequently heard gnawing like huge mice and are evidently leaving no opening untried in their ceaseless efforts to escape their prison walls.

There has been a constant increase in the numbers of both deer and elk during the last few weeks. The latter practically abandoned the basin during the blizzards of late winter but are now moving up from the lower Basin in considerable numbers and all extensive areas of warm ground have a herd. The deer evidently remained in the basin but the various little groups that have been scattered through the timber around the hot springs and steam vents are amalgamating into herds of a dozen or more that spend most of their time on the open ground along the Firehole. The writer has not seen a bull elk or buck deer with antlers for a month while last spring antlered males were not infrequent until the middle of April.

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injured, Mr. Boughers captured the bird and kept it for several weeks until the wing healed. All who have made a pet of any live bird will be able to understand and sympathize with the attachment which was thus formed for the captive. Anxious that no further injury should come to the eagle by gunshot, Mr. Boughers sent his pet to us for liberation in the great open spaces of the Park area.

In due time arrived the well-made and large crate. It had been carefully fitted with a proper perch, drinking trough, and full directions for feeding and general care of the inmate. Mr. Boughers paid all expenses connected with the shipment. According to request of the sender, the bird was allowed to rest, provided liberally with fresh food and then taken to a commanding position overlooking the valley of the Gardiner River and liberated. For half an hour he stood on a rock or the ground nearby while allowing us to secure moving and still pictures. Then he sailed easily away, low over the hill, toward the river. A day or two later a golden eagle was reported seen by a local fisherman, standing near the river and manifesting a degree of faith in human kind quite unusual in his species.

Predatory and Wild Game Life Versus Civilization

Forest L. Carter,
Chief Ranger
Glacier National Park.

From the time the first piece of ground was cleared and the surface broken for crops in what is now known as the United States the normal plan of wild life was broken. With the establishing of each homestead and settlement from that time to this day there has been a breaking of the normal plan of wild life or what is known as the "balance of Nature" or "biological balance".

At the present period, due to civilization, there is not any such thing as a normal balance of wild animal life in this country. A country cannot become settled and civilized and at the same time the balance of nature held normal. As civilization advances wild animal life, especially game life, retreats. It is driven from its natural range to new conditions and to a very new and restricted area.

For example take the elk. Their original habitat is a thing of the past for they have not any true natural range left. They cannot make their natural fall drift and reach the country of their old winter range where snowfall was light and grazing plentiful. What they are now using for their winter range used to be their spring, summer and early fall feeding ground. In the late fall and early winter they used to drift to the lower and more open country where they were beyond the heavy snowfall and grazing was easily reached. Now they are being forced to winter in the heavy snow country and this is against their nature. An elk is not a deep snow animal for he has always drifted before it. He is not a browsing animal like the deer, but feeds from the ground. However, he is slowly becoming more and more a browsing animal due to the fact that the heavy snow of his winter feed ground makes it nearly impossible for him to paw through the deep snow and reach the hidden ground forage.

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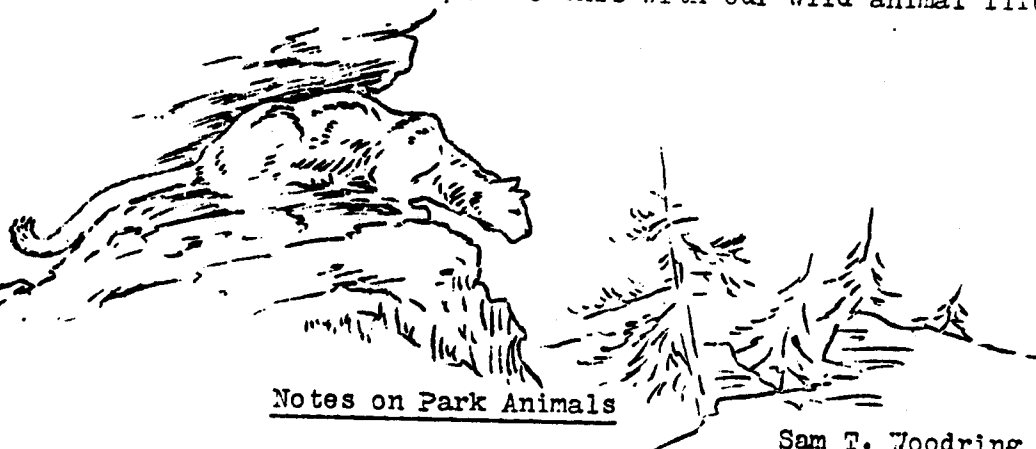
feed from a decayed carcass unless forced to it by starvation.

It is for these reasons that I believe predatory animals should not be allowed to take their natural, uncontrolled course in life within our national parks and game preserves of today, and I also believe this should apply in the surrounding country.

The subject of game feeding has come up at several different times throughout the country. I believe that, in years to come, if the quota of game is to be kept up to any extent in the majority of the game preserves (there are a few exceptions) feeding will have to be done. It is a bad thing to start, for it tends to make the game lazy and cuts down their initiative to rustle feed for themselves. In most cases, when once started it has to be continued. If the game were allowed to drift to their winter feeding grounds feeding would not be necessary, but in most cases the winter range is just the country that has been settled by civilization. This is due to nearly the same reasons that cause the game to drift to those areas for winter; the fact that these areas have earlier springs, less snowfall in winter, later falls and offer less difficulty in their settlement. The only solution that seems to offer success for the future is the feeding of certain restricted herds of game in various parts of the country. Of, if the people of today really wish to preserve the game they must create additional preserves which will cover more of the original winter range.

Game preserves which have no natural winter range and do not artificially feed will never show an increase in numbers of their game, nor will they even hold their own. There will be a steady, slow loss in numbers which may not be noticed very much yearly, but in a period of ten or twenty years will be very noticeable. It is these preserves that will have to artificially feed their game.

We can, in our national parks, keep the botanical and geological features as nature intended but we cannot do this with our wild animal life.



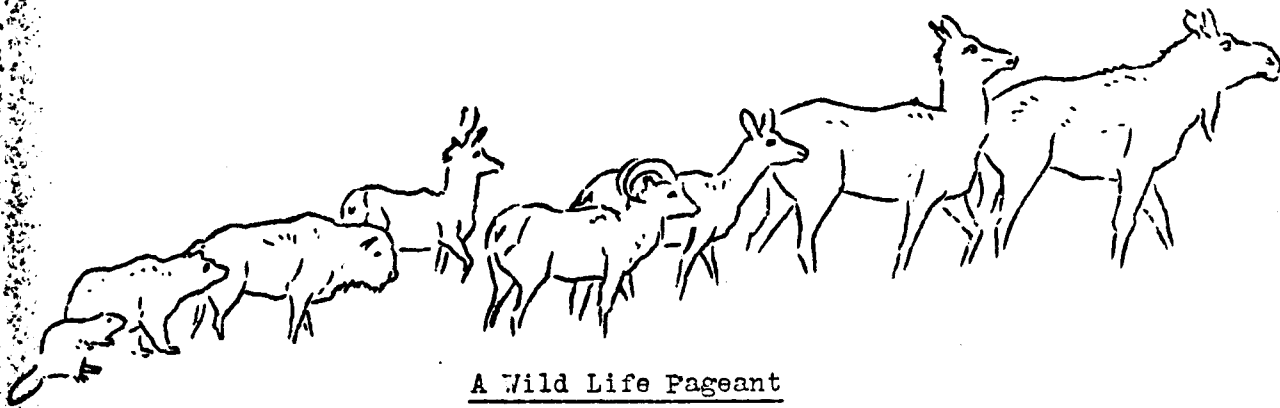
Notes on Park Animals

Sam T. Woodring
Chief Ranger.

On the morning of April 28th, I saw one of the finest sights it has been my good fortune to witness since I first came to the Yellowstone. I arose at five o'clock and rode through the country between Mammoth and Gardiner, on

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both sides of the Gardiner River and clear up under the side of old Mt. Sepulchre, covering a distance of approximately ten miles, I saw between five and six hundred elk, about sixty antelope, nineteen mountain sheep, ninety to a hundred mule deer, two moose, a beaver, a black bear and five coyotes. One of the coyotes walked right through the midst of a bunch of elk and not a one of the elk stopped grazing as he went by. They appeared to recognize the fact that the coyote was dining on mice this morning. On my way to breakfast I stopped at the pen where we have the pet buffalo calf to have a morning frolic with him and to be able to say that I had seen all of the most important park animals, with the exception of the grizzly bear, within a radius of three miles from Mammoth Hot Springs, park headquarters, and within two hours, - splendid specimens of each kind



A Wild Life Pageant

During the beginning of the latter half of the month we had a severe cold spell with heavy snowfall and low temperatures. It became urgent to reach as many of the park animals as possible and we fed hay in the vicinities of Gardiner and Mammoth until the weather moderated and the snow melted.

The pageant staged by the birds and animals was better than most shows. Thousands of mice had made their nests in the haystacks and, when loading the racks, each pitchfork load uncovered five or six mice to scamper in every direction. The fence posts about the hay enclosure were all occupied by birds. Crows, red-winged blackbirds, flocks of horned larks and one "bullet" hawk (sparrowhawk) made up this interested congregation.

I saw nine crows on the back of one elk eating woodticks. Another unusual sight was the little hawk perched on the antlers of a great bull elk, watching for mice. As soon as he spotted one he dashed at it, catching it in his talons and flying away. The crows caught the mice in their beaks. Either way seemed quite as effective.

The Government horse herd was being fed on the same grounds and I saw a horse and a big cow elk have a disagreement over an especially juicy morsel of hay. The elk stretched her neck to what seemed twice its normal length, put her head back, stood stiff-legged and gritted her teeth. The horse laid his ears back, tossed his head, bared his teeth and squealed. Finally an agreement was reached, for both ended up by feeding placidly only a few feet apart.

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(Curiously enough, however, an exception to that rule could not well be more strikingly illustrated than in the case of the Cooper hawk, four eggs of which, taken earlier this season, make the latest addition to our egg collection.)

Mountain Sheep Near North Entrance

Five or six mountain sheep have remained in their winter range on the lower slopes of Mt. Everts. The locality is in the canyon of the Gardiner river and only two and one half miles inside the park from the north entrance. There is no previous record of the species occurring here in summer, and their usual summer range begins much higher in the park. It is to be hoped, and it is believed, that in succeeding years the spectacular Bighorn will continue to stay here where tourists may see him. Heretofore there has been only one place on the entire loop route where mountain sheep could reasonably be expected; that was on Mt. Washburn. This summer a band of eight to twelve sheep - though mostly ewes and lambs - is there as usual.

A Tourist Incidentally Compliments Our Trail Signs

A series of trail signs have recently been installed along the Mammoth Nature Trail. Some of these signs consist of bird figures cut out of thin material, painted and placed in appropriate natural settings along the trail. Slabs on which the birds are described are placed on steel posts nearby. A lady tourist reported that, after observing some of these artificial birds, she saw what she took to be another perched on one of the lettered labels; but, much to her surprise, it took wing as she had approached it. However, the lady was able to identify the bird by means of a watercolor drawing on a wall of the Museum; it was a Western tanager.



Bears At Roosevelt Lodge

J. M. Hitchings,
Ranger Naturalist

About seven years ago tourists at Camp Roosevelt spent much time in watching the pranks of two little cub bears, Tom and Jerry. Jerry came

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out of hibernation this spring, a mighty proud mother for the first time, with three cubs, two brown and one black. (I should explain that Jerry was named when he was still so small and young that this name seemed quite as appropriate as any). These being her first cubs, she did not come immediately down to the Camp. She was seen once near the Petrified tree about June 1st and once near Garnet Hill on July 4th. Jerry and the cubs smelled bacon cooking at the road camp on the morning of July 7th; then they ventured up to the door which she had visited in hope of a hand-out many times last year; nor was she now disappointed, for we have been feeding her and coaxing the cubs up close to the cook house at every opportunity ever since. After spending two days about the road camp the family went over to Roosevelt Lodge and since then they have been entertaining tourists in true Yellowstone spirit, - "for the benefit and enjoyment of the people." The pranks of the three cubs are an unfailing source of interest to all visitors and it is earnestly hoped that the latter will insure continuance of the present friendly relations with the family by using reasonable discretion in cultivating its acquaintance.

Flowers

The forget-me-not, yellow dogtooth violet and shooting star, all receive the admiration of tourists when the latter come over Dunraven Pass; yet these tourists are unable to find words in which to express the beauty of the flower garden in front of Tower Falls ranger station. The waving blades and heads of grass interspersed with patches of cream-colored wild buckwheat, red wild geraniums, yellow cinquefoils, golden groundsels and blue beardtongues, - all together make up a harmonious landscape which I believe cannot be equalled anywhere else in the park.

Old Faithful Nature Trail Notes

Miss Hermal Albertson
Nature Guide



During the past week tourists taking the Nature Trail have had the opportunity of seeing mule deer and porcupines. A porcupine had evidently been a visitor at the Ball Normal School camp the night before, since a night marauder was reported to have dragged out and eaten part of a small ham. The Nature Trailers were more excited over meeting a real porcupine than anything else; many were quite positive he was an opossum.

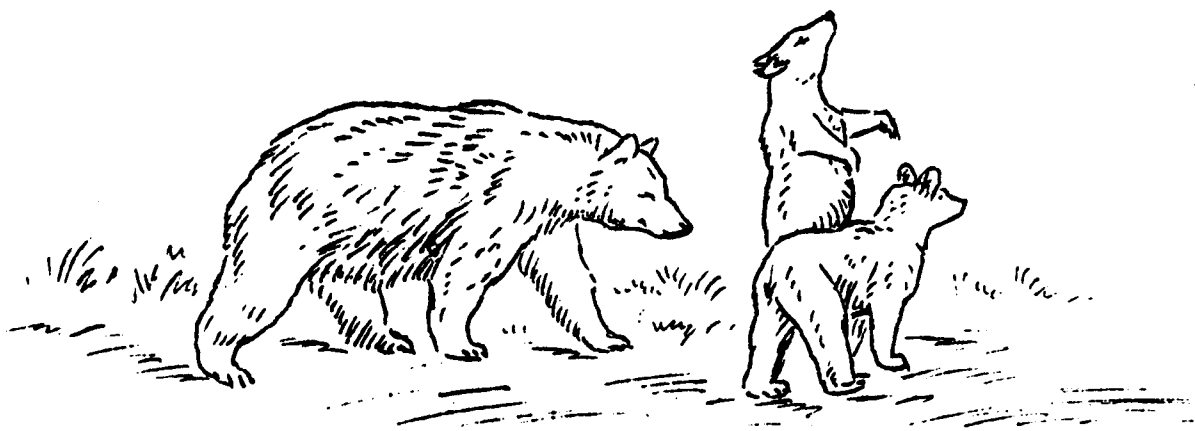
The goldenrod, fireweed and asters are rapidly taking the place of earlier flowers which are fast reaching maturity, - another indication of approaching fall in this region. Buffalo berries are ripe and dwarf huckleberries are ripening, while occasionally one finds a delicious strawberry.

Geyser and Other Notes from Old Faithful

Robert H. Dolliver
Ranger Naturalist

The Racket and Grotto geysers interplayed on July 11th. This is about the rarest of the regular geyser phenomena of the Upper Basin.

On the trip to the Canyon a general halt was made for the purpose of getting acquainted with a black bear family, a mother and two cubs, that appeared on the road from Canyon Camp to Artist Point. It was quite clear that this family was thoroughly accustomed to tourists and their usual accommodating ways, however little familiar with Presidential parties. Mrs. Coolidge passed loaf sugar to the mother and cubs while a battery of cameramen and a number of still photographers shot the scene. As the bear family became rather closely surrounded by members of the party the mother showed a little anxiety and uneasiness. Yet, she and the cubs stayed about the car till the sugar supply gave out and until the stock of candy supplied by various members of the party was seriously drawn upon.



There was a comparatively long stop at Artist Point where, for the first time, a clear and impressive view of the Canyon was afforded. The President and Mrs. Coolidge were obviously impressed with the unspeakable grandure and wild beauty which was suddenly revealed in its greatest glory from Artist Point. Like so many thousands of less distinguished tourists before them, and like so many thousands that shall follow, the President and his family could but gaze and gaze and gaze again; spell-bound, awestruck, reverent. They were doubtless familiar with the great painting by Thomas Moran, -- the work from which Artist point was named. But here was the work of a Greater Artist, in colors which only heighten with the lapse of years; a work which ever glows with all the freshness and youth of dawn, yet was already ancient in "a time which no man knows".

At Inspiration Point the ospreys at once attracted the President's attention and aroused his interest. Mrs. Coolidge and John were equally engrossed in watching the birds as they sailed about their nests which are built on the pinnacles of rock hundreds of feet below. Mrs Coolidge was especially interested in the characteristic actions of an osprey teaching her two young the independent life. For a while the parent bird circled over the nest, a sizable fish held tantalizingly in the extended talons, while the young begged audibly to be fed. Alighting with the fish on the broad top of the nest, the osprey tore at the prey as if in preparation for a family dinner, while the young looked on doubtless in eager anticipation; but this jesture was only part of a final artistic touch, for the old bird soon flew, still carrying the tempting fish, to a ledge at some little distance. To that ledge one of the young soon followed; the first bold step toward independence.

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An osprey was observed recently to dive down after a fish in the Fishedole River near Old Faithful. He carries his fish parallel with his own body, head foremost. (See cover)

The old "frog pond" in front of Old Faithful Inn is the foraging ground for a Desert sparrowhawk. The latter sits on the tip-top of the dead trees bordering the swamp, then swoops down on some grasshopper in the nearby grass. Or, he hovers in flight above the swamp and from that position sees and swoops on the prey. His flight is usually choppy; a stretch of sailing followed by one of flapping.

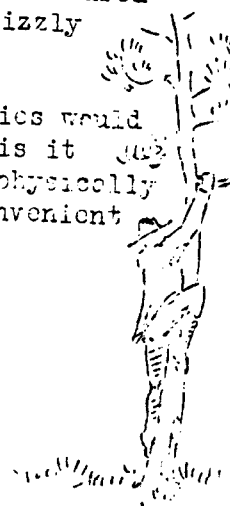
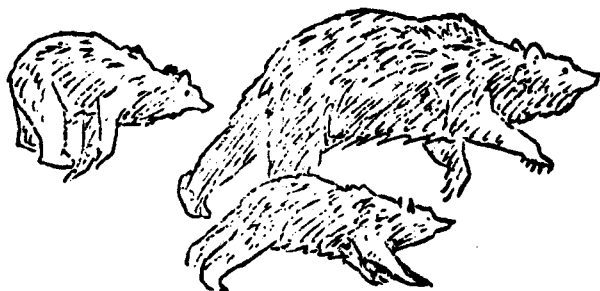


Ranger Treed by Grizzly

E. J. Sawyer
Park Naturalist

The following incident occurred about one mile from the Yellowstone Canyon on the road to Norris. Ranger Ted Ogsten was walking down the road when he heard something approaching from the front. Owing to the darkness, for it was 11:00 p.m., he was at first unable to make anything out; but, soon he discovered a grizzly bear accompanied by her two cubs. When Ogsten stooped to pick up stones with which to frighten the bears away he says he could hear the mother scratching on the ground; then she growled and made a forward spurt, with one cub on each side. Ogsten turned and ran over a hundred yards before, seeing that the bears were gaining, he took to the woods beside the road. Finally coming to a tree which he could climb quickly, he was soon above reach of the bears which were then only thirty feet away. The old grizzly and the cubs came near the base of the tree, but they made no further threatening move or sound whatever; they did, however, remain in the neighborhood for at least ten minutes. Unable to determine, in the semi-darkness, as to whether or not his late pursuers had really left the vicinity, the ranger remained in the tree for about an hour. He says the cold had become almost unbearable before he at last ventured down and made for the ranger station. Nothing more was seen of the grizzly family that night.

Mr. Ogsten says he would very much like to know what those grizzlies would have done, had he not retreated. That, indeed, is the question. Nor is it likely that the answer will ever be learned from any man mentally and physically normal as long as the circumstances include a tree of fair size and convenient branches.



Bears Become Bold

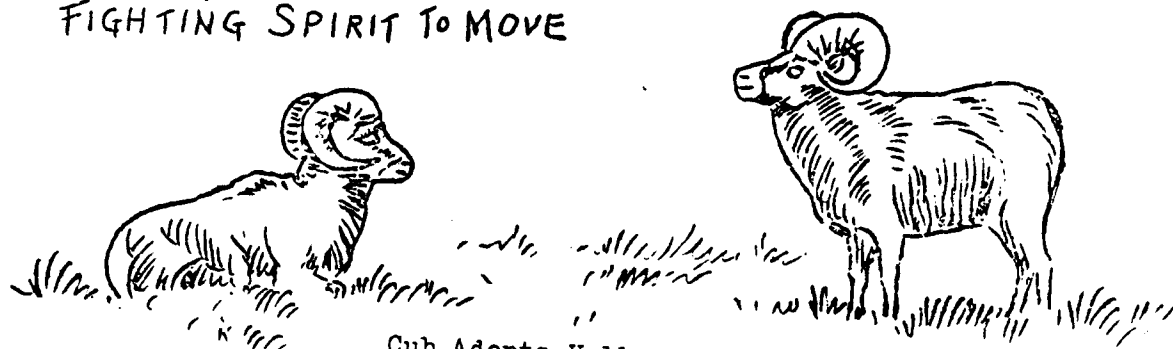
After the close of the tourist season, the abundant supply of table scraps from the hotels being at an end, the bears usually become more bold and look to the road camps and woodcutters' camps for a larger part of their rations. During the present fall the bears have been troublesome and high-handed in an extraordinary degree, breaking into camps and stores and greatly disturbing the peace of road crews and others. Two of the Hamilton stores,-- those at the West Thumb and the Lake, respectively,-- were broken into and much of the stock was mauled and strewn about with considerable loss and damage. Two of the woodcutters' camps at the Canyon were so infested with bears, especially grizzlies, that regular night guards were kept busy warding away the prowlers by means of Roman candles and other devices. All sorts of adventures are related, attesting to the boldness and persistence of the bears; stories of "narrow escapes" are not wanting. The cries of a cub, when the latter was seized by a dog belonging to one of the camps, moved one mother grizzly to chase a man who stumbled and was overtaken. It is still this man's unshaken belief that the spattering stump of a Roman candle held as a despairing gesture in the very face of the bear, was the only thing that saved him from painful and bloody death. As many as fourteen bears, together with an undetermined number of cubs, were seen at one time about a given camp. Finally, an iron cage-trap was set at the Canyon bear feeding ground and a female grizzly was soon caught. A large delegation of grizzlies visited the captive and seemed to try to free her. Two or three days later every grizzly except the prisoner had disappeared completely from the region; nor, as yet, have any of them returned. The captive is to be shipped to the zoo in the city of Denver.

Weather Conditions - Mammoth Hot Springs E. H. Fletcher, Meteorologist.

The first week of the month was decidedly cold and stormy for the season, with precipitation mostly as snow. The two weeks that followed were unusually warm, dry and sunshiny. However, such a period of enjoyable weather, caused by an extensive area of high barometric pressure persisting over the Rocky Mountain region, is characteristic of the fall season in this locality. The last week was mostly warm and showery, except at the close of the month when much colder weather with some snow occurred, resulting in the coldest weather thus far of the season, the minimum temperature being 12° on the 31st. The highest temperature for the month was 72° on the 16th.

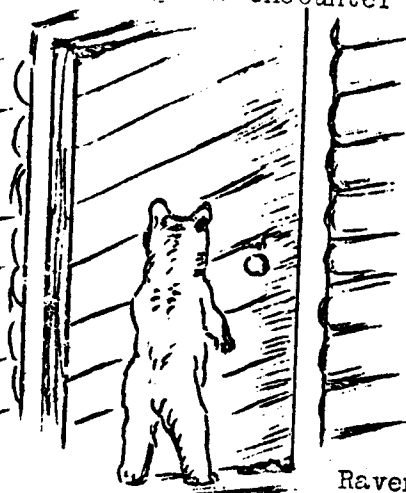
The precipitation was 34% above normal, while the total snowfall, 6.1 inches, was slightly less than normal.

WAITING FOR THE FIGHTING SPIRIT TO MOVE



Cub Adopts Hellroaring Station

About the middle of the month a very small cub black bear put in its appearance close to the Hellroaring ranger station. This is one of the wilder parts of the park and many miles from the nearest haunts of tourist-fed bears. The station is one of the important patrol points during the hunting season, being near the north boundary. It is supposed that the cub in question is a waif from over the line, whose mother was shot or trapped. At any rate, the little bear very soon made himself at home about the station, coming about the kitchen door daily for food. An overhanging ledge of rock provided the cub sleeping quarters or lounging room near the station. The rangers thought it particularly remarkable, not to say complimentary to their domestic science, that on at least one occasion the cub left some "store jam" of a very sweet variety in favor of a batch of sour dough mixed a la Yellowstone. Soon after the episode of the sour dough the cub disappeared and, certain rangers from other stations, perhaps inflamed by culinary jealousy, claim the disappearance is doubtless a fact, but the hibernation idea is mere theory, considering the encounter with the sour dough.



Ravens Feast on Jack Rabbit.

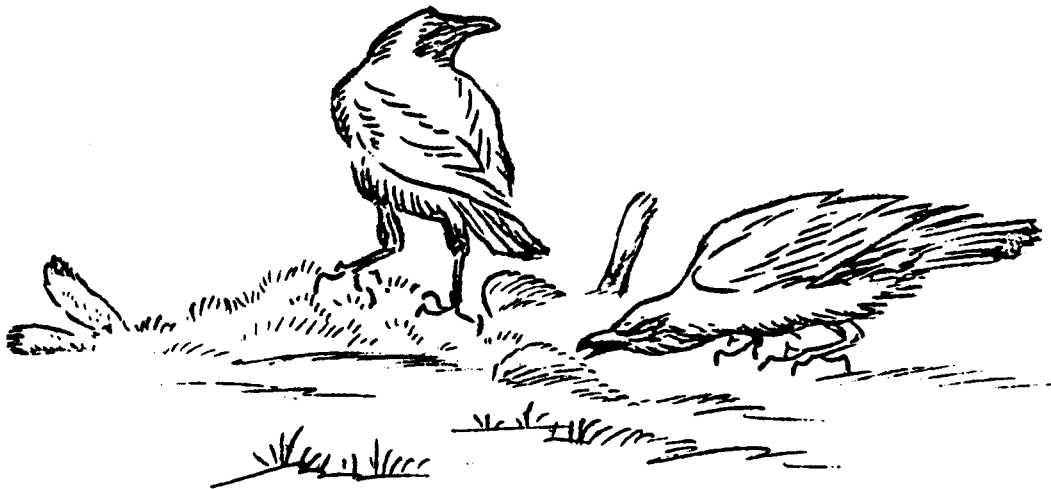
Looking out from my office window one day, I observed two ravens tugging at something which was half buried in the four inches of snow then on the ground. When the birds continued for several minutes to work in the same spot, occasionally having a mild dispute for possession there could be no doubt that the attraction was something better than their average pickings. Investigation disclosed a dead jack rabbit. For two days the ravens stayed about

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their feast much of the time. The festive board was on the open lawn between my office and the Weather Bureau building; some two hundred feet from the former and one hundred from the Bureau. Tufts of fur were first pulled out and then the skin was soon torn open and the feeding began. As usual whenever any two birds contend for the same piece of food, as in this case, one is recognized as the superior and that fortunate individual has only to remind the other of such status by an occasional threat or feint. When a pedestrian or a Government truck would approach on the road that passed within a few yards of the feeding place, both birds would merely fly into a limber pine tree sixty or eighty feet away till the coast was clear again.



When the Jack rabbit was moved, during a short absence of the ravens, to within forty feet of the Weather Bureau building the birds were not long in finding it and renewing their feast.

Mountain Sheep at Mammoth

An interesting wild life article, if somewhat miscellaneous within that term, could, in fact, be written on observations made from this office in the Museum building. Elk and deer are familiar every day sights; bears, until they go into hibernation, pass within a few yards every evening on their regular rounds, a coyote and badger are on the list, not to mention other interesting birds than the ravens noted above. And now mountain sheep are a daily possibility. Several of these animals have lately been seen on the low hill a few hundred feet back of the Weather Bureau. For sheep to appear quite so close to the actual Government buildings of Mammoth is unusual and it exemplifies the tendency noted during the past two years for large mammals of various species - notably moose, antelope and sheep - to become decidedly more neighborly with us; that is, to take the initiative in closer acquaintance.

What Readers Think of the "Nature Notes"

At the time this comment is being written some two to three hundred of the "questionnaires" inclosed with the October number of Nature Notes from Yellowstone Park have been returned with requests for continuing on the mailing list. It is already apparent that our list is not going to be shortened

Department of the Interior
National Park Service
Yellowstone National Park
Yellowstone Park, Wyoming.

January 1, 1928

YELLOWSTONE NATURE NOTES

Volume V, No. 1

This is one of a series of bulletins to be issued from time to time for the information of those interested in the natural history and scientific features of Yellowstone National Park and the unmatched educational opportunities offered by this region. PUBLICATIONS USING THESE NOTES PLEASE CREDIT "NATURE NOTES FROM YELLOWSTONE NATIONAL PARK" AND AUTHOR.

Changes In The 'Nature Notes..'

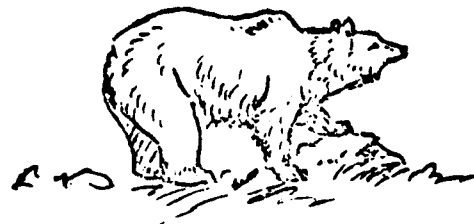
Readers will please note that the present issue is "Vol. V, No. 1" and the date January 1, 1928. This begins a new series as is usual at the start of a new year. The succeeding numbers will be dated the first of each calendar month. Thus, it will be seen that while provision is made for twelve numbers in 1928, number eleven was the last of the 1927 series.

A second change beginning with this number is in the title of the bulletin, the word "National" being inserted; thus the title becomes, "Nature Notes from Yellowstone National Park".

Still another alteration--and, we hope, a welcome one to our readers --is the change from top binding to the present side binding. This we believe makes for convenience.

Memorable Times With Bears

Dr. Frank R. Oastler,
New York



I shall never forget the great thrill that was mine when, years ago, I saw my first bear, a black one, ambling through the woods tearing up old stumps in search of delectable insects. It was one of my boyhood dreams realized. In later years, on one of my visits to Yellowstone Park I was privileged to view several of these wonderful animals on one of the park garbage dumps and my thrill proportionately increased in direct ratio as one of the old woolly fellows slowly approached me and I enjoyed the combination of the sense of possible danger and a close-up view of a bear. Some years ago there came an opportunity for me to see a black bear and two little cubs playing together quite ignorant of my presence and I have never ceased relating that experience.

I had never hoped to see a grizzly bear, but one night while watching the black bears feeding on the grounds near the Canyon Hotel the dozen or more bears collected there suddenly and unceremoniously scattered. Some disappeared entirely while others made a hasty ascent of some neighboring pine tree and, lo and behold, out of the wilderness at a rapid gait came that magnificent animal—the silver-tipped grizzly. To the man who loves nature I know of no more spectacular sight. If I had never seen another grizzly I would have felt that I had had allotted to me more than my fair share of joy.

However, in September 1927 while visiting this same feeding ground, out came twelve of these handsome fellows, one with two cubs. I watched them for one and a half hours. Next day Sam Woodring, one of the real fellows of this world of ours, said he had a sight for me and that afternoon at three o'clock we repaired to the feeding grounds of the Canyon Camp, where food had just been deposited on the ground and yet, as I looked around, there was not a bear feeding, but there were nine roosting in the neighboring pine trees, all looking in the same direction. It was drizzling and the light was poor but out of the woods I could dimly see a monster grizzly approaching. Woodring poked me in the ribs and whispered, "Here they come." I started my motion picture camera going in the direction of the grizzly, and, what do you think? - behind that old dame came, in open order, swaggering along, four fat grizzly cubs. I have seen many thrilling episodes in wild life, but I assure you this exceeded my fondest hope. Way beyond in the years to come, if I live, I shall visualize that scene and I never expect to enjoy its equal again. It is enough for one man.



Mammoth Hot Springs

Marguerite Lindsley,
Park Ranger.

"Do the Hot Springs freeze over in the winter?" It's a question that nearly every park visitor has asked since the time when they followed game trails on horseback from Virginia City to the "Firehole Geyser Basins". So perhaps it

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bird was seen, however. A few seconds later the call of the Brewer blackbird was heard seemingly to come from the same spot. Directing our search to a nearby tree we found a black-headed jay perched on one of the limbs evidently enjoying the confusion which he had caused. Then, as if to clear up the situation he gave forth very clearly and distinctly the unmistakable call of the black-headed jay.

The jays as a whole are great mimics. They have a large vocabulary and often confuse an amateur bird hunter by the variety of calls which he is capable of producing.

First Bears in 1928

Dorr G. Yeager
Park Naturalist

Ranger Ted Ogsten reported the first bear of the season. He states that on March 6th he found two or three sets of tracks leading in and out from under the main building at Roosevelt Lodge. The animals had evidently come out to eat some snow and then returned to their winter quarters. He reports at the same time having seen a large bear near the building. As soon as the bear noticed him he began to growl and tear the ground with his paws. This action, Mr. Ogsten says, changed his mind about crawling under the building to see if there were any cubs. He estimates that at least four or five bears have hibernated at the same time under this building.

Again on March 17th Mr. Ogsten reported a bear near the Indian Teepees about three miles from Mammoth Hot Springs on the Tower Falls Road. He states that the bear, although evidently wide awake and out of hibernation for good, had only recently come from his winter sleep, judging from the manner in which he acted. Upon receiving this information Mr. Sawyer and I proceeded to the spot in the hope of being able to track the animal backward to his winter den and obtaining photographs.

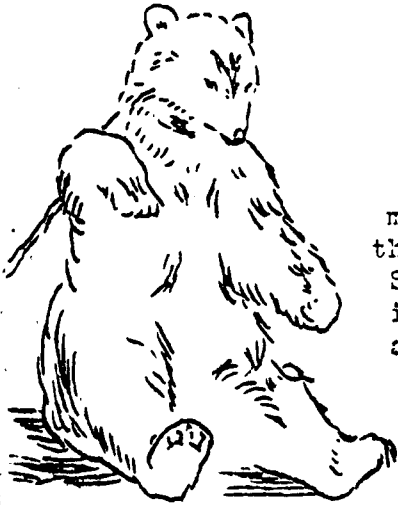
The tracks were easily seen near the road, as Mr. Ogsten reported, but upon following them back toward their beginning it was found that the animal had probably been out of the den for two days and had slept in two or three places within that time. The trail was followed for half a mile into the timber and then lost among a jumble of elk trails.

It was evident from the observations, however, that the animal did not come directly from the den but went a little way and then continued his nap several times before becoming fully awake.



Juno Entertains

Dorr G. Yeager, Park Naturalist

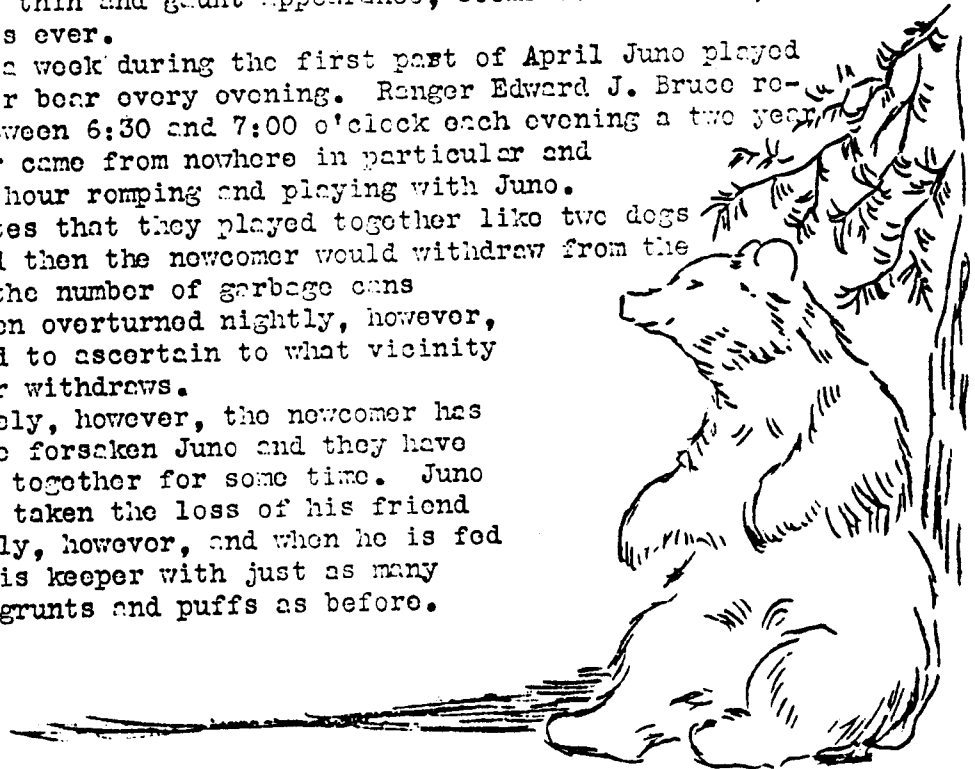


Several times in the past Nature Notes has mentioned the doings of Juno. It will be remembered that two bears, Juno and Pard, were presented to the Service during the summer of 1925 by Mrs. Reta Hamilton of Weippe, Idaho. A bear pit was built for them at the government zoo where they were a constant source of pleasure to the summer tourists. However, during the winter of 1926 Pard, evidently tired of civilization, betook himself to the "great open spaces". He has not been seen since that time but Juno has found peace and lazy satisfaction in being fed and cared for. Every year he receives a cake and other delicacies from his foster mother which he relishes with grunts of satisfaction.

During the past winter Juno has hibernated under the overturned box of an old government truck. Straw was thrown over his den and to all appearances he has passed a contented winter. He came out of his box for the season early last month, and, far from possessing the characteristic thin and gaunt appearance, seems to be as fat, lazy and good natured as ever.

For a week during the first part of April Juno played host to another bear every evening. Ranger Edward J. Bruce reports that between 6:30 and 7:00 o'clock each evening a two year old black bear came from nowhere in particular and spent half an hour romping and playing with Juno. Mr. Bruce states that they played together like two dogs until dark and then the newcomer would withdraw from the scene. From the number of garbage cans which have been overturned nightly, however, it is not hard to ascertain to what vicinity the black bear withdraws.

Lately, however, the newcomer has seemed to have forsaken Juno and they have not been seen together for some time. Juno has evidently taken the loss of his friend philosophically, however, and when he is fed he receives his keeper with just as many good-natured grunts and puffs as before.



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As will be noted, the finger bones are strangely disproportioned the first and second fingers being fused together and the second being longer than the head and body of the bat combined. The thumb is very much shorter and is furnished with a short, sharp, curved claw, by means of which the bat clings when hanging in an upright position. The natural position, when resting or sleeping, is suspended by the feet, head down, and with the wing membrane wrapped closely about the body.

Bats have hobgoblin-like little faces with peculiarly shaped noses, large ears and a general expression of malicious grinning. They are undoubtedly the original "brownies" of fairy-tale days, dwelling in caves and coming out only in the mysterious late evening or circling with silent wings close overhead on dark nights.

Most bats live entirely on insects, although the Flying Fox eats fruit, and the famous Vampire of the tropics has a predilection for the blood of animals. There are five species of bats listed for the Yellowstone by Mr. Vernon Bailey:- the long-eared bat, the Yellowstone bat, the brown bat, the silver-haired bat, and the hoary bat. Of these only the first two have actually been collected within the limits of the park, although the others have been observed in flight.

The long-eared bat is the larger of the two species of bats generally found hanging in clusters on the walls of Devils Kitchen. It is doubtful if they occur at any higher levels, as they are a southern species and have never been reported north of this point. The Yellowstone bat was first collected near Yellowstone Lake and the species probably has a considerable range over the park region. During the summer months these dusky little fellows, with gray edges to the tail membranes, may be seen clinging by hundreds to the walls of Devils Kitchen.

It has long been a question if the bats from Devils Kitchen migrated or spent the entire winter in a state of hibernation there. During the past three winters I have made very careful investigations of the entire cave on my monthly excursions over the hot spring territory and I have never found one of the little furry fellows after the first real snowfall of winter or before spring is finally here to stay.

Birds Attack Bears

Dorr G. Yeager, Park Naturalist.

Ranger Thad Pound reports the following curious incident which he noted while working on a recent game count. Mr. Pound states that when in the vicinity of the little meadow where the Turkey Pen Trail crosses Rescue Creek, his attention was attracted to a great commotion among the ravens and magpies. Upon investigating, he found a she bear with two cubs attempting to protect themselves against

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the onslaught of from forty to fifty birds and at the same time procure a meal from an old elk carcass. The birds had evidently been feeding on the elk and the bears had attempted to intercede. Mr. Pound says that the birds would strike at the tiny cubs, rolling them over on their backs and that both cubs were fighting with their feet while lying on their backs. Several birds would dart down at once, hitting the cubs who bawled at every contact. The she bear was trying desperately to shield her cubs from the birds; but Ranger Pound says, from the noise the cubs were making, her efforts were in vain.

House of Elk Antlers Planned

Dorr G. Yeager, Park Naturalist.

Construction has already begun on a most unique and novel structure which will occupy the space directly across the road from the museum. Chief Ranger Sam T. Woodring has hit upon an interesting way to use the hundreds of elk antlers that are dropped annually. A small "house of horn" is being built with no other material save the horns and heads of wild animals. The walls are to be seven feet high and the space of 6 x 8 feet on the inside will give ample room for a bench and a few pictures. The walls will be constructed of old antlers, while the roof will be made entirely of new ones from which the natural varnish has not yet been weathered. A cinder path from the road will lead to the door, over which will be fastened moose, elk and sheep skulls. This novel structure bids fair to rival other interesting things in the park for popularity.

Deer Still with Elk Herd

Dorr G. Yeager, Park Naturalist.

A few days ago, I was watching the band of elk on the parade ground at headquarters. Someone called my attention to Ku Ching, the mule deer, which was with the herd, by saying, "Look at that deer trying to be an elk." It was all very true. When the elk lay down, Ku Ching followed their example. When the herd got up, Ku Ching scrambled to her feet. When the herd fed, Ku Ching fed, also; and when something attracted the elk, Ku Ching, likewise, was all attention.

Readers of Nature Notes will recall an article written some time ago dealing with the adoption of two mule deer by an elk herd. Investigations for this winter show that the deer are still traveling in the company of their larger cousins, as in previous years.

It will be remembered that during the season of 1924, two fawns, Mary and Ku Ching, and an elk calf were kept at the zoo, during the tourist season. The following winter they were kept in the corral at headquarters. The next spring they were released. The elk calf died and the deer, evidently mourning the loss of their companion, took up with the herd of elk which ranges the Mammoth district during the winter months. The elk band seemed to

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Jerry and Her Cubs

Wayne B. Whitlow, Ranger Naturalist.

Jerry, a nine year old female brown bear who frequents the vicinity of Tower Falls Ranger Station and Roosevelt Lodge year after year, has brought to light an interesting fact in the life history of these animals. The spring of 1927 she brought in a litter of three cubs. Again this season she still has the entire litter intact and is nursing them. It is the common procedure for the cubs to be weaned after they have hibernated a single winter with the mother and are one year old.

Antelope Kid

Wayne B. Whitlow, Ranger Naturalist.

While riding over Yancey's Flats with Ranger Scotty Bowman, I had an opportunity to see a doe antelope "plant" her kid for safe keeping. We startled the doe and kid on a knoll and they ran together for a short distance. The doe stopped momentarily and the kid dropped from view. We rode to the spot where it had disappeared, and discovered it lying perfectly still in some tall grass. Scotty dismounted and walked to within three feet of the kid before it sprang to its feet and rushed away. Scotty estimated the kid to be about one week old.



Yellowstone Water Fowl as Entertainers

George Bagglely, Park Ranger.

Few people outside of Yellowstone Park realize the number and variety of water fowl to be seen within the boundaries, especially on and around Yellowstone Lake. The Canada goose, many species of ducks, pelicans, cranes, blue herons, gulls, snipes and many other water birds. The goose, duck and gull are the most common water birds and may be seen on most of the lakes of the park. Of these the gull undoubtedly furnishes more amusement to the park visitors than any other water bird.

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Another recent addition to the wild animal community is a small black bear cub. It has been necessary to place a collar around his neck and put him on leash, warning tourists to keep their distance, however. The cub has no fear of man or beast and has used several people as trees, climbing up for candy or sugar. A few days ago he escaped from his keeper and started to climb over the barrier of the antelope pen in order to see what his neighbors were like. He was brought and tied, much to his indignation.

Juno is getting his share of attention this season and is as good natured and lazy as ever. An interesting thing has developed in his color. In 1927, Juno possessed as brown a coat as any bear in the Yellowstone. This spring, since he shed, his hair has assumed a rich black color. Ranger Frazier at the Buffalo Corral informs us that in 1926 Juno's coat was more black than brown. It will be interesting to see what color he uses for spring fashions in 1929.

Bird Life at Mammoth Hotel

Dorr G. Yeager, Park Naturalist

While the summer tourists are occupying the rooms of Mammoth Hotel, a number of our feathered friends have taken up their abode around the outside of the building. I have watched two nests, one of a robin and the other a white crowned sparrow, within 30 feet of the front steps. At present, the latter nest is crowded to standing room only, by four healthy youngsters. Four robins have nested near the back of the building, and a pair of bluebirds are raising a family inside the cylinder of an old steam engine. The offspring seem to have decided preference for small white moths, and a large number are daily thrust into their ever open mouths.

An interesting thing was observed in connection with the bluebird family a few days ago. A picket pin, endowed with more than the usual inquisitiveness of the genus, hearing the young birds inside the cylinder, stopped to investigate. He was promptly pounced upon by one of the parents. Taken entirely by surprise, he started to beat a hasty retreat, while the parent was joined in the attack by the other. The surprised picket pin fled in terror as several violet green swallows, which had witnessed the incident from a telephone wire, joined in the pursuit. The retreat was turned into an utter rout, when several robins brought up reinforcements, and added their cries to those of the swallows and bluebirds. Whether or not the swallows and robins were struck with a magnanimous spirit is not known, but we can testify that a very frightened picket pin found a burrow just in time to escape a severe beating at the hands of a small flock of birds.

Carved Initials

Marguerite Arnold, Park Ranger

In the Museum at Mammoth Hot Springs stands a model geyser known as "Old Thirsty" because of the amount of water consumed daily by evaporation from its miniature eruptions which occur at four minute intervals.

A muskrat was seen in the road a half mile south of Gardiner just after dark the night of the 30th. It is always well to be careful when driving at night for many animals such as the muskrat, beaver, porcupine, marten, otter and skunk are chiefly nocturnal and it is considered very bad form to run over them -- especially the skunk!

A large bat, measuring fifteen inches across the wings, flew into the Information Office the night of the 30th. He was captured by the ranger on duty, Mr. Dell W. Cook, and later identified as a Hoary Bat, *Myotis cinereus*, which is listed for Yellowstone Park although heretofore "no specimens have been procured" here.

On August 29th two beavers were seen swimming in the small lake to the east of the road just north of the Hoodoos. The larger one was progressing with difficulty through the grasses and scum growing in the lake and carrying a branch of quaking aspen covered with leaves. When he finally reached a point near his house of sticks he crawled out on the shore and rested for fully five minutes before proceeding to cut the branch into small pieces suitable for winter storage. The smaller beaver was apparently "off shift" as he was swimming lazily about, occasionally diving out of sight. The nearest grove of aspens, where the beavers are cutting their winter food supply, is about three hundred yards from the water.

Each night bears are making the rounds of the garbage cans behind the Government homes, turning them over and pawing the contents for food. This is evidence of the full unconsciousness which possesses the ursine inhabitants of the park. Often bears travel for many miles away from their summer feeding grounds at this time of year. The time that they will hibernate depends largely upon the severity of the season.

Weather Conditions at Mammoth Hot Springs

Glen Jefferson, Meteorologist

Temperatures during the month of August were considerably below normal except during the second week. The highest temperature was 89° on the 10th, the highest for the month since 1903. The lowest was 30° on the 29th. Light frost occurred on the 3rd, killing frost on the 29th and 30th. Precipitation was near normal but was confined to only a few days. Dry weather prevailed from the 6th to 21st, inclusive. Precipitation of .01 inch or over occurred on 9 days, hail on 2, thunderstorms on 9.



At times, too, the amber clouds which float lazily over a painted landscape are briskly brushed aside by sullen rolling masses of purple nimbus, the atmosphere grows cold and soon a new setting is produced as a blanket of freshly fallen snow envelops and changes all. But this is also dispelled as the mighty sun once again wheels its ponderous disk through the southern heavens, dissolving clouds, snowfall, and chill.

The world and its distractions may roll on endlessly but here in the suave tranquillity and hushed murmurs of a Yellowstone autumn, may one grow imaginative and dream dreams, or be lulled to sweet repose by the soft music of gliding brooks, the pensive lay of winds among pines and here may we indeed reap the bountiful treasures, enjoy the opulence of the twilight of the year.

Mammoth Pets

Dorr G. Yeager, Park Naturalist

With the close of the 1928 season the pets which have occupied the pens and cages of the Buffalo Corral and have been a constant source of pleasure and amusement to the tourists during the summer months were brought down to headquarters for the winter.

Several amusing things occurred during the transfer. The badger cage was loaded on the back of a truck and started on its way. The first mishap occurred when the cage, extending too far over the side, caught on a bank along the road and a hole was ripped in the wire. One of the badgers promptly spied the hole and slipped out, intent upon exploring the surrounding country which he had been viewing all summer from the cage. He was pursued, however, and upon seeing that flight was in vain promptly began to "dig in", making the dirt fly in all directions. His freedom was short-lived and he was picked up by the nape of the neck and despite much kicking and snarling was deposited once more in his cage.

Juno, the black bear, has thrived on the candy which has been thrown to him during the summer and when it came his turn to be brought away it was found that his collar, discarded at the beginning of the season was several sizes too small. A belt was promptly donated for the occasion and a rope attached. With this improvised harness the bear was led out of the pit and headed in the direction of Mammoth. Juno must have been aware of his overweight for no sooner was he free from the enclosure than he decided to take some vigorous reducing exercises and headed off over the sagebrush flats at a lumbering gallop. His general direction was headquarters but a tall limber pine attracted his attention and despite the efforts of the three men on the other end of the rope, he climbed the tree, broke his collar and sat among the branches puffing loudly from his over-exertion. There he sat, enjoying the game to the utmost and minding not at all the threats of the three disgruntled rangers under the tree. After numerous attempts he was roped and brought back to earth. Again the procession headed for

Roosevelt Bears

Dorr G. Yeager, Park Naturalist

A few days ago while doing some insect work in the vicinity of Tower Falls, I chanced to stop at Roosevelt Lodge, now closed and looking deserted and lonely. All was quiet and not a moving thing could be seen. Suddenly, a large black bear appeared around the corner of the building, walked slowly past me, circled the Lodge and disappeared from view. I sat down and waited. Within ten minutes four bears had appeared, made the circle of the building and disappeared. They all seemed to have a wistful look, if bears can be credited with expression. They seemed lonely and were not altogether able to adjust themselves to the idea that the tourist season at Roosevelt had closed and that they would receive no more candy or attention till next summer.

All told, I counted ten bears at the Lodge, all with the same expression, and all wondering listlessly about as if life had lost its charm for them. I was particularly interested in one big fellow who had attracted my attention all summer. During the past three months he has had an insane desire to gain the front porch of the Lodge. Each time his attempts were frustrated by a broom or stick. At this time, however, the bear was pacing back and forth across the whole length of the porch as if he defied anyone to come and drive him off.

Two cubs had found a discarded fire extinguisher and were busy examining it. They would pick it up, look at the under side, lay it down and then roll it over as if attempting to find some use for the strange looking thing. One chewed on the attached rubber hose, and, finding it not to his liking, gave the cylinder a slap with his paw which sent it rolling into the brush.

Another huge black seemed more dissatisfied than the rest. He lumbered around and around the building, squeezing himself through the door in the foundation and underneath where he will eventually hibernate for the winter. He would stay only a minute and then squeeze back out again only to continue his round of the building. Once he sat on his haunches, looked at the deserted Lodge and gave a low whine as if trying to solve the puzzle of its sudden abandonment.

Mammoth Hot Springs and Vicinity

Novell F. Joyner, Ranger Naturalist

The month of September was characterized by an increase of thermal activity at Mammoth Hot Springs. The last week in the month saw Old Hymen Terrace with pools of water on it. This is the first that the spring has been active since the last of June this year. Minerva has been slowly though constantly increasing all summer and continued this increase during the past month. The observer on September 31st was

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We venture to say, with apologies to Mr. Glenn Jefferson, Meteorologist, that the total number of clear days here the past month exceeds any on record. The monthly patrol into Mammoth was made on the 1st of December by auto. We are presumptive enough to believe that another record.

Waterfowl, both native and migratory, have been seen in abundance. The writers have seen and identified on the lake and its environs the Golden-eye duck, Mallards, Merganser. Scaups, Green Winged Teal, Snow Geese, and Canada Geese. Trumpeter swans were seen in as large a flock as fifty-seven. The Lake outlet and Bridge Bay can boast of one lone pelican afloat in solitary grandeur.

The Clark's Crow, Raven, Camp Robber, Magpie, Blue-jay, Cedar Waxwing, Junco, Killdeer, Jack Snipe, Golden Eagle, Owl, Hawk, Grebe, Ruffed Grouse, Willow Grouse, and Water Ouzel have been observed on recent trips over the District. There was seen one lone cowbird with a curious misshapen bill, which seems to be a comparative stranger to the region.

Two bison were seen on Pelican Creek, and from the signs observed, we are reasonably certain that they are not alone in their choice of winter range. It has been a prolific season for the Upper Yellowstone moose, as at least five cows were seen with twin calves. On a recent trip from Therefore, 97 moose were counted in one day.

The bears are still moving around, wistfully awaiting the proper climatic urge to enter their long winter's rest. There has been so little snow that their chosen quarters in many instances have proven too drafty and we have observed these formidable, but quaint, beasts laboriously backing in the direction of their hiding places dragging wisps of brush and grass that a magpie would not hesitate to carry. They are using those with which to line their beds, but that inability to hibernate does not deter them from ripping shutters from windows and doors in their quest for food, should they find the smallest aperture to insert their claws. The Canyon Ranger Station Barn has suffered from such an indignity, as well as the West Thumb Ranger Station and Hamilton's store at Fishing Bridge.

Brevities.

On the way to the Buffalo Ranch on November 24th I counted 217 elk on Blacktail Flat, and approximately 1000 between Junction Butte and the Lamar Canyon. On the same date 500 or more were observed by other rangers high up on Hellroaring Slope and Buffalo Plateau. The elk are coming down at a very late date this year, probably due to the lateness of autumn and the lightness of the snowfall. -- Sam T. Woodring, Chief Ranger.

On a trip around the loop on November 11th some ten thousand waterbirds were to be seen along the shore of Yellowstone Lake from West Thumb to the Lake Station, a distance of 20 miles. There were also observed in the Yellowstone River, 10 Trumpeter Swans. -- Newell F. Joyner, Park Ranger.

An unusually large number of mountain sheep were observed between Mammoth and Gardiner on November 23rd. The 50 counted included 9 fine big rams, 3 medium sized rams, and one small ram. -- Sam T. Woodring, Chief Ranger.



QUESTION BOX

Q. Are the black, brown and grizzly bears all different species?

A. No. The grizzly (*Ursus horribilis*) is a separate specie, but the brown and black are simply color phases of the same specie (*Ursus americana*).

Q. Which animal, the bobcat or the lynx, possesses large ear tufts?

A. The lynx.

Q. Is a ring-tailed cat related to the domestic cat? Is it found in the Yellowstone?

A. No. The ring-tailed cat has no kinship with the domestic cat, but is related to the raccoon. This animal is not found in the Yellowstone.

Q. Does the height and period of a geyser vary with the winter and summer seasons?

A. There is no appreciable difference, although Phillips reports that Old Faithful played only to a height of 40 or 50 feet during April of two years which he observed it. Ranger Baker states that he has measured the height during April of the last year and his figures are 110 to 116 feet.

Q. Does Yellowstone Lake freeze completely over in winter?

A. Yes, except at a few points where there are hot springs in the lake.

Q. Was the Yellowstone Canyon cut by a glacier?

A. No. Yellowstone Canyon was cut by the river through rhyolite which had been softened by the action of hot springs.

Q. Does domestication effect game animals other than their temperament?

A. Yes, all game animals are more susceptible to disease after they have become domesticated.

Q. What species of grouse are found in the Yellowstone Park?

A. The Richardson and Gray Ruff Grouse are common residents. The Franklin, Columbian, Sharp-tailed, and the Sage Grouse are all reported here but are very rare.

Spring Newcomers

Dorr G. Yeager, Park Naturalist

When the first brown spots appear on the hills and the melting snow turns the mountain streams into rushing torrents the inhabitants of Yellowstone naturally keep a sharp lookout for the furred and feathered spring arrivals. Every few days reports come to my office of a new bird or a new animal which has appeared. The following is a list of spring harbingers which I have taken from my notebook on "Spring Arrivals":

- March 1 - Robin at Nymen Terrace
- March 17 - Bear tipped over my garbage pail
- March 20 - Townsend Solitaire at Mammoth
- March 20 - Three Western Evening Grosbeaks at Mammoth
- March 20 - Flock of 10 or 12 Pink Sided Juncos.
- March 25 - Red Wing Blackbirds arrived
- March 28 - Marmot seen on Gardiner Road
- March 30 - Killdeer Flower on Jupiter Terrace

Weather Conditions at Mammoth Hot Springs

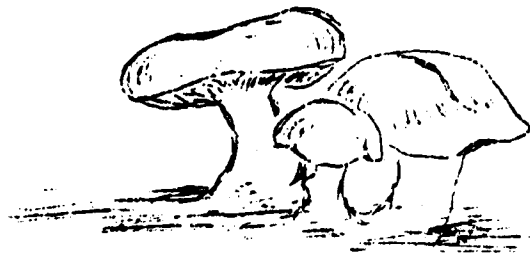
Glenn Jefferson, Meteorologist

Moderate temperatures prevailed during the month, especially during the first decade when mean daily temperatures averaged 9° above the normal. Departures from normal were generally negative thereafter. The mean for the month, 28.2° , is 1.7° above the normal. The highest temperature for the month was 52° on the 27th. The lowest, 5° on the 31st, is the highest minimum temperature for March since 1915.

Precipitation was only 61 percent of the normal amount and totaled 1.03 inches. Snowfall amounted to 9.8 inches, normal 13.1 inches. Precipitation in measurable amounts occurred on 14 days and there were 7 days with only a trace. The greatest depth of snow on the ground was 15.3 inches on the 2nd and at the end of the month there remained only a trace, mostly in drifts. Light rain fell on 5 days.

There was 55 percent of the possible sunshine, very near the normal amount. There were 5 days clear, 7 partly cloudy, 19 cloudy.

Strong winds were general throughout the month and the average velocity, 8.3 miles per hour, is somewhat above the normal value. The maximum velocity, 34 miles per hour, was the highest wind recorded since last September. The prevailing direction was southwest.



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

July 1, 1929

YELLOWSTONE NATURE NOTES

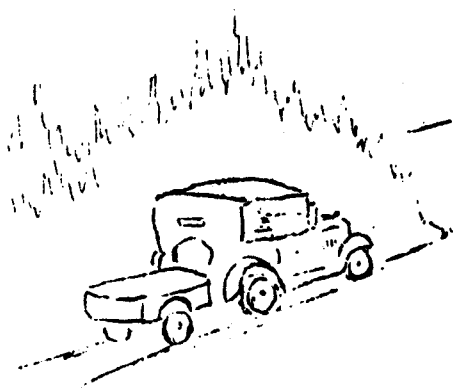
Volume VI, No. 7

This is one of a series of bulletins issued monthly for the information of those interested in the cultural history and scientific features of Yellowstone National Park and the unmatched educational opportunities offered by this region. READER'S USING THESE NOTES PLEASE GIVE CREDIT TO "NATURE NOTES FROM YELLOWSTONE PARK" AND AUTHOR.

Roger W. Toll
Superintendent

Dorr G. Yeager
Park Naturalist

THE QUESTION BOX



- Q. How many tourists entered the park in June of this year?
A. 32,873
- Q. Is the Lazuli Bunting found in the park?
A. Yes, at low altitudes.
- Q. Does a bear cub hibernate with the mother the second winter?
A. Yes, especially the grizzly.
- Q. Is it true that Mt. Washburn is an extinct volcano?
A. Mt. Washburn is said to be one edge of the crater of the old Sherman volcano which is responsible for considerable of the Rhyolite which is found in the central plateau.
- Q. What is the difference between Algae and Fungi?
A. The Algae and Fungi both belong low in the scale of plant life. The principle difference being that fungi lacks the green chlorophyll which is present in the Algae which enables it to manufacture its own food.
- Q. What is the difference between a mushroom and a toadstool?
A. It is a matter of common usage. Science recognizes no difference. The average person usually thinks of toadstools as the poisonous species and mushrooms as the non-poisonous types.

October 1, 1929

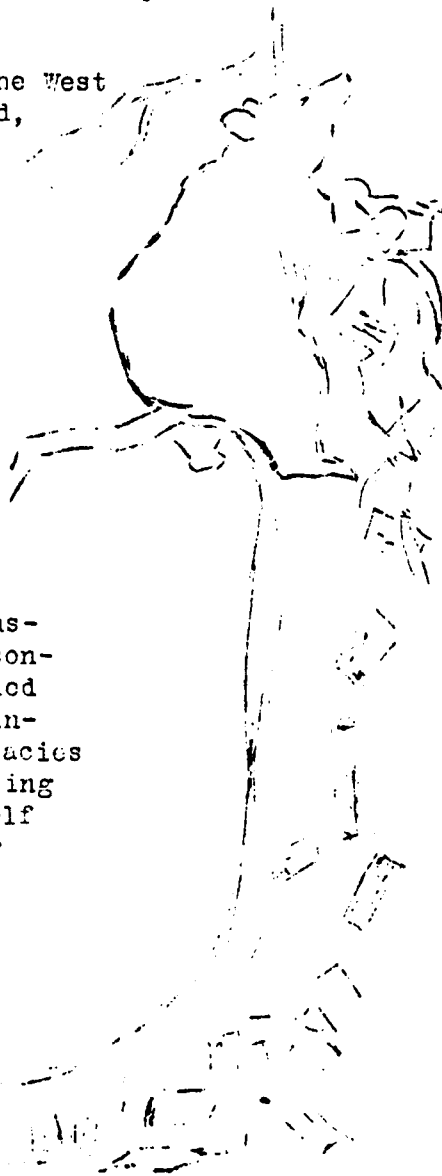
almost certain that the spots do not disappear as soon as the animal possesses a scent. I have seen the spots remain for several months after the fawn begins to follow its mother, and at that age the scent had certainly appeared.

Bear Steals U. S. Mail

Dorr G. Yeager, Park Naturalist

Everyone is acquainted with the "hold-up" bears in Yellowstone Park, and nearly everyone has, at one time or another, experienced the sensation of being held up by one of these forest clowns. A new phase of this unlawful business came to my attention a few days ago, however, when Dick White related the following story of his experience at West Thumb.

It seems that some days ago Dick stopped at the West Thumb road camp for lunch. The season being closed, and the regular mail delivery having ceased, Dick was obligingly carrying a bundle of mail with him for the members of the different road crews around the loop. He left the mail in the car and, after enjoying a good meal, returned to continue his journey to Lake. Imagine his surprise, however, to find the package of mail not in the car but between the paws of a black bear in a nearby tree. Bruin was examining the packet intently, sniffing and turning it over in an inquisitive manner. Suddenly he began to tear at it and, disregarding the shouts and threats of the man below, continued until he had extracted a box from its contents. The tree was shaken, clubs and threats were hurled but the bear, utterly unmindful of the commotion he was causing, tore open the box and feasted happily on the contents, which proved to be chocolates. Having emptied the box thoroughly, licked his paws, and minutely inspected the remainder of the mail for further delicacies he reluctantly dropped it into the arms of the waiting man below, and with a contented grunt settled himself down on the limb until such a time as his tormentor should retire.



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Happenings at Canyon Bear Feeding Ground

John S. McLaughlin, Park Ranger

As summer begins to take on some of the aspects of autumn, there seems to be an increase in activity among the bear family around the Canyon. The bear feeding grounds back of the Canyon Hotel is the center of this action. Several weeks ago, forty six different bears came up on the dump during the course of the evening. On the fifteenth of August there were twenty-four grizzly bears on the dump at one time.

Some time ago we had a "family night" at the dump; a "Mother and Family Banquet", so to speak. There was one mother with one cub, one mother with two cubs, two mothers with three cubs, and one mother with four cubs and, of course, all of them were grizzlies. It was interesting to note that the mother with the one cub was caused more grief and worry with her family than the mother with the family of four. I am also inclined to think, after watching events on "family night", that the male grizzly is somewhat of a gentleman, after all; for the lone males did not seem to stay around long - they would survey the situation and then walk off the dump. Perhaps they have no hankering for family life at all.

One of the most interesting things of the current season happened about a week ago. I had just started to talk of the moose in my lecture on "Big Game Animals in the Yellowstone", and lo and behold! - a bull moose nonchalantly entered upon the stage from the right hand side of the dump. He came about fifty yards out in the open, stopped and calmly surveyed the crowd, and very obligingly stayed around until I had finished my remarks on the moose. He then majestically went on his way, in no hurry whatsoever. The bears on the dump, evidently surprised by their visitor, left the dump on the gallop and did not return until he had disappeared.

Many times this summer the coyotes have come right out upon the dump, nervously walking right in among the bears, but so far I haven't seen any of the slinking visitors eat the salad that the bears relish so much. Quite a few times this summer the coyotes have delighted the crowds by limbering up their vocal cords. They have rendered several excellent evening concerts from the ridge behind the dump.

It so happened that one gentleman, who had been at the Canyon Hotel for some time and visited the bear dump almost every evening, was there when the

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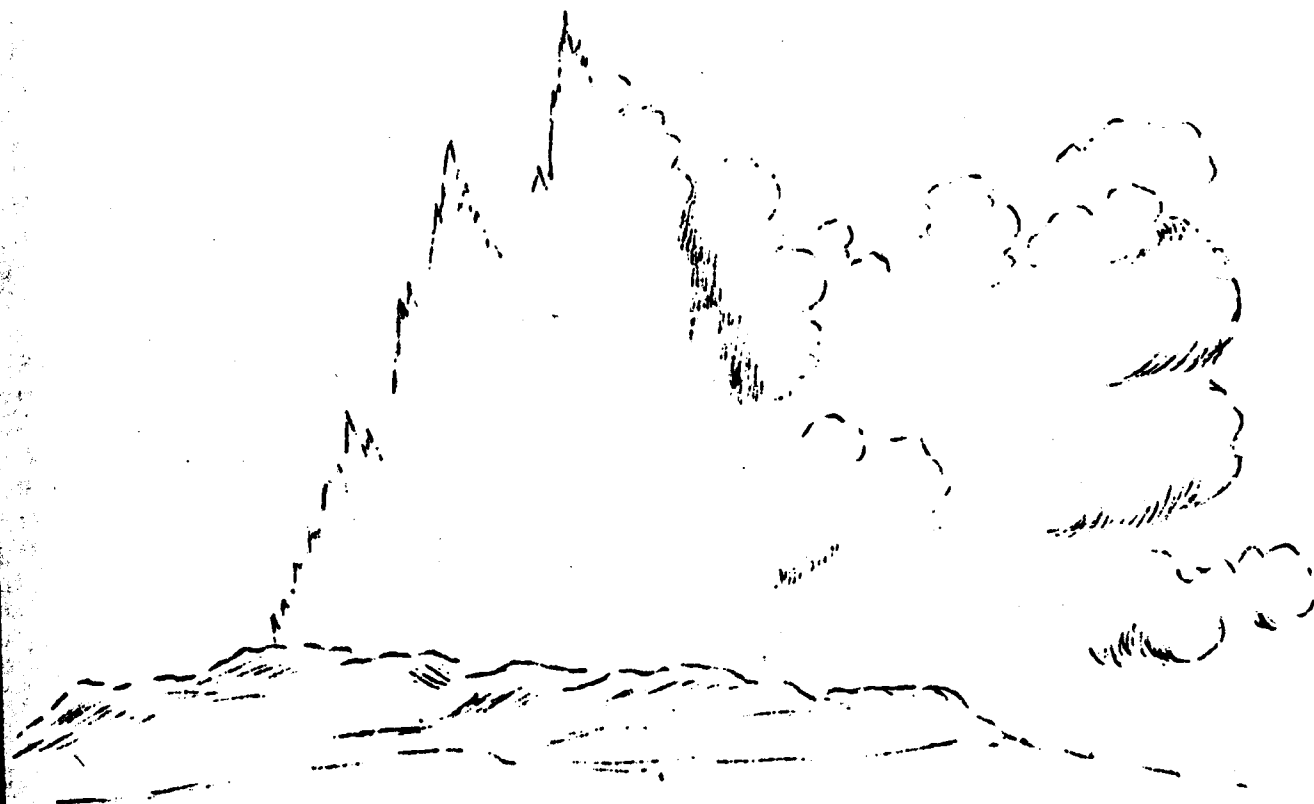
moose made his visit and the next night this same man heard a coyote concert. He was evidently amazed by all these unusual events, so he came up to me after the lecture and asked "How on earth do you fellows arrange for these wild animals to do such things?"

Weather Conditions at Mammoth Hot Springs

Glen Jefferson, Meteorologist.

September averaged one of the four coldest on record. Unseasonable temperatures prevailed during the first ten days, with the exception of the first day, and decided negative departures occurred also during the last ten days. The mean temperature for the month was 46.8, a departure of 6.5 from normal. The highest temperature was 79 on the 1st, the lowest 25 on the 8th.

Except for an excess in the amount of snowfall, the month was otherwise normal. The total snowfall was 4.5 inches, 3.0 inches of which occurred on the 26th. The greatest amount of precipitation in 24 hours was 0.53 inch on the 25th and 26th. There were 8 clear days, 11 partly cloudy, 11 cloudy; and 11 on which 0.01 inch, or more, precipitation occurred.



FOUNTAIN GEYSER

November 1, 1929.

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in Pleasant Valley.

To those who want to have the experience of living at Yancey's and seeing the wild animals -- at least through the pages of a book -- we recommend Ernest Thompson-Seton's works, especially "Wild Animals At Home". It was at Yancey's that this writer spent some time and the above mentioned book might be thought of as the fore-runner of NATURE NOTES FROM YELLOWSTONE PARK. --NFJ)

BREVITIES



Chief Ranger Bartley reports seeing an eagle swoop into a flock of ducks that were just rising from the water in Bridger Lake, just south of the park. The eagle was successful in its attempt to catch a duck. Assistant Chief Ranger McLaughlin also reports a similar incident observed near Alum Creek.

There are between 12 and 20 swan to be found on Yellowstone River and near the outlet of Yellowstone Lake.

During October it was reported to this office that an old Indian hammer, had been picked up by a member of a road construction crew in Grapling Creek. A trip was made to secure this interesting relic, for Indian implements are rarely found in Yellowstone Park. On the same trip, a very perfect obsidian arrowhead was secured from another employee of the same crew. It had been picked up near Grayling Creek, also.

An interesting sight on the parade grounds at Mammoth Hot Springs is that of two horses which have been turned loose to graze, peacefully associating with a band of elk that has recently come down from the hills.

One of the two elk which were kept around Mammoth last winter, but which were turned out in the spring, is back this fall. It is none other than the one called "Tuffy" -- the one that was so suspicious of everything and that had such a deformed skeleton and antlers. His antlers this year are not normal. So far, he has failed to show any signs of recognition of his former keeper, to whom he used to respond when the invitation was given to "Come and get it".

Although the bears at Mammoth have been in hibernation for a week or more, those at Canyon and Lake have not settled down "for their long winter's nap" as yet. At Lake last year, the last bear to go to sleep disappeared on January 5th.

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

May, 1930

YELLOWSTONE NATURE NOTES

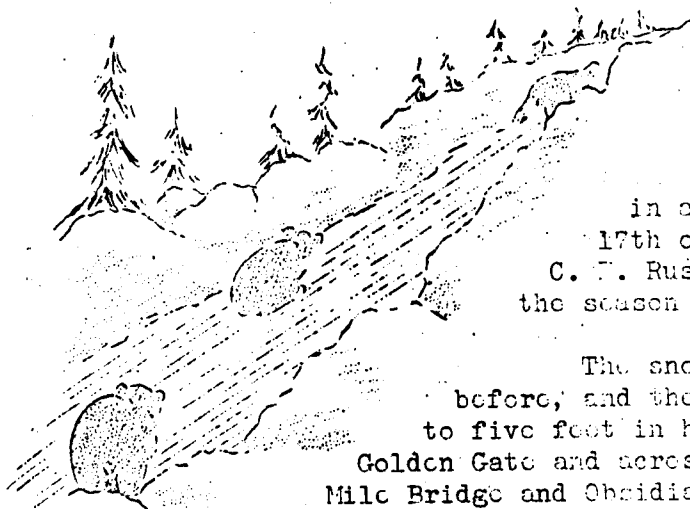
Volume VII, No. 5

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Roger W. Toll
Superintendent

Margarite L. Arnold
Illustrator

Dorr G. Yeager
Park Naturalist



CHASING GRIZZLIES BY AUTO

Dorr G. Yeager
Park Naturalist

Have you ever pursued grizzly bears in an automobile? Neither had I until the 17th of last month when Field Naturalist, C. F. Russell, and myself took our first trip of the season to Norris Geyser Basin.

The snowplow had opened the roads a few days before, and the drifts on either side were from three to five feet in height. We rolled merrily along through Golden Gate and across Swan Lake Flat. We crossed the Seven Mile Bridge and Obsidian Creek; we passed the eight mile post-- and then stopped. There in the middle of the highway, reared on their hind legs in order to obtain a better view, were three grizzly bears. The situation was, to say the least, interesting. We were in a deep canyon of snow with the only possible movement forward or back. If those grizzlies had so decided, they might have rushed the car and climbed directly over it in an attempt to escape. They chose the most sensible route, however, and headed down the road at a rolling lope.

Naturally curious, we followed at a respectful distance, and yet anxious to keep at a safe distance, we trailed the animals at 25 miles an hour. They continued this speed for approximately 2 miles with but one pause in the on-tire distance. We had lost track of the animals around a curve and evidently they had missed us at the same time for the mother was reared on hind legs, pecking around a drift to see what had become of us. Spotting the car she again continued her lope down the road.

During the episode an interesting thing was noted in connection with the mother's attitude toward her cubs. At the beginning of the "run" she took the lead, evidently setting the pace for her offspring. Toward the end of the trip when the pace was beginning to tell on the cubs, she fell behind them, placing herself between them and the car.

The speed mentioned in this article should not be taken as a criterion for the speed of a grizzly. At no time (naturally enough) did we push them to a maximum.

Do Mother Bears Adopt Cubs

The following three articles portray as the observer saw it, three attitudes, differing one from the other, in the manner in which the mother bears react to the cubs of another bear. These articles were received at this office within a short time of each other, and each was written without the knowledge of the other authors. The presentation of them all at this time is in no sense to be construed as an effort to "play" the various observations and observers against the others, but rather to show that it is a very difficult matter to generalize in the field of Natural History. The sum and substance of it all would seem to be this: That mother bears do adopt cubs from another Mother, but that their attitude toward such young is not always the kindest.---N.F.J.

A Large Family and Possible Adoption

Phillip Martindale, Ranger Naturalist.

There has recently appeared at Old Faithful a mother black bear with four cubs, the size of the family being unusual, but not rare. There are in this family one brown cub and three blacks. The brown cub is well developed and a trifle larger than the others, while one black cub is undersize and apparently receives less notice from the mother, all of these observations leading to the theory of the adoption of this smaller black one -- such a practice being far from uncommon in the bear family. I have seen a mother bear with one cub early in the season and later noted what was apparently the same mother with two more under her protection, probably having been acquired by adoption. The cubs mentioned above have very little fear of the public, and since the mother is old and has previously had a family she is not, at least to date, very easily annoyed. We hope that she will stay and bring up her family in this district, as it is really a show for the public.

The bears of Yellowstone Park are not tame nor are they pets, but since they live in a thoroughly protected area they have considerably less fear of human beings than if they were living in an area where they were not protected. For this reason they will come in contact with tourists under conditions where the seeking of food is their only thought. All bears in Yellowstone Park, therefore, should be treated as protected wild animals but not as pets. Their vicious side is aroused when teased by lack of food or by too close contact with humans, and it is therefore dangerous to feed even an apparently tame bear out of one's hand or to ever get between a mother and her cubs. All bears are treacherous, but most of all a young mother.

In conclusion we will say that the bears are not to be feared if they are not teased or treated as pets, and as the situation stands at present they are one of the greatest attractions in Yellowstone Park.

Adoption Among Bears

E. E. Ogston, Asst. Chief Ranger.

Early May brought a black bear to the back door of Lake Ranger Station. She was a mature animal of about five years of winter hibernation. Beside her were two very small black cubs, borne by her some time in January or February.

At this time in May there were no "Messes" at Lake and the scent of the Rangers' cooking and edibles left over from the table brought her to their back door. She was an animal of most pleasing appearance and disposition and her offspring were of the same nature. Day after day mother and cubs appeared at the station and were fed.

In June a request came for the loan of one of these cubs to be taken to Moran for the filming of the picture, "The Big Trail" by Hal C. Evarts, with the understanding that the cub should be returned to its mother at Lake Station.

After enticing the little fellow into the Ranger station, the door was closed and a blanket thrown over him. He was then placed in a box, and was soon on his way to Moran. The mother walked away with only one cub and did not appear to miss the one we had taken from her. Eight days elapsed and the cub was brought back from Moran with a chain and collar on his neck. We watched for his mother but by this time many tourists had arrived and she no doubt was being fed elsewhere.

Around the Ranger station appeared another bear with two cubs. This brown bear had one black and one brown cub. Here the little black cub we had was turned loose to prove the method of so-called "adoption" among bears. That brown mother bear took a ferocious run at the orphan black cub and would have killed it if it had not climbed to safety. This cub whined and cried, but every time it started to come down the brown mother bear would charge at the tree and lacerate the bark from the tree. When this cub did come after the brown mother bear left, it started on a crusade to find its own mother and playful sister. If you have ever watched a bird dog work you will understand that cub's actions for that is what it did and was doing for no other purpose than to find its mother. For three days and nights this little fellow worked this way and at different intervals was fed by tourists and I have been informed slept in a girl's lap one evening.

Many times this brown mother appeared in the camp ground and charged this cub who always climbed a tree and proceeded out on the end of a long limb and laid on its branches, thereby safe from harm.

Tourists became aware that it had no mother, but I informed them this was a study. Finally the original mother came to the camp ground and the orphan cub was up a tree. I recognized her immediately with her one cub. I placed bread at the foot of this tree and in an instant that mother reared to her full height and scented the tree, a few affectionate grunts and the little orphan came down.

I have never witnessed such a reunion and it is beyond me to describe such a scene. Nowhere have I ever seen such common sense, and to describe the final episode, mother fondled this cub, talked to it, and cleaned it before sitting down to let her two cubs take milk from her breasts. In doing so this one cub who had been minus his milk for some time kept a continual grunting with mother in a position like the famous bear picture in the Jack Haynes collection. Moral of this story--do bears adopt cubs, I have always said no and I still claim they do not.

Cannibal Bear

Ben Arnold, Park Ranger.

The bear question in Yellowstone Park recently developed another angle. We now have big ones eating little ones. Our friendly clowns, the bears, have been called a lot of hard names by tourists unfamiliar with their habits. The word cannibal may be a welcome addition to over-worked vocabularies. This particular case involves "Brownie" or brown bear, mother of five month old twin cubs, who did maliciously pursue, attack and kill a five month old black cub, being one of "Rosie's" spring twins.

Rosie is a black bear and all summer has been Brownie's partner in crime, with headquarters at the bear cafeteria near Roosevelt Camp. The two mothers with their twin babies have afforded endless amusement to Tower Falls tourists this season and thousands of photographs have been taken of them.

Early one morning Brownie was seen in hot pursuit of the black cub, chasing it over a nearby hill. The pitiful cries of the little fellow first attracted attention. For some reason he failed to "tree" and before help could reach him had been killed and terribly mangled. The carcass was left there after chasing Brownie away. Further investigation that evening found Brownie and her cubs with the carcass. It had been carried 200 yards under a large fir tree; one cub was up the tree; the others cleaning up last vestiges of skeleton and hide.

Again Those "Mysterious Sounds"

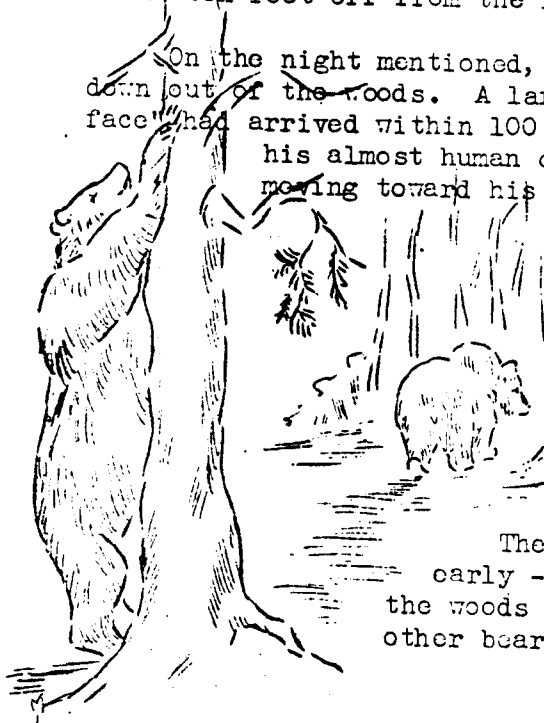
Dorr G. Yeager, Park Naturalist.

From time to time reports have come in of weird sounds heard in the region of various lakes in Yellowstone Park. These sounds were reported by members of early exploring parties and have been reported off and on to the present time.

I have heard the sounds several times on various lakes but have not until now ventured to set my conclusions in writing, albeit I was morally sure of their origin ever since I first heard them. Theories covering every range of possibility from electricity to air currents have been advanced. I am sure that the explanation is far more simple. A few days ago Ranger Hanks told me that he had heard the sounds recently on Mary Lake where he and another ranger had been making observations for the Geophysical Laboratory. His explanation of the "phenomenon" concurs exactly with my own.

The ChallengePhillip Martindale
Ranger Naturalist

The night of June 26th at the bear feeding grounds at Old Faithful -- while about 1000 people were seated during the lecture on wild life -- a large grizzly lost his control of an area which he had held for a number of years. "Scarface", a bear that I named on account of one side of his face being torn and both ears missing, and an immense old grizzly, has really been monarch of this section and all other bears gave him the right-of-way. In fact, his thousand pounds of power did knock a large black bear about ten feet off from the feed platform last summer.



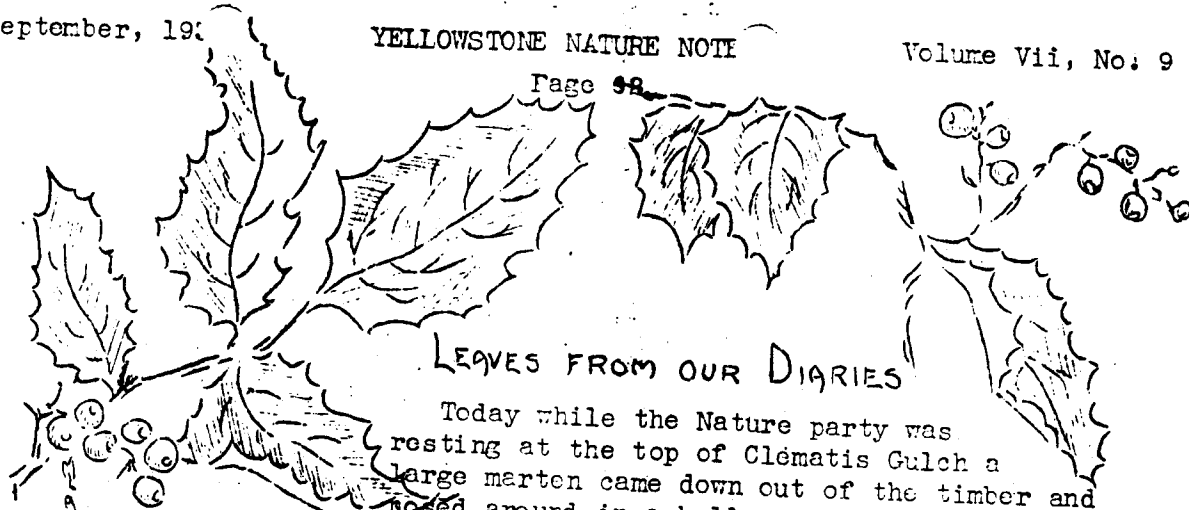
On the night mentioned, three bears were feeding when "Scarface" came down out of the woods. A large dark silvertip was there, and before "Scarface" had arrived within 100 feet of the feed platform, he left and started his almost human challenge. A swagger, both front and rear -- moving toward his enemy of no doubt other encounters. This same swagger was used by "Scarface" but he circled away and kept his distance until finally he was chased out completely. When this happened the audience saw something that I had previously mentioned might happen. The victor came to the nearest tree, roared on his hind legs and measured his full length against the tree -- a new commander of the area among the male grizzlies.

The bear "Scarface" came in the next night very early -- alone -- secured one piece of meat -- watched the woods closely, and left -- not to return again with other bears. He has lost -- too old.

Skulls and Tracks
-- An Apology

There is a law of compensation, according to Emerson and others. This law most certainly is at work. In the June issue of Nature Notes there appeared the sketch of the tracks and skull of a rabbit. In the July issue there appeared the explanation of this skull and these tracks, as well as the sketch of the tracks and skull of the beaver. Apparently little interest was being shown in the series by our readers, so the sketches were discontinued in the August issue. An explanation purporting to be of the skull which was shown in the July issue accompanied the notice of the discontinuance of the series. And here is where the law of compensation got in its work, for the mistake we made in describing the skull which appeared in the June issue was immediately called to our attention by a number of readers, thereby making us aware of the fact that the series was read closely by some.

Thanking our readers for calling our attention to this mistake, we offer our sincere apologies. We hasten to state that the skull appearing in the July issue was that of the beaver, a member of the gnawing group of animals, and characterized by the very prominent incisors -- teeth which are particularly adapted to the strenuous work of gnawing wood and bark. The front portion is of a hard enamel, slow to wear away, while the rear portion is of a softer bony composition, wearing away more rapidly and assuring the continual presence of a sharp cutting edge of the enamel. -- NEJ



LEAVES FROM OUR DIARIES

Today while the Nature party was resting at the top of Clematis Gulch a large marten came down out of the timber and nosed around in a hollow log. One member of the party called it a red fox, and others thought it was a weasel. This was not such a bad guess, as I heard last evening that one of the hotel guests from New York City called a rabbit a kangaroo.

-- Ranger Naturalist F. Oberhansley
June 25, 1930

This evening Field Naturalist Russell visited Old Faithful Museum and placed a small pan of water in the snake cage. Ten minutes later it was noticed that all the snakes in the cage, five in number, had crawled into the pan and were merrily soaking themselves in the half pint of water that was contained in the pan. The reason for this behavior was evident when we reflected that this is Saturday night!

-- Ranger Naturalist Ray Cutter
August 23, 1930

The black bears have finally overcome the fear they had of the grizzly as they feed on the lunch counter at the Old Faithful feeding grounds. Two years ago the black bears, which usually come in to the feeding grounds first left as soon as they caught sight of the grizzly. Tonight both bears ate at the same counter within two feet of each other.

-- Ranger Naturalist Thos. Stewart
August 5, 1930

For the first twenty days in August we have had rain and for the traveling public this has not been so good. Roads were washed out and spirits were dampened. However, for the lover of funk as food the wet weather has its compensations. In the vicinity of Tower Falls numerous meals were augmented by a savory dish of meadow mushrooms or puffballs, and on two or three occasions enough were procured to furnish a pleasant surprise for all of the guests at Roosevelt Lodge.

-- Ranger Naturalist Marguerite Arnold
August 21, 1930

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

October, 1930

YELLOWSTONE NATURE NOTES

Volume VII, No. 10

This is one of a series of bulletins issued monthly for the information of those interested in the natural history and scientific features of Yellowstone National Park and the unmatched educational opportunities offered by this region. PUBLICATIONS USING THESE NOTES PLEASE GIVE CREDIT TO "NATURE NOTES FROM YELLOWSTONE PARK" AND AUTHOR.

Roger W. Toll
Superintendent

Marguerite L. Arnold
Illustrator

Dorr G. Yeager
Park Naturalist

A Bear Tragedy

Fred T. Johnston, Park Ranger

A little black bear that was caught in the Yellowstone Canyon this summer caused as much excitement as any of the "Grizzly shows". He was about three years old, and somehow climbed down into the canyon on the west side close to the lower falls, but was unable to get back to the top of the canyon wall and to safety. The people hiking along the Artist Point Trail on the other side of the canyon first noticed him, and immediately reports started coming into the Ranger Station as to his plight. An investigation was made in great haste, and an attempt was even made to try to assist the unfortunate bear in getting back to safety. Ropes were brought to a place where he might have been assisted, but he decided to move on at just that time, and it was deemed a fruitless expedition.

But he still remained on the canyon wall, and each day the crowds watching him from across the canyon became larger and larger. On the fourth day, however, he really showed the amount of nerve that a bear has. On each of the proceeding days he had tried his best to find a way out of this veritable prison, but had always seemed afraid to go down towards the river and the falls, which offered a chance of escape as it seemed to us. However, the pounding of the falls and the steep slope to the river would test the nerve of any animal, and he preferred to keep walking around at the base of the cliffs close to the top of the canyon. On the fourth day, no doubt being aided in his decision by hunger, he made his way to the bottom of the canyon right below the falls and, instead of going down stream to a place where there was a possibility of safely swimming across the river and climbing the other side of the canyon, he started to climb up the face of the cliff next to the falls. This, of course, was the climax of the show to the people watching from the rim of the canyon. The surprising part of it all is that he was able to climb up to a point even with the top of the Falls. Here he slipped when a rock came loose, and slid and fell back into the canyon, and then down into the river under the falls.

The whole tragedy was watched with intense interest and sympathy by many tourists, and the nerve of this bear as well as the struggle he made are incidents that these tourists as well as I will never forget.

BEAR CAUGHT IN THREE TRAPS ESCAPES!?

--Frank W. Childs, Park Ranger.

It is one thing to trap a bear, but it is another thing to hold him after he is trapped. At least that is what the rangers at Lake Station have decided.

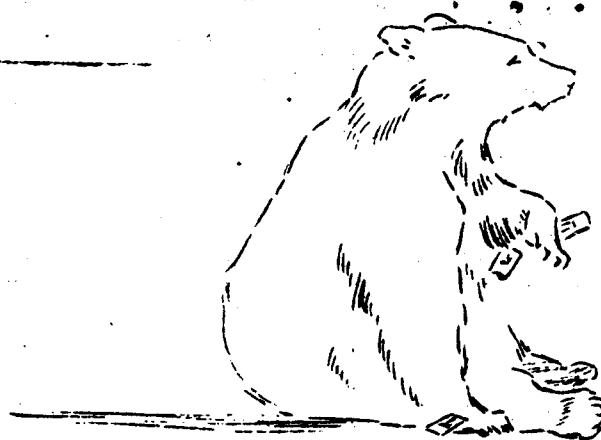
The emergency fire rations, stored in the pantry at the Lake Ranger Station, were constantly being molested. Finally, in desperation, the rangers set eight traps to catch the offender.

Nothing wandered into the traps on the first night, but on the second night the traps scored a bit.

Toward morning of the second night the station chief was suddenly awakened by the sound of a trap snapping shut. This sound was followed immediately by a sharp "flu - u - u", similar to the sound of escaping steam.

A second trap snapped, followed by a short grunt. Two more traps snapped, followed by more peculiar sounds.

By this time the station chief was out of bed and had secured a flashlight. Running to the pantry he turned the flashlight upon the intruder. There on the floor sat a dismal looking black bear, vainly attempting to shake off several mouse traps which were pinned to his fur.



INTIMATE FRIENDS

- - George Eckels, Temporary Ranger

On the twenty-second consecutive day of the deluge here at Canyon a Wyoming telephone lineman, in whose testimony I rely unqualifiedly, made a friendly visit at Canyon Ranger Station and reported the following unusual occurrence.

"I was rounding a turn in the road near the MS 14 mile-post on the Tower Falls Road. Suddenly there appeared in the center of the road, what seemed to me to be a coyote and a badger. On closer investigation my original impression was confirmed -- there really was a coyote with a badger, enjoying the intimacy and freedom of two bear cubs. I got out of my car and cautiously advanced to within twenty-five feet of this extraordinary combination. Before I could take a hastily planned picture, both animals became aware of my presence. The coyote disappeared around the turn in the road and the badger sought the safety of the sagebrush."

"Mac" Mac Laughlin, now Chief Ranger of Rocky Mountain National Park, used to tell a pretty good story concerning the companionship of bears and beavers. But a badger and coyote - - - - !

TREE-CUTTING BEARS

- - T. M. Thompson

On the first Sunday in October, while fishing in the vicinity of the Needles on the Yellowstone River at Tower Falls, I was attracted by a noise about fifty feet up the west side of the cliff. Upon looking up I discovered a bear apparently standing against a small tree. At first I thought it was a grizzly and looked around for a convenient tree to climb. I soon discovered, however, that it was a black one.

Something about the animal held my attention -- perhaps the size, for it was the largest bear I have seen during my years in Yellowstone. But my attention was attracted to something else. The bear was cutting down a tree with its teeth! The tree was a spruce, about three inches in diameter and eighteen feet high. The bear would bite out pieces on the uphill side about three feet from the ground. These pieces were about one and a half inches long, and after each bite the animal would attempt to push the tree over with its left front paw. Finally the tree went over but did not break off clean and after stripping the bark from around the cut, the bear started up the bank with the butt-end of the tree in its mouth. He succeeded in backing up the bank about ten feet where the tree stuck again.

This time it could not be moved and after several attempts the bear started breaking off the branches with its fore-paws. These it raked together with its paws and, holding the branches in its mouth, backed away on three legs, the fourth being used to aid in the transportation of the branches.

The bear backed away over a little rise of ground and out of sight. I did not follow him but when I passed the spot an hour later all of the branches were gone from the tree.

LEAVES FROM OUR DIARIES

While riding through the country between Monument Mountain and Bacon Rind Creek in the Gallatin National Forest, I came upon the remains of a bear's dinner. A thirty-foot white-bark pine which stood in the center of a little clearing bore many claw marks on its smooth trunk. Under the tree was a considerable pile of branches which had been deliberately broken from the trunk. The cones of the branches had been chewed until they resembled corn cobs.

It was quite evident that the bear, desiring a meal of pine nuts, had climbed the tree, broken off the cone-laden branches and had then sat on the ground and devoured the nuts by chewing up the cones.

-- Dorr G. Yeager, Park Naturalist, Oct. 1, 1930.

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Seated at Sunday dinner we were disturbed by a bumping at the back door. Investigating, we found our pet, a large buck deer, licking his chops while at his feet the cover had been nicely lifted from an ice cream freezer. We could see where a long tongue had been thrust into the can as far as it would reach and all of the ice cream adhering to the sides licked off. The noise which had attracted us was made by antlers bumping against the door.

-- M. L. Arnold, Ranger Naturalist, Dec. 7, 1930.

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"Pat" and "Rosie" are still out! Today the winter keeper from Morrison-Knudsen Camp "C" stopped at Tower Falls Ranger Station and told us that they had both come down to visit him and get a "hand-out". They have a regular path worn in the snow which leads up into the woods, but we haven't gone to see where they sleep as yet.

-- M. L. Arnold, Ranger Naturalist, Dec. 9, 1930.

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We expect to find bears upsetting our garbage cans in the summer and fall but during the winter these cans are not free from molestation. Certain of the deer, which spend most of their time about Mammoth in the winter, visit the garbage cans from which they obtain table scraps and occasionally other substances such as cinders, chewing gum, orange peels, nut shells, etc. This list has been determined from post-mortem examinations.

-- Newell F. Joyner, Jr. Park Naturalist, Dec. 5, 1930.



mouth of Willow Creek similar long-haulage work is being carried on by the beaver. Trees are felled well up the steep hillside on the east bank of the Lamar and the entire log is usually skidded to a small meadow near the river bank. Here the load becomes too heavy for the beaver's means of transportation; so a log yard has been developed where the timbers are cut into lengths of two or three feet and then dragged into the water. The log yard, with its numerous piles of fresh chips, resembles that left by man in securing timber for his needs. The skidway at Willow Creek was at its best in late October when the wood-cutting animals had developed an extremely serviceable log chute over four inches of snow. Timber-gathering activities had entirely ceased by December.

Still farther up the river - a mile above the mouth of Cold Creek, aspen timber has given out entirely and most of the willows along the stream have been cut down and used for small dams and food. Last fall at this point the beaver had resorted to lodgepole pines in lieu of their favored wood and had cut down a dozen or more of these trees, some of them as large as 13 inches in diameter.

A Sudden Encounter

-Clifford Anderson, Park Ranger

Did you ever hear a noise, like someone shouting in the distance, in the vicinity of Fawn Pass? Well sir, that's the echo of a yell I let out back in the spring of '22.

During the early part of the winter a high wind had blown down a lot of trees near Fawn Pass and in falling they had taken with them our telephone line so we had been out of communication with headquarters and the outside world all winter. The snow was so deep that it was impossible to get the line out from under it and the fallen timber.

It was the second day of June and the snow still lay deep in the high country. Fawn Pass is eighteen miles from Gallatin Station so it is next to impossible to make that distance and back in the same day, particularly during the spring breakup. I had rations enough to last me two days, a test set telephone, ax, wire and all the other tools I might need in the repair of the telephone line. On the top of the load I had strapped my webs and in all I had a fifty pound pack on my back which made me go along stooped and with my head down in order to keep the pack well balanced on my back. Under my arm I carried my 45 Colt revolver.

I started out thoroughly enjoying the nice sunshiny morning, feeling absolutely at peace with the world and anticipating a pleasant and interesting day in the open. All around me birds chirped and sang. Squirrels chattered from almost every tree. They seemed to be enjoying the nice spring weather quite as thoroughly as I.

After crossing the Gallatin River, the telephone line follows the timber's edge quite a way. Here I could see the telephone line was in good shape so I was plodding along with my head down when not ten feet away from me a big black bear burst out of the timber at full speed and heading right in my direction. I hadn't seen the bear and he hadn't seen me until I throw up my hands and let out a regular death shriek. I just knew I was a gonner! That bear was just as surprised as I was. The instant I yelled he put the brakes on

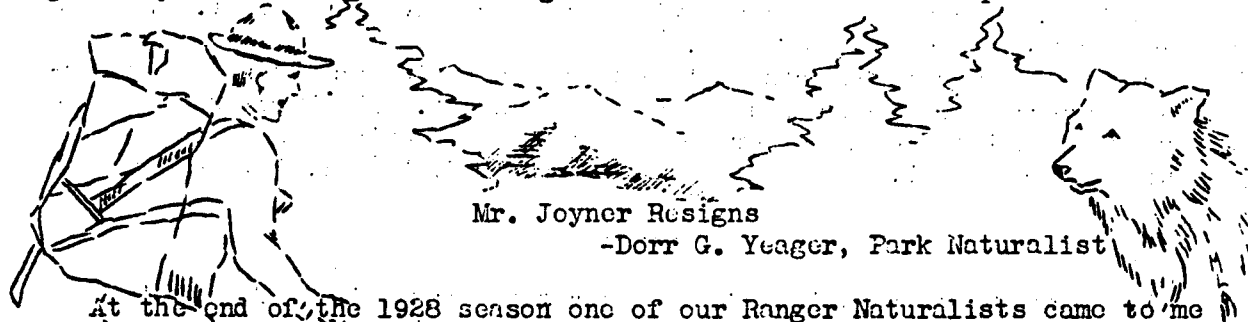
all four feet and slid to a stop four feet in front of me. He surely lost lots of traction trying to get into reverse, while I just stood there petrified with no more thought of my 45 than if it had been in Halifax.

I'd give a lot to have a picture of myself as I appeared to that bear just at that moment. I do know, though, that that bear had the funniest expression on his face of any bear I have ever seen either before or since. His nose was drawn up and his lower jaw sagged. He impressed me as feeling just as I felt; hit with a twenty pound sledge hammer.

After what seemed ages, the bear succeeded in getting into reverse, for which he deserves credit, for if it had been left to me I'd still be there. Slowly I felt my heart beginning to beat again. I'll say it did! My arms dropped limp and my knees started to shake, but I finally succeeded in gaining my strength enough to move up country about three hundred yards and turned to view the situation.

Out of the timber came the bear. He would come toward me a little ways and rare up and look at me. I guess he was wondering what it was he had run into. After satisfying his curiosity he went on his way and I on mine.

Need I say that I didn't sleep out that night? However, I did get the telephone line repaired and hiked back to the ranger station that night, making thirty six miles besides doing two hours work on the telephone line.



At the end of the 1928 season one of our Ranger Naturalists came to me and wanted a job. His work had been of the highest type and he was given a permanent appointment as a ranger assigned to the Educational Department. Later he demonstrated his seriousness of purpose and he was established as Junior Park Naturalist. This man was Newell Joyner, whose interesting articles on wild life have appeared from time to time in this publication. During his stay in Yellowstone he took a great interest in the history of the park and he has been one of the largest contributing factors in working up the accurate details of this interesting phase of Yellowstone.

On January 24th Mr. Joyner resigned his position and returned to Nebraska University to pursue his academic work.

We are certain that the many friends he made both through Nature Notes and his contacts during the summer, join us in wishing him success and a speedy return to the work in our National Parks.



Department of the Interior
National Park Service
Yellowstone National Park,
Yellowstone Park, Wyoming.

March, 1931

Volume VIII, No. 3

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Superintendent

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The Bear Went Out the Tent

--Ted Ogston, Asst. Chief Ranger

A few years ago while stationed at Canyon, a very funny incident happened concerning a sagebrusher and a bear. The old public auto camp was located at Canyon Junction on the Norris cutoff road. The area on both sides of the road was used for camping. A small tent was pitched on the camp ground. The hour was about noon and dinner was in the making. The lady who was cooking inside the tent had just turned off the gasoline stove and had busily engaged herself with the menu, with her back turned towards the entrance of the tent. On the stove which had just been turned off was a pan of hot tomato soup. This soup was very hot, as many know that tomato soup cools slowly. A large black bear tottered to the entrance of the tent, hesitated a moment and then wandered in and, of course, stuck his nose into the pan of hot tomato soup. The lady was unaware of his presence. The bear instead of going out of the tent the way he went in, dove out through the rear, knocking down the main tent pole and thereby enveloping the lady with canvas.

The bear was burnt up with rage and hot tomato sauce as he emerged from the tent. The first thing he spied was a funny little yearling black bear who seemed to be amused at his performance. It did not take the yearling long to realize that Bruin meant business, for he took to the first tree that he found. The burnt bear proceeded to climb this tree too and both went to the top, the larger bear letting a roar out of him every jump he made up that tree. The yearling sought the tip top of this swaying tree with the other bear trying to shake him out, but the yearling held on. After unsuccessful attempts to dislodge the yearling, Bruin came down, but from that time on for a week, one could always see that bear chasing every bear he met with a repetition of the tree shaking process.

After listening to Irvin Cobb over the radio with his delicious descriptions of life, I am sure he is the only one who could have described that lady emerging from the tent canvas. She even scowled at me, for I am sure I was laughing while attempting to console her. There is no doubt in my mind that since the episode the lady has had many a good laugh at her own joke.

There are Bears and Bears

- Park Rangers LaNoue and Barrows

Some wit has said that there are two places in the world where bears are plentiful - Wall Street and Yellowstone Park. According to reports the "Street" species has much larger proportions than the Yellowstone type recently carried around in the palm of a hand.

While at Old Faithful on February 4th we found a black bear with two cubs under one of the buildings. She was fully awake but refused to leave the nest, although the two bear dogs belonging to the winter keepers made brave attempts to frighten her. After several fruitless efforts to observe the cubs in this manner we went in for overhead tactics. A keyhole saw, a chisel, and a bit of carpenter work set the stage for a fishing job. During this time Mrs. Bear made several sniffs at the saw and decided to move her family. She nosed one of her cubs to safety behind a pillar supporting the building about ten feet away from the nest. While interested in this matter she forgot that a stiff piece of wire with an able fisherman on the business end could capture her other offspring. When the cub was taken from the nest the mother made several sniffs at the hole in the floor, but made no attempt to come up into the building.

The cub squealed like a baby pig, resembled a small bull dog in appearance, weighed one pound and eight ounces, and measured eight inches in length. His eyes were still closed; although Milton Funk, winter keeper, discovered the cubs on January 21st, this making the baby at least fourteen days old. His paws were large in proportion to the rest of his body and the skin on the pads was pink. He clung tenaciously, being able to support his own weight when suspended. Photographs were taken and the cub was placed back in the nest. The mother bear nosed the much examined one out of the nest to the other cub, and stood over her children in mad defiance of further observation.

The bear nest was built out of grass, old quilts, sticks, tissue paper, and most any sort of rubbish that could be collected in the vicinity. The size of the nest was surprisingly small, having an outside diameter of thirty inches.

The bear was wide awake from January 21st to February 4th, which shows that cubs are not always born when the mother is in a dormant state. She was, however, not under natural conditions as there were several disturbances throughout the period. What might have been her condition, had she remained undisturbed, I am unable to say.



From a photo of Mr. Yeager's cubs

March, 1931

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Madison Museum, located near where Mr. Cornelius Hedges suggested his unselfish park idea, stands as a fitting monument to these hardy expedition pioneers. Here one may see their pictures, together with numerous interesting historical objects. Of particular interest is a large transparency depicting the Washburn-Langford-Doane expedition in camp near this (Madison Museum) location.

It is altogether fitting and appropriate that during the coming season we honor our first Director of the National Park Service, Honorable Stephen T. Mather, (July 4, 1867-January 23, 1929) by the placing of a bronze tablet in Madison Museum. He was an outstanding conservationist and public welfare worker, for "He sought to give, that others might gain".

THE TREE THAT TRAPPED A BEAR

J. W. ("Trapper") Evans, Livingston, Montana

Would you believe that there is a tree in the Yellowstone National Park that can and really did trap a full-grown black bear! And what is more, securely held him fast, so that had not one of the park rangers heard the noise he made, in his desperate efforts to release himself, his luckless skeleton would have been all that remained to illustrate the strange and unusual manner of his death.

The tree that made the capture is still standing, and is located just below Mammoth Hot Springs, about five hundred yards from the first automobile camp ground in Yellowstone, enter-gate at Gardiner.

This incident happened June, 1918. Visitors every day to view the full Yellowstone Park. I myself, by attracted to a number well down hill in the seemingly much excited. ped on my shoulder and with them. This I soon ly across lots. I then the front ranks were. some carried ropes, couple carried ladders.

At first thought a fire, but I saw no ured they must be going to hang someone and I wasn't so far wrong at that. I had not gone far when above the noise of the excited mob I could hear distinctly, at regular intervals, a deep muffled sort of a roar which I knew came from a bear in distress or anger.

About this time the rangers came to a stop. I noticed them pointing upwards into a big fir tree and then I saw the object that caused all the excitement.

On a limb about fifteen feet above the ground stood a black bear, and while I could see his body distinctly, I could not make out his head no mat-



happened early in were arriving ev- wonders of beauti- In fact, I was a vis- tentation was first of people running pol- same direction and I had my kodak strap- fastened to catch up did by cutting direc- noticed that those in uniformed park ranger- other had axes and a

I felt sure it must smoke. Then I fig-

ter from what angle I looked. This is what had happened. The trunk of the old fir tree was hollow and had an oval-shaped hole into which "Bruin", in search of food or through curiosity, had thrust his head and could not pull it out because the edges of the bark curled inwards. No matter what he could not release himself. He would brace backwards and struggle; sometimes his back would be towards the tree and often he would slip off the limb and hanging straight down would let out a most uncertain roar. Regaining his perch he would rest a few moments and again would go through the same performance, the back of his head and jaws wedged tightly in the hole. If left to himself he would, of course, have died a miserable death. But no animal is allowed to suffer in the Yellowstone Park if it can be helped. So the rangers set about to free him if possible. Placing the ladders erect against the tree, they first of all put a rope on one of his hind legs and anchored the rope to a nearby sapling. Then, climbing directly above him and carefully wielding the axes, chip by chip the hole was enlarged. "Bruin" still pulled backwards with all his strength, and when suddenly released he lost his balance and fell with a thud to the ground below.

For a few minutes he sat erect on his haunches with his back against the tree and surveyed the crowd, seemingly dazed and bewildered--a very surprised and dejected looking animal. Someone threw a rock in his general direction, to frighten him, other/yelled and the last I saw of that bear he resembled a black streak as he hastened towards the wilderness of peace and quietude of his Yellowstone refuge.

YELLOWSTONE GAME CENSUS (concluded from previous issue) George F. Baggeley, Chief Ranger

One naturally asks, is it possible to get an accurate count of all the game animals in the park? At certain times during the winter all of the larger animals are congregated in comparatively few areas. During these periods a fairly accurate count is possible. Of course, there are always a few isolated areas that cannot be seen, hence a few game animals are sure to be overlooked. The number of animals on such areas are estimated and added to the actual counts made. These estimates are made by men who are thoroughly familiar with the country and the range conditions at the time. In counting elk in Yellowstone it has been our practice to add ten percent to the actual count--we have found this to be the most accurate method.

The use of airplanes for the purpose of taking game census is still experimental. Aerial photographs can be made of large bands of game or whole sections of country and the game counted in the photographs, or the country can be scouted and counts made of the isolated lands which would otherwise be overlooked entirely. In my opinion, the airplane will soon come into general use for scouting the more remote game ranges and will be a very material help in getting an accurate census of our large game herds.

In Yellowstone two or three counts are made during the winter and the best count taken for the year's census.

In general, the same methods can be used for all of the different game animals. In Yellowstone we have elk, moose, antelope, mountain sheep, deer, buffalo and bear. Elk, antelope, buffalo and deer are comparatively easy to count, but moose and mountain sheep are more difficult. In fact it is impractical to attempt a census of moose since they are so widely scattered.

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The selection of days most favorable for taking game counts is based on a study of the weather records correlated with the current local weather forecasts.

This year counts are being made in January, February and March. The next issue of Nature Notes will carry a complete report of our game counts together with the latest census.

NOTES ON WINTER OBSERVATIONS OF BEARS AT
C. D. SMITH'S STATION

Curtis K. Skinner, Park Ranger

Hibernation Date-During early November a few bears were seen daily prowling about the buildings at Old Faithful. They were engaged, apparently, in selecting their winter homes, as several which were easily identified were constantly observed coming from underneath and returning to certain buildings.

The last bears seen by me before their period of winter hibernation were observed on the afternoon of November 9 near the Old Faithful cafeteria. A black one and a brown one were seen at that time. Two inches of snow fell on the night of November 9 and two more the following day. A few bear tracks were noted on November 10. Because of my absence from Old Faithful from November 11 to December 25, I was unable to determine just when the last of the bears went into hibernation; but both Barnard and Funk, winterkeepers at Old Faithful, state that some of the animals were seen prowling about until near the middle of the month.



Birth of Cubs-While shoveling snow from the roof of the Haynes building with Ranger Bicknell on February 9, we heard the crying of cubs beneath the floor of the front room. We also

heard what appeared to be a brief fight between two adult bears beneath the floor. Because of other pressing work and reluctance to cut a way through the

floor of the Haynes building, an investigation of these

bears was not undertaken until February 15. On this date, Assistant Chief Ranger Lathrop, Francis Watson, Clifford Bretwell

and I observed a brown or black bear (probably brown) beneath the floor of the east wing of the building. This animal had no cubs, was lying belly down, back erect, in a slightly dug-out hole beneath the sills. The animal, although decidedly lethargic, was alert and would lick his jaws with his long tongue and move his head from side to side when a flash-light was turned toward him. He moved his position during the observation, selecting another nest twelve to fifteen feet from the position of the former one. This bear was observed again on the following day (February 16) and the crying of cubs was heard beneath the floor of the front room.

After receiving permission to cut a hole through the floor of the Haynes building, Clifford Bretwell and I (on February 19) located a mother bear with two black cubs, but we were unable to secure them for weighing and mea-

surging because the mother moved them away from the opening cut in the floor. On the morning of February 23, another attempt to secure the cubs was made by Barnard, Funk, Bretwell and me, this time the effort being successful. The cubs were snared with a heavy wire and drawn through the opening with no opposition from the mother. The little animals, a male and a female, were just beginning to open their eyes, and were apparently six weeks old. Their weight and measurements were taken as follows: male--three pounds, five ounces; length of nose to tip of tail, 13 inches; girth around chest, 11 inches; length of rear of front foot-pad, 1 1/2 inches; length from tip of nose to tip of tail, 13 inches; girth around chest, 11 inches; length of rear of front foot-pad, 1 1/2 inches; length from tip of nose to tip of tail, 13 inches; girth around chest, 11 inches; length of rear of front foot-pad, 1 1/2 inches.



The cubs were photographed in various positions and returned to the nest while the mother made her presence known with numerous grunts and growls. In the evening food was placed beneath the floor and whether it is taken or not will be noted. (Note: They ate the meat.)

Further Observations--As there are a number of places beneath Old Faithful buildings where bears are believed to be in winter hibernation, further attempts will be made to reach them and study their late-winter life. Those already located will be observed at frequent intervals.

EMERALD SPRING AT MORRIS GLYSER BASIN

Norman W. Scherer, Acting Park Naturalist

The erratic geyser activity of this spring has been previously reported. Its change from a quiet, deep green-colored spring to geyser eruptions has been remarkable, and the eruptions have been occurring constantly since this change was first observed last fall. I wish to record further observations of Emerald Spring made by Ranger Curtis Skinner on February 3. At 11:25 a.m. erupted 20 to 30 feet high, played for four minutes; at 12:25 p.m. erupted 20 to 30 feet high, played for four minutes; at 1:25 p.m. erupted a maximum of 40 feet, played for 6 minutes; at 2:25 p.m. erupted 30 feet high, played continuously for forty-five minutes, and still playing when observations ceased. Each time the spring would drain to 10 to 12 feet below the surface after erupting--color of water, muddy.

During the first, second and third eruptions observed, there was considerable run-off; during the fourth eruption there was no run-off.

Compare the activity of the above observation with the following one made by Alfred J. Read on February 21. The funnel cavity was filled with water, boiling vigorously from the three vents previously reported; erupted five to six feet high for three to five minutes at intervals of about one hour; water color, grayish-green.

What do you suppose the next report about Emerald Spring will be?

More About Baby Bears

--Dorr G. Yeager, Park Naturalist.

In the March issue of Nature Notes Rangers LaNoue and Barrows wrote an article, "There are Bears and Bears" in which they told the story of the discovery of two bear cubs at Old Faithful. This is a continuation of that story, and, no doubt, there will be more to come in subsequent issues.

When Ranger Hanks and I arrived at Old Faithful on our recent ski trip around the park we found a very contented family of bears just as described by Mr. LaNoue and Mr. Barrows. When we departed from that point two days later the family was not complete for we had one of the cubs snugly tucked away in the pocket of my parka. The purpose of the kidnapping episode was to study a baby bear and to "see how it works". The first observation which we made was that a month-old cub has an exceptionally husky pair of lungs and uses them. The little fellow slept and howled alternately for the remainder of the 100 miles to headquarters. Unfortunately, no nipple was at hand, so we improvised one using the rubber from an old eye dropper. This worked very well and the baby thrived on condensed milk diluted and sweetened. Of course, the milk had to be warmed and numerous fires were built along the trail for this purpose, not to mention many arisings in cold snowshoe cabins at three a.m. for the early morning feeding. At last, however, we arrived at headquarters with our cargo of bear. He seemed none the worse for the experience through which he had passed during that week, and had, to my surprise, actually gained in weight.

When he left Old Faithful, the baby weighed three pounds, his eyes were not yet opened, and his hair was thin. One eye opened on February 25 and the other the following day. This was approximately 36 days after he was born. The first indication of cutting teeth was at 41 days.

Once safely housed in a warm box and with regular feedings with a lambing nipple Barney, as we had named him, ceased his wailings and became a firm advocate of civilization. As soon as he reached headquarters we began feeding him fresh milk which he relished even more than the canned variety, gulping it down with a contented purring sound. The feedings have gradually increased from two ounces four times a day to four ounces.

At the present time (April 1st) Barney tips the scales at nearly six pounds. His latest accomplishment is learning to run. Ever since he was 7 weeks old he has been able to travel across the floor without toppling over, but within the last few days he has discovered that this speed can be increased and now he goes everywhere on the run. His playful qualities are presenting themselves and increasing rapidly. He delights in turning acrobat on the rungs of chairs. Over and under and around he goes, until one feels that he must surely choke himself. A few days ago his explorations nearly ended in tragedy when his head became lodged in the "U" shaped trap under the kitchen sink. I heard a wail and found Barney standing like a cow in a stanchion, twisting and squirming in an attempt to escape from this new discovery.



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HIBERNATION OF BEARS

--Ted Ogston, Asst. Chief Ranger

After expedient thought on this subject, I will endeavor to give fitting reasons which may prove to the reader why some bears come out of hibernation earlier than others.

Located at Old Faithful, Lake, Canyon, Tower Falls and Mammoth are many public utility buildings. Most of these buildings are adaptable for bears to hibernate underneath; that is, these buildings are log structures with a wooden door for the purpose of entry underneath the building to open and close the plumbing attachments, to work upon electrical equipment or for other minor purposes. These doors are left open in the fall through carelessness or by winter keepers who would rather see the bears go into such places to hibernate than to be bothered with them around their quarters. At other buildings that do not have such means of entrance, one is apt to see, under the building frame, a hole which has been dug by a bear who has chosen this place as a means of quick hibernation.

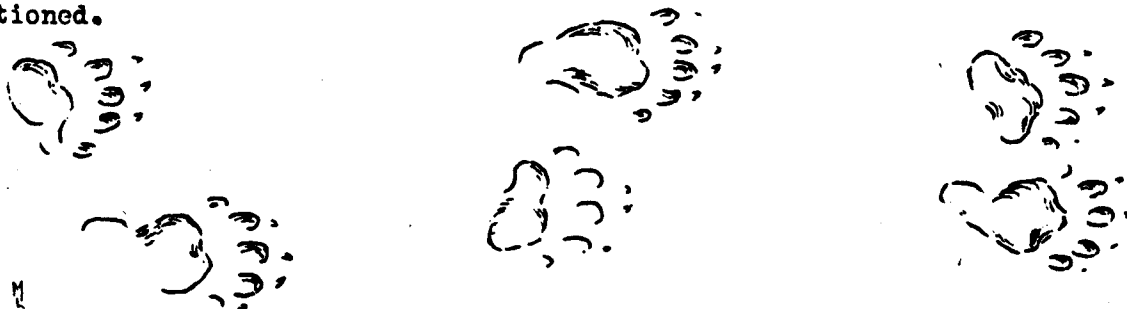
These bears that hibernate underneath such buildings are to be seen late in the fall about the last debris left on the incinerator grounds by late crews or left there by the winter keepers or the rangers who then start their own messes for the winter. The bears stay as late as possible eating from such refuse piles.

When the weather becomes more severe in the fall, the bears leave the refuse piles and have only from one hundred to two hundred yards to go before they enter their winter abodes. By this time, however, bears that have to depend on mountains for their place of hibernation have gone in long before.

During the winter months if one places food at the entrance of the den, whether it be the door or the hole dug by the bear, Bruin will not hesitate to clean it up. One can see where he come to the entrance of such places and eats a little snow which serves as a source of water.

After our early spring thaw, these bears smell the debris left from the refuse piles of the winter keepers and rangers, and it does not take long for a path to be worn through the snow from their sleeping quarters to the newly-discovered feeding ground.

No matter where one goes at that time of year one never sees a bear track in his travels, unless it be near such conditions as have been mentioned.



LEAVES FROM OUR DIARIES



One of the most startling observations of the month was a flock of forty-five American Avocets which were seen on a small pond four miles from Tower Falls Ranger Station by Mrs. Arnold. They were found on the 5th of May and were quite probably transients.

.....

After a period of uniform activity Old Angel Terrace has burst forth with a violence never before recorded for the spring. At the present time it is one of the most beautiful sights on the entire Mammoth Formations.

.....

The ever-observant Arnolds at Tower Falls Ranger Station report that a pair of Trumpeter Swans have recently taken up their abode on a small pond at the foot of Crescent Hill.

.....

Yellowstone experienced a return of winter on May 7th. 4.9 inches of snow fell during the day and had it not been for the fact that a hundred laborers shivered at the entrance to the mess shack an onlooker might have thought that it was January in the park.

.....

"Peg" Arnold reports Pasque Flowers, Shooting Stars, Yellow Bells, Gooseberries and Violets (blue and yellow) in bloom during the first week of May.

.....

Mrs. Ruth Holman has a new pet in the form of a baby snowshoe rabbit. As a rule wild rabbits are difficult to raise but this little fellow seems to be thriving on its daily allotment of fresh milk. He is sufficiently small so that he can repose easily in a teacup and Mrs. Holman informs us that when she goes to work in the morning he is placed in his cup and remains there until she returns at noon.

.....

Bears have become so troublesome in the vicinity of headquarters that it has been necessary to bring the big cage-trap into play. Several have been captured, daubed with white paint in order to mark them, and transported to other sections of the park where, the housewives of Mammoth are ardently praying, they will remain.



THE OMNIVOROUS ELK

--Albert Elliott, Park Ranger

Man's influence upon the wild animals of Yellowstone Park has caused them to alter many of their natural habits to some extent, and probably one of the greatest changes may be noted in their feeding habits and conditions. The elk, for example, is naturally an herbivorous animal, but in the case that I am about to describe I have seen at least one of this species turn omnivorous.

During the month of April, 1930, I was stationed at Tower Falls and I became particularly interested in a rather decrepit and aged cow elk which continually haunted the barn and the garbage pile. Every morning and evening about meal time she would take her position near the back door of the station and no kind of refuse went out there that she didn't sample it. She was particularly fond of fried eggs, sour-dough hotcakes and bacon. One day I found it necessary to throw away a ham that had partly spoiled. After first cutting it in half, I threw it on the garbage pile and an hour or two later I noticed the elk placidly chewing on a piece of it that she had apparently bitten off. It was with particular interest that I watched her strip off the next piece of meat. She would chew on a piece of the ham until she had a strip of the meat well started and then by placing one forefoot on the ham and grasping the strip in her teeth she would tear it off and slowly chew it up. It took her just one day to clean that ham down to the bone. She was also fond of fruit and vegetable juices and would spend considerable time in licking out freshly emptied cans. She would also eat orange peelings, potatoes, raw or cooked, carrots and other vegetables but she completely balked at raw onions.

On February 27, I again visited Tower Falls, and there I saw this same venerable cow elk, this time eating hay which had been put out for her. I wonder if she enjoys it as much as she did the ham and eggs!

HAPPENINGS OF BARNEY

--Dorr G. Yeager, Assistant Park
Naturalist

So much interest has been shown in "Barney" that we have decided to keep our readers informed as to his progress.

At the present time he tips the scales at eleven pounds. He has been taking semi-solid food, Cream of Wheat in fact, for the past two weeks and relishes his change in rations. Occasionally he will gnaw viciously on a slice of bread and I hope that before long he will forsake his bottle for a more grown-up method of taking on nourishment.

A few evenings ago we returned home to find Barney out of his box. It was evident that he had spent an evening in the delightful occupation of wrecking the place. Chairs were overturned, towels pulled down, books out of the cases but only one dish broken. We found him peacefully sleeping in the middle of the bed.

On another occasion my wife was brought hurrying to the back porch by wailing cries only to find the bear sitting uncomfortably on a cake of ice.

1931

A SHOCKING STORY

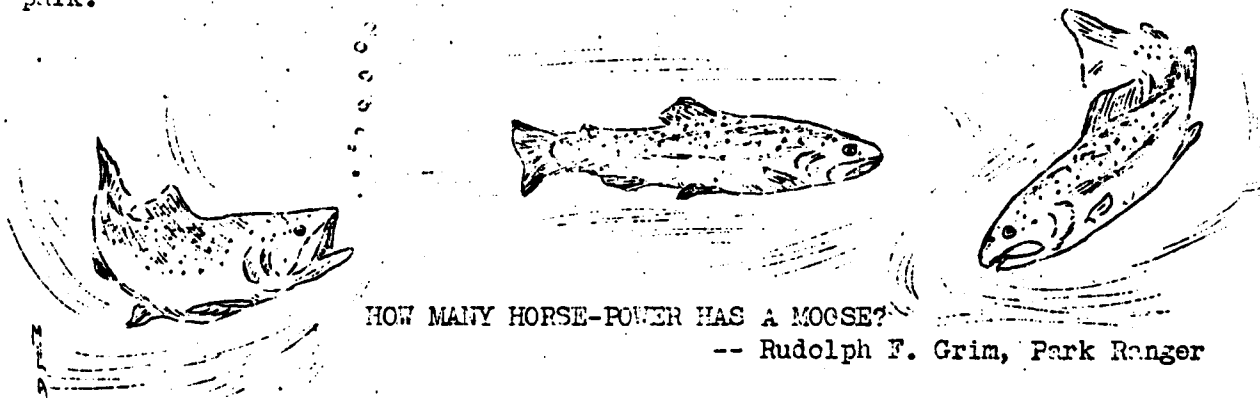
-- Alfred H. Povah,
Park Naturalist

June, 1931

The men from the Fish Hatchery had made all preparations for a record haul of eggs. The traps were placed in the most advantageous spots in a number of creeks and all that remained was to await the run of the trout. In Big Thumb Creek, where a good catch was usually made, although the creek showed many fish on their way to the spawning ground, the trap was empty. A few eggs scattered along the creek bottom just below the trap told the story--bears.

A bear may be cunning but two can play at any game. A means must be devised to save the fish and thus assure a plentiful supply of eggs. The trap was enclosed in a fence of wire screening about three feet high. Inside this and about one inch distant was strung a single strand of heavy, copper wire. This was connected with two large storage batteries, hidden in a box near by, in such a way that when the wire screening was pushed against the copper wire an electric contact was made. The fact that the animal, in reaching the trap, had to stand in water assured an outlet for the electric current through the animal.

No witnesses were present to record the astonishment of the first fish-hungry bear but the success of this method of protecting the spawning trout was shown by the fact that the week after the electric shock-dealing apparatus was installed the trap was full of fish when the men from the hatchery came to collect the eggs. In fact, I have even heard the use of a similar silent guard suggested for the garbage pails in the park.



I was riding up the Bechler Canyon Trail, preceded by a young dog, when my attention was attracted by the jumping of the puppy. The dog was hidden from my view by a sharp turn in the trail but in a moment he came around the curve, jumping and running as fast as he could and stood under the horse without paying any attention to me. At that instant I arrived at the turn of the road and before I had time to think some dark object, which I afterwards identified as a moose, ran squarely into my horse, upsetting it and me on the two foot high bank of the grade. The moose, which had not lost her footing, hesitated only a second then immediately took up her pursuit of the dog which was well out of sight by now.-----A few rods up the trail I saw a moose calf. The dog had evidently attacked this baby moose and thus aroused the ire of the mother.



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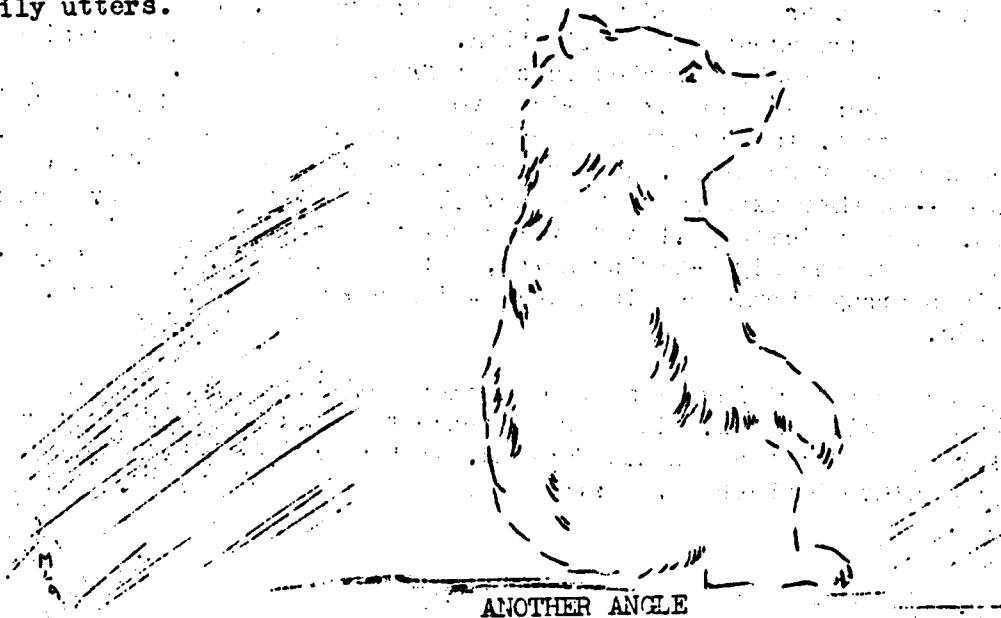
1931

BARNEY

-- Dorr G. Yeager,
Assistant Park Naturalist

I never realized how rapidly a bear grows until I tried to keep one in the kitchen. The beginning of May found Barney snugly housed in a box beside the stove. The tenth of the month found his box moved to the back porch and the twentieth found him residing in a cage outside the house. Now he has moved again and occupies a private room in the Museum Workshop. It seems that he always has some fault to find with his new quarters and a plausible excuse for being moved.

He disliked the box because it was too small and the cage because it was too cold. He had, moreover, a horror of the rats that infested the barnyard when no one was about. Now he is trying to find an excuse for being moved again, but I fear that he is doomed to disappointment, for his present quarters are warm and dry and present no cause for the complaints he daily utters.



Mr. Dorr Yeager:

Speaking of Barney, the pet bear cub, it seems to me that something was left out of the last issue of "Nature Notes" that might prove of value to the public in general while touring the Park. As I recall the article, Barney is now on a semi-solid diet. The author of the article expressed the hope that he would soon be leaving the bottle and taking solid food entirely. I remember, however, that he has retained the somewhat carnivorous propensities of his ancestors since I have treated "one nice little bear bite" to the sorrow of the writer of the above-mentioned article and to date I have heard of at least two others who have been bitten by Barney. This, in my estimation, rather carries out the belief that I have always held: that the bear is not as yet a domestic pet and that although "housebroke" from even before the time his eyes were open, it is not yet quite safe to consider the bear as completely tame.

F. L. Cailnard, M.D. P.H.S.

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Department of the Interior
National Park Service
Yellowstone National Park,
Yellowstone Park, Wyoming.

July, 1931

Vol. VIII, No. 7

YELLOWSTONE NATURE NOTES

This is one of a series of bulletins issued monthly for the information of those interested in the natural history and scientific features of Yellowstone National Park and the unmatched educational opportunities offered by this region. PUBLICATIONS USING THESE NOTES PLEASE GIVE CREDIT TO "NATURE NOTES FROM YELLOWSTONE PARK" AND AUTHOR.

Roger W. Toll
Superintendent

Marguerite L. Arnold
Illustrator

Dr. Alfred H. Povah
Park Naturalist

GOOD BYE AND GOOD LUCK

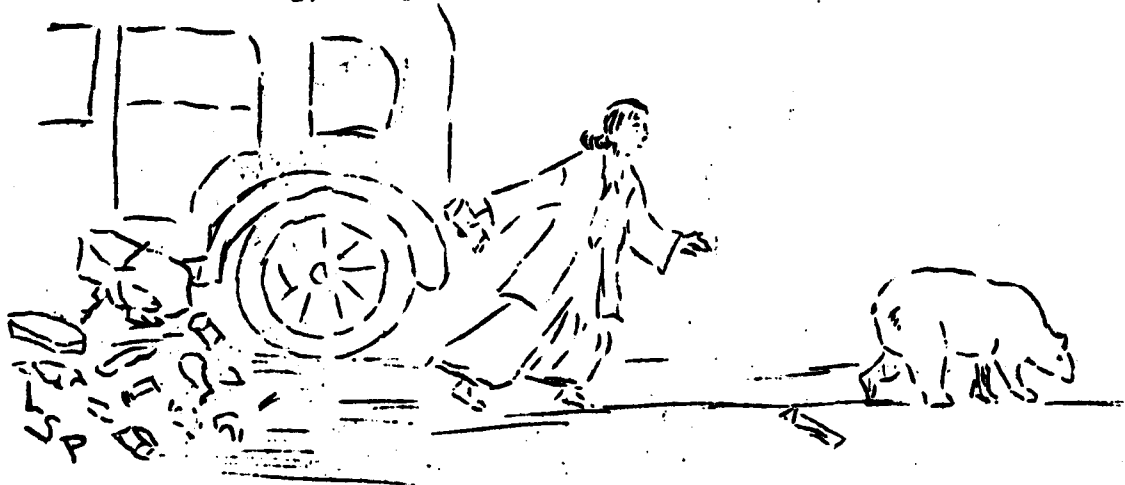
—Alfred H. Povah, Park Naturalist

It is almost a month since we here at Mammoth bade farewell to our friend and co-worker, Dorr G. Yeager, who left on June 19th to take charge of the Educational work at Rocky Mountain National Park. Dorr, as his friends here called him, began his work in the national parks in 1921 at Canyon in Yellowstone where he was a "savage" that summer and the following one. In 1925 and 1926 he served as ranger naturalist in Yellowstone and the following year in the same capacity at Yosemite. In 1928 he returned to Yellowstone as Park Naturalist, a position he held until this year. Since his departure we have received at our museums at Mammoth and Old Faithful copies of his book "Our Wilderness Friends" for sale at \$1.25. Those of you who have enjoyed his crisp original style will want a copy of this interesting animal book. Lest any of our readers wonder why the Barney Bear stories are not continued, suffice it to say that just before he left Mr. Yeager sent Barney to Mr. Sam Woodring at Grand Teton Park where we hear he is demanding personal attention to a degree equal to his propensities exhibited here.

BEARS THAT PASS IN THE NIGHT

—Philip H. Pope, Ranger Naturalist

Bears that pass in the night and raid our luggage in passing:
Only a garbage can upturned in the silvery moonlight,
Only a canvas pack torn open and everything scattered,
Only an irate maid, pursuing with firewood weapons
The vanishing, dusky form of the meddlesome, midnight marauder.





LEAVES FROM OUR DIARIES

Vol. 1

Half way down Uncle Tom's Trail at Canyon, the flowering plants are very scarce. From the half way point to the bottom of the trail evergreens predominate. It is interesting to note, however, the group of monkey flowers which grow in the warm, moist spray of the hot springs at the base of the trail. They cling to the face of the rock in a manner becoming to the lodgepole pine. Spray from the hot springs keeps the glossy leaves moist and gives them a glazed appearance. When hikers have absorbed as much of the grandeur of the canyon as they can in one visit, they like to turn from the massive beauty to the smaller and more comprehensible beauty of the monkey flower. - - - - Ranger Naturalist D. C. Smiley

About ten o'clock in the evening on August 14 a large, black bear loafed across the parade ground behind the tennis court at Mammoth to a sprinkler watering the grass. He paused to take a shower which he did by sitting on top of the sprinkler and thereby shutting off all flow of water. A few moments of this satisfied him and then he shuffled off into the night. - - - - Ranger Naturalist Isacksen.

Behind the Norris Museum there exists a short but very intriguing path that visits some of the less frequent geysers and pools of the basin and returns to the road below the museum. As this trail was laid out by the originator of the Nature Trail idea, Ir. Lutz and his helper, David Rockefeller, it is of especial interest.

This year, at the suggestion of Dr. H. C. Bumpus, the trail has been cleared and picturesquely marked by interlocking root stumps of Lodgepole pine. Some day it is hoped to have attractive gateways at both ends. - - - - Ranger Naturalist Brooks.

Up on the self-guiding Nature Trail at Mammoth, near the little booth where visitors are asked to write their names is another sort of register. A small Douglas Fir shows new scars on its bark at about five or six feet above the ground. Pieces of bark have been bitten out at these points and tooth marks show on the exposed wood. Lower down on the trunk are older scars and bear fur is sticking in the pitch that has exuded. The scars look very different from those left by the blunt teeth of the elk and are evidently the marks left by a black bear to tell others of his kind who has been along the trail.

That there are still a few mountain lions in the Park is shown by the finding of tracks on the shore of the old, deserted beaver pond at the head of Clematis Creek on Sepulcher Mountain. The big cat probably came to the pond to drink, as the tracks which measured nearly four inches across showed that it had walked along the muddy shore for a few yards. When seen on August 8 the tracks were probably not more than a day or two old. - - - - Ranger Naturalist P. H. Pope.



the chimney presented the only entrance to this marten. Evidently by coming down the pipe and lifting a lid on the stove he found things much to his liking for without a doubt he remained within the station some time. Systematic labor over a period of several days would have been necessary to create such a general disorder. I believe he chose an exit also by the way of the stove pipe, but with great difficulty; sections of pipe were strewn from one end of the room to the other.

BEARS AND BARBERS

Frank W. Childs - Park Ranger



Bears are dangerous animals! When the situation becomes so serious that a person is not safe from Yellowstone Park bear even in a barber shop - something should be done about the matter. At least that was the idea uppermost in my mind the morning I stepped into the barber shop at the back of the Old Faithful Inn.

I had just returned from a siege of fire fighting and thought I was entitled to a very much needed shave and haircut.

A glance at the empty chair told me I was "next", but when a second glance revealed spots of blood on the floor and the hotel nurse just finishing bandaging what appeared to be a severely cut finger, I did not know if I wanted to be "next".

Conversation being necessary, "Did you cut yourself?" was the most foolish question I could think of!

"Nawh", growled the barber, "A bear did it."

"Yeah?" I asked.

The finger was beginning to feel better by that time or at least the barber appeared to be in better spirits.

"You see I was stropping my razor and watching some of the kitchen help feed that bear out there. Well, one of them almost got bitten. I got so excited that I let my razor slip and I cut the end of my thumb off."

The barber was ready for work again and I settled myself into the barber chair.

"Shave?", asked the barber, nervously fingering his razor while his eyes followed the bear as it paced back and forth in front of the door begging for food.

"No", I replied, "Just a hair cut, and I never shave my neck."

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April-May, 1932

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The Clarke's Nutcracker is the largest of the three birds. He has a powerful beak, is quick in action and fears none of the other birds. When food is placed for the Camp Robber you will find the Clarke's Nutcracker swooping down and taking charge. The Camp Robber gets only what is left. The Nutcracker is always watching to ascertain the location of the food and he thinks no more of taking it than does the Black-headed Jay.

One will find the nutcracker and the Black-headed Jay quarreling but one never sees the Camp Robber other than contented for he is the congenial host of our resident birds, always sharing his meal with others, always kind even to his enemies.

THE GAME COUNT

(conclusion)

-- George A. Baggley,
Chief Ranger

April 20 marked the completion of the animal game counts in Yellowstone National Park. The first count of elk was held on January 21 and 22. A count of antelope and deer was secured on April 12. A second elk count was accomplished on April 19 and 20 with very gratifying results.

Two or three game counts have been taken each winter for the past two or three years. This, we have found, gives a far more accurate census of wild animals than could be obtained with one attempt. One of the objects in making two or three counts is to secure mid-winter observations on the movements and activities of the wild life which are otherwise not attainable.

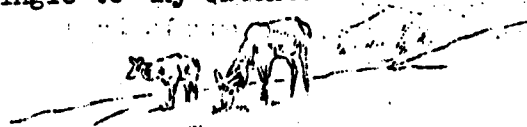
The following figures show the herd totals for the different game animals of the park:

Elk (Northern Herd)	10,624	Deer	885
Elk (Gallatin Herd)	2,499	Antelope	668
Buffalo	1,016	Bear (Grizzly)	180
Moose	700	Bear (Black and Brown)	500

In quoting the number of game animals in the Yellowstone National Park, the above figures are considered official. The figure given for buffalo does not include 4 new buffalo calves which came on April 15.

The Northern Herd of elk comprises those animals which summer in the park and winter in the vicinity of Mammoth and Gardiner.

The Gallatin herd spends a portion of the summer in the park and part on the Gallatin National Forest. They winter along the northern boundary of the park on the Gallatin watershed. The Northern and Gallatin elk herds do not intermingle to any extent.



CUB-AGE AT OLD FAITHFUL

Curtis K. Skinner

Since the issue of "Nature Notes" for March, containing an account of Gruff and Gruffey (they have been named), the two bear cubs at Old Faithful the little black rascals have grown considerably and developed dispositions.

Immediately after these little cubs were snared from the den on February 23, for weighing and measuring, their mother decided that the old home was unsafe for her children; so promptly moved them to another improvised nest at the south end of the building. However, by March 21 the little fellows had developed the crawling habit and Gruff, the female, chanced to get back in the old nest where she was snared without difficulty.

Gruff was carried over to the hotel and placed on the scales. She weighed just 5 lbs.; or a gain of 1 lb., 8 oz., since February 23. Her eyes, which were just beginning to open on February 23, were completely opened; but she had a decided aversion to sunlight. She resented any abrupt movement about her and would hiss when frightened. Measurements were taken as follows: Length, 19 inches (gain of 6 inches); girth, 13 $\frac{1}{2}$ inches (gain of 2 $\frac{1}{2}$ inches); length rear footpad, 2-3/4 inches (gain of 1/4 inch); length front footpad, 1-3/4 inches (gain of 1/4 inch); length of head - ears to nose, 5 inches; and girth of neck, 9 inches. She had a number of teeth, although a close examination was not made. She was heavily furred, with hair an inch in length, and her condition was fair though not fat.

Gruffey was more elusive, but on the following day, March 22, he wandered into the old nest and I snared him with a heavy wire. Gruffey proved decidedly ill-tempered and hissed and growled at trapline and scales, which he regarded as confounded contraptions for a little bear. The following data was gained against his will: Weight 5 lbs., 8 oz. (gain of 2 lbs., 3 oz. since February 23); length, 19 inches (gain of 6 inches); girth, 14 inches (gain of 3 inches); length rear footpad, 2-3/4 inches (gain of 1/4 inch); length of front footpad, 1-3/4 inches (gain of 1/4 inch); length of head - ears to nose, 5 inches; girth of neck, 9 inches; eyes, completely opened but sensitive to sunlight; teeth, canines on both upper and lower jaws well developed, incisors appearing on both jaws - those on lower jaw showing greater development than on upper; fur, well furred out, about one inch in length; condition, fair, not fat but apparently in better condition than female cub; locomotion, could crawl about readily but did not have full use of legs to support or carry his weight, experienced difficulty in getting to feet when placed on back or side; fighting attitude, showed slight defensive attitude when teased or frightened, hissed and growled; when placed in nest, mother called to him in low grunting tones and finally approached to nose him over and lick his head.

If the manner in which Gruff and Gruffey busy themselves in exploration beneath the Haynes store building may be taken as an indication of their burning desire to roam, they would like to venture forth at once into the outside world. But the mother knows that snow still lies deep without and she isn't taking any chances against bear pneumonia.



LEAVES FROM OUR DIARIES

Nov. 8--A lone seagull was observed today near the big bend above the Yellowstone River bridge near Tower Falls. Rather late for seagulls to be in the park. E.L.A.

Nov. 25--This morning I was attracted by the antics of a flying squirrel who was evidently searching for oats near the stable. After scampering up one tree twenty or thirty feet and volplaning to another and making three or four jumps of six to ten feet, he took off to a distance of approximately forty feet where he alighted. He then ran off into the woods. E.L.A.

Nov. 30--Sometimes food becomes a burden to a bird as well as to man. This afternoon I found a pigmy owl apparently unable to fly. Upon investigation I found that he had a mole caught in his claws and was unable either to extricate the mole or rise with his burden into the air. E.L.A.

Dec. 6--At least three bears are hibernating in the vicinity of Mammoth. A mother and her last year's cub are snugly located in a cavity in the Hoodoos not over fifteen feet from the main highway. At least one bear is again occupying the Bear's Den on the Mammoth Nature Trail. H.A.B.

Dec. 14--Yellowstone is no longer basking in the sunshine of an Indian summer. For over a week the mercury has remained below the zero mark. The coldest here at Mammoth was 30° below zero, but other sections of the park were as low as 44° below zero. These colder sections are locally known by the rangers stationed there as "banana belts". H.A.B.

Dec. 2--Bears at Old Faithful have again chosen buildings under which to spend the long winter. Ranger Aiton will make observations from time to time throughout their hibernation period. He observed one of them in his den today and found that he is still awake.

One of the winter duties of the rangers is to make observations of animals and birds. The following notes have recently been made:

Dec. 8--40 swan on the Lake outlet and 12 at West Thumb

Dec. 3--40 mountain sheep on Mt. Everts; were quite tame and in good condition. A number have been seen on the Gardiner road along the canyon.

Nov. 4--30 moose in the Upper Yellowstone Valley. This is the largest number seen at one time up to date.

Nov. 24--3 bald eagles near National Park Mountain. Both bald and golden eagles have been reported several times this fall.

PATROL'S END.



A SODA BATH FOR FISH

By Ranger Guy E. McCarty

Last fall, when planting fry from the Soda Butte hatchery, I was using a truck on which the timer was causing considerable trouble. This happened on one occasion when it was loaded with about fifty thousand fry. After spending some time trying to adjust the difficulty, a passing truck towed it to Soda Butte Station.

By the time the station was reached the fish began to show signs of distress and many had turned over on their backs. To prevent a large loss it was necessary to remove them from the cans with the least possible delay. The only stream close at hand was the one which contained soda water from Soda Butte.

As soon as the fish were placed in this stream they made two or three short circles and then headed down stream and were soon in fresh water. The soda water evidently acted as a stimulant, as there were no losses.

SOME BEARS GET THEIR SHARE OF FISH

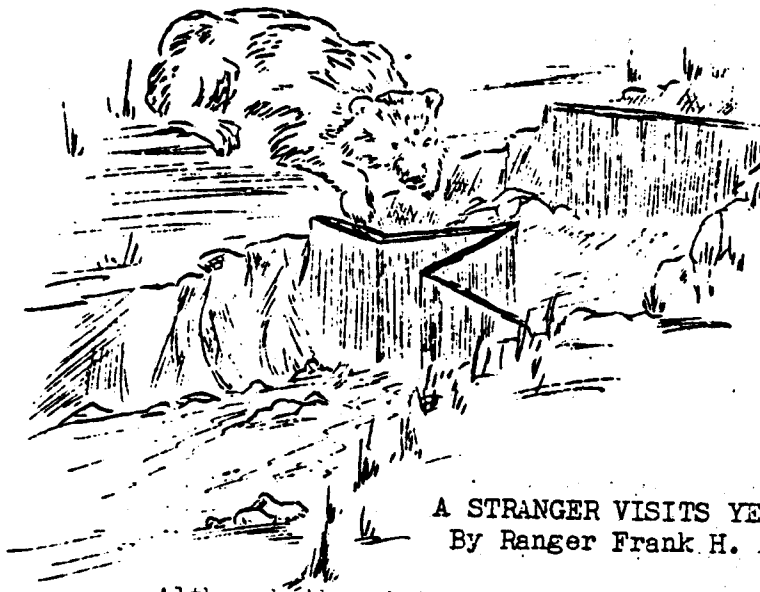
By Ranger-naturalist J. Thomas Stewart, Jr.

It is estimated that about eighty thousand cutthroat, or native trout, are taken from the waters of Yellowstone Lake and River every season by man. This trout was native to these waters when man first came to the park and today it is the only fish found in Yellowstone Lake in any quantity. The U. S. Bureau of Fisheries works constantly to insure a supply of cutthroat trout for this wonderful fishing area for it is certain that under the natural propagation alone the waters would be depleted. However, the men employed in this work of trapping the female fish and taking their eggs to be hatched in the hatchery have their troubles with the bears.

Bears are great consumers of fish when they can get them and the traps built by the hatchery men are often visited by hungry bears. On June 30 of last season the chief ranger and the writer found a bear enjoying a fine feast of fish from a trap in Bridge Bay. If there is a sufficient supply at hand the bear does not eat the heads of the fish but piles them neatly to one side. On one occasion fifty-two heads were found left by a bear after one meal.

Many methods have been tried to keep the bears from robbing the fish traps. One plan adopted was to drive long spikes through the trap to greet the sensitive nose of the snooping bear but Bruin quickly discovered that no spikes had been driven through the bottom of the traps so with his powerful forepaws he turned the trap over and entered from the other side, eating what he wanted and allowing the rest to escape. Another method in which man has matched his wits against the cleverness of a bear is to place some spark coils and batteries in such a manner as to connect them up with wires on the traps. For a time this seemed to keep the bears away but finally one, more persistent than the rest, discovered that the pain inflicted by the large batteries lasted for only a few minutes and that if this were endured he could obtain a delectable meal in a very short time. It seems that this





was discovered by other bears for it was not long until a large number were visiting the electrified traps. And so it seems that the ingenuity of man is often matched by the cleverness of the bears for they are persistent and will return again and again to a point where food is available and the problems of the hatchery people to keep the streams and lakes of Yellowstone Park supplied with trout are always changing.

A STRANGER VISITS YELLOWSTONE By Ranger Frank H. Anderson

Although the winter bird life has never been extensively studied in Yellowstone due to the difficulty of travel at that season, it is nevertheless an occasion of no little interest when one discovers a new bird for the Park.

On Christmas day, while skiing from Madison Junction to Norris, I observed in the Gibbon River, near the meadow of the same name, a duck which was to me a total stranger. As the bird was not over one hundred and fifty feet distant and quite fearless of my presence, I had an excellent opportunity to study it at leisure through my eight-power binoculars and obtain in my diary an accurate description. On my return several days later the duck was still there, quite alone as before, engaged in feeding on the vegetation or small animal life at the bottom of the stream. Altho I failed to check the time of its dives, I noted that they were of unusually long duration. Upon both occasions the bird uttered frequent rather loud but not unmusical notes.

After returning to Riverside Ranger Station and referring to Elliott Coues "Key to North American Birds", I found the duck to be a female Oldsquaw (*Clangula hyemalis*). Taverner and Florence Merriam Bailey describe the duck in less detail.

This is the first record of the species in the Yellowstone. The A.O.U. "Check List of North American Birds" describes its winter range as follows: "Winters on the Atlantic coast south to Chesapeake Bay and North Carolina (rarely Georgia and Florida), on the Pacific from the Aleutian Islands to Washington, less frequently to Southern California, and in the interior on the Great Lakes and irregularly elsewhere to Wisconsin, Nebraska, Colorado, and Texas."

Both sexes of this species show a remarkable seasonal change of coloration, the male, however, being distinguished in all plumages by long central tail feathers. Dark seal-brown and white constitute the color scheme, the seasonal variation showing in the predominance of dark or white.



LEAVES FROM OUR DIARIES

April 13. The first buffalo calf arrived today here at the Buffalo Ranch. J.D.

April 13. The first buttercups of the season were found in the Yellowstone Canyon. F.B.L.

May 8. A weasel visited my garbage pail on the back porch. His back was a "strawberry roan" color, but otherwise he was still snow-white except for the tip of his tail. F.C.

May 16. The first definite migration of the Gallatin elk herd towards the summer range was noticed. R.G.

May 20. A dead beaver, presumably killed by a grizzly, was found along the Gallatin River near Snowslide Creek. His jugular vein was severed and the neck badly bruised, but no open wounds could be found. R.G.

May 25. One death among the deer at Old Faithful occurred this evening, when a large roach-backed grizzly killed it. J.A.

May 30. Two pairs of sandhill cranes were seen near Madison Junction. G.F.B.

May 31. The first clematis was found in Clematis Gulch, Mammoth today. M.F.S.

June 1. Of the estimated 150 buffalo calves, 118 have already been seen. J.D.

June 2. We trapped a female grizzly at the Canyon today. Attempts are being made to capture her mate. If he is caught, an envious journey is in store for them for they will be shipped to the Chicago Zoological Park, Brookfield, Illinois, for the grand opening July 1. May they so conduct themselves as to reflect a true Yellowstone spirit. C.W.

June 5. At 8:00 a.m. a deer gave birth to twins near the Mammoth swimming pool. The mother has cleverly concealed them. The scrawny condition of the mother indicates a struggle with severe winter conditions. C.J.

June 8. Mother and fawns doing nicely. C. J.

June 8. Twin moose calves were seen near Canyon this evening. They were newly born and one could scarcely stand on his wobbly legs. P.S.

June 5. From the Buffalo Ranch comes the announcement of the arrival of the first antelope kid of the season. J. D.

June 23. On this morning a moose cow with a very small calf was seen crossing the grounds in front of the Mammoth museum. They did not hesitate until they found a place of safety on the high ridge back of the Mammoth Hotel. C.M.B.

COVER - ALPINE JACOBS LADDER - POLEMONIUM

FRONT PAGE - GLOBE FLOWER - TROLLIUS

PAGE 19 - ALPINE LUPINE AND FORGET-ME-NOT

Vol. 7

United States
Department of the Interior
Office of National Parks, Monuments, and Reservations
Yellowstone National Park
Yellowstone Park, Wyoming

YELLOWSTONE NATURE NOTES

Vol. X

September-October, 1933

Nos. 9 & 10

This is one of a series of bulletins issued monthly for the information of those interested in the natural history and scientific features of Yellowstone National Park and the unmatched educational opportunities offered by this region.. PUBLICATIONS USING THESE NOTES PLEASE GIVE CREDIT TO "YELLOWSTONE NATURE NOTES" AND AUTHOR.

Roger W. Toll
Superintendent

Marguerite L. Arnold
Illustrator

C. Max Bauer
Park Naturalist

Editor's Note: The following two articles list observations of bears made during the winters of '31-'32 and '32-'33 by rangers. These data should be valuable to any student of animal life. This year another series of observations will be made by District Ranger Frank W. Childs. Mr. Childs has made elaborate preparations for obtaining data by providing artificial dens so that bears can be observed in the winter. Respiration, heart beat, and body temperatures will be taken.

BEDROOM LIFE OF BEARS
By Ranger Curtis K. Skinner

It is a popular belief that bears pass into a deep sleep after hibernation and continue in this somnolent state until they emerge in the spring. An old trapper once told me that he stuck a hibernating bear with a pin to see if it was alive. "It was!", he said. Even those who pass for authorities on bear life frequently refer to the "deep sleeping" of bears in winter.

At various times during the winter of 1931-'32 I had the opportunity to look in upon four different dens, in the vicinity of Old Faithful, containing adult black bear (*Euarctos americanus*). I found none of them asleep, although they were decidedly lethargetic and reluctant to move their position even when molested. Bears which I observed in their winter dens favored one characteristic position. They were always found lying belly down in a slightly dug out hole banked with twigs and grass, awake and alert. When a flashlight was played in the face of one of these semi-dormant animals, he would usually move his head from side to side, lap his jaws with his tongue, and sometimes utter deep growls. In one case, the hibernating bear could be seen clearly beneath a building without the use of a flashlight and without any disturbance from the observer. I never found him asleep. He was always alert and conscious of what was going on about him. A few daily observations recorded in the log are given below as type cases.

Feb. 15--observed brown adult bear beneath Haynes store; dopy, lethargetic; would move head from side to side and lap lips with



tongue; moved distance of 15 feet after being repeatedly disturbed.
Feb. 16---observed brown adult bear beneath Haynes store; restless but immovable.

Feb. 23---mother black bear beneath Haynes store uttered few deep grunts and growls when cubs were snared from nest. Also observed lone adult brown bear beneath Haynes store; lying belly down in slightly dug out hole, back arched, awake, alert.

Feb. 26---black mother bear moved cubs 30 feet.

Mar. 3---located large brown bear beneath lodge kitchen floor; growled and charged when flashlight was thrown on him. (This bear has a summer reputation of being "cross")

Mar. 17---mother black bear and lone adult brown engaged in several noisy combats beneath Haynes store during observation. Also observed adult brown bear seen beneath hotel girls' dormitory; lethargetic, moved head from side to side.

Mar. 20---crawled under hotel girls' dormitory and observed adult brown bear in den; appeared shy and timid; moved beneath building when closely approached; appeared in good condition.

Several facts lead to the conclusion that bears experience no intestinal activity during hibernation. For two weeks preceding retirement in the late fall they seem chiefly engaged in clearing the intestinal tract. During this period they eat a considerable amount of grass and roots and have very little appetite for meat and other heavy foods taken ravenously in the summer months. Body excrements become conspicuous about the exterior of their selected winter den; but no trace is found in close proximity to the den itself. Of five dens observed throughout the winter, no excrement was found in them.

That bears in their winter status have no appetite for foods, is to be concluded from a number of experiments. Towards spring, however, they will eat a small amount of food if available. These facts will best be brought out by again referring to the log.

Feb. 23---placed chicken bones, fruitcake, and honey near bear den beneath Haynes store.

Feb. 24---food not taken beneath Haynes store.

Observations made on Feb. 26, 27, 29, Mar. 3 showed that food had not been touched.

Mar. 13---food eaten

Mar. 21---placed pineapple preserves and apple butter near same den.

Mar. 22---pineapple preserves and apple butter eaten by bears in this den.

The above observations also reveal that food was not taken immediately after being placed near den.

EMERGENCE. The first bear around Old Faithful to emerge from his winter home was an adult black animal which was seen near the hotel girls' dormitory on the evening of March 12. An adult brown bear left his den beneath the lodge kitchen on the night of March 17; coming out regularly every night thereafter. On the night of March 17 he dug several holes in the snow near



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the lodge and extricated a number of empty cans, including two tobacco tins. He also found an old beef bone and divested it of flesh and gristle. Thereafter he came regularly to the garbage dump near the ranger station, and on the night of March 21 carried a burlap sack containing two dead chickens from the garbage pile to his den at the lodge, a distance of 400 yards through the snow. Dumping the chickens out of the sack at the entrance to his winter home, he retired beneath the building with his dinner of fowl.

Two adult bears, wintering beneath the cafeteria, came out for the first time on the night of March 21. Upon first emerging, they rubbed and rolled extensively in the snow about the building; then prowled about for several hours digging here and there in the snow and seeking buried garbage piles. In following their trail, I observed that they stopped frequently to roll in the snow or to rub themselves against trees or snowbanks. The snow depth around the buildings at that time was forty inches, but it was crusted sufficiently to enable them to ramble about without sinking more than twelve to eighteen inches.

Temperature moderations over short periods of time apparently have little effect in inducing bears to emerge from hibernation; although it is likely that a prolonged warm mid-winter period might bring them outside for a few days. This conclusion is drawn from the fact that during the rather warm period from February 24 to March 4 (moderate weather with temperatures 12 to 30 degrees above zero during the nights; daytime temperatures as high as 54, and extensive thawing) no bears appeared. While the first animals seen came out in temperatures ranging from 10 to 38 degrees below zero at night, accompanied by cool to cold days.

These observations are a continuation of those published in Yellowstone Nature Notes in 1932.

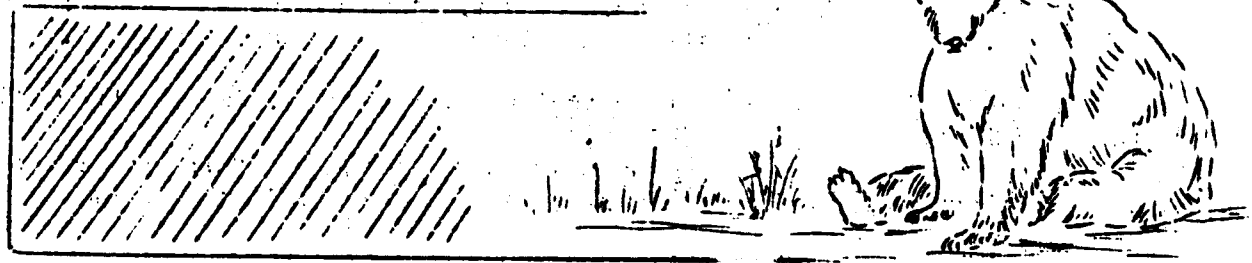
BEAR OBSERVATIONS By Ranger John F. Aiton

Two bears were under observation at Old Faithful during the winter of 1932-'33. These bears will be referred to in the following as Nos. 1 & 2.

The bears spent the latter part of October preparing their winter nests. The nests were very similar and were made of twigs, chips, small stones, grasses (roots and tops), pine cones, pine needles, rags, paper, and pine bark. A hollow was scooped out of the earth by the bear. The nest was made in this hollow with the sides built up about ten inches above the center. In each case the long way of the nest extended north and south.

After the nest was prepared the bears spent most of the days in the open, abstaining from food and clearing their alimentary canal. They appeared drowsy and exerted themselves very little during the period between the completion of their nests and the actual retiring to them for the winter.

The last time they were seen out was on November 28.



Bear #1 lent itself to ready observation as its nest was only some ten feet from a trap-door in the floor of the Old Faithful Lodge. The bear was a large mature, male, black bear, brown in color.

Bear #2 spent the winter under the Old Faithful Cafeteria. Observations were easily made until the first shoveling of snow became necessary shortly after the first of January. After the first removal of snow from the building some 6 to 12 feet of snow blocked the entrance to the nest for the remainder of the winter. The bear was a large mature, male, black bear, black in color.

Each bear was in practically total darkness all winter. The nests were built on cold ground. Snow piled high around three sides of bear #1 and some snow remained on the remaining side during the entire winter. Snow piled high all around the nest of bear #2. The thermometer went down to -60° F. at one time during the winter.

The following observations were made during the winter:

Bear #1

Date	Direction Headed	Awake or Asleep	Hour of Observation
12-2-32	south	drowsy	2:00 p.m.
12-11-32	"	more drowsy	10:00 a.m.
12-29-32	"	very drowsy	8:00 p.m.
1-6-33	"	a little wider awake	10:00 a.m.
1-22-33	north	drowsy	7:00 p.m.
1-29-33	south	very much awake	3:00 p.m.
2-9-33	north	" " "	9:00 a.m.
2-18-33	south	awake	9:00 a.m.
2-27-33	"	"	11:00 p.m.
3-1-33	north	"	3:00 p.m.
3-6-33	south	"	2:30 p.m.
3-7-33	"	"	7:00 a.m.
3-15-33	"	wide awake	9:00 a.m.
3-25-33	Bear came out of nest during the night, until May 13 when he started coming out during the day		

Bear #2

12-2-32	south	awake	1:30 p.m.
12-11-32	"	drowsy	9:00 a.m.
12-29-32	north	very drowsy	3:00 p.m.
1-6-33	south	not so drowsy	10:15 a.m.
1-22-33	"	awake	1:00 p.m.

Candy was placed by the nest of bear #1 at 2:30 p.m. on March 6. He was not observed eating this candy, however, it disappeared before 7:00 a.m. on March 7. It is probable that some other animal may have eaten it.

SUMMARY: 1. The bears were conscious at all times, during observations, of any activity going on about them.
2. The conditions mentioned above offer a fair comparison to the conditions under which other bears pass the winter in this section of the country.

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September-October 1933

A GRIZZLY DEN

By Ranger Naturalist Herbert T. Lystrup

On July 20 of this year District Ranger Childs, Ranger Dougherty, and I hiked to the top of the Madison Plateau, south of the Black Sand Basin to determine the feasibility of a temporary fire look-out station. While there we took occasion to visit a rock cave known to be a hibernating den of grizzlies in the winter.

After a difficult climb we came upon an old trail which we followed for a short distance, then left it, working our way out through the timber and rocks to the edge of the cliff. Here the rock was rhyolite and its well altered condition indicated that it had once been acted upon by hot waters. Under one of the huge blocks we saw above us the approach to a large cave. The trail leading up to the entrance was well worn and tracks were so distinct that there seemed to be an excellent possibility that the cave might even now be inhabited.

The outer chamber or entrance was about 20 feet by 20 feet by 10 feet high. Before entering we shouted lustily and tossed in some rocks, but there was no response. So we scrambled up the incline to the smaller opening and began our explorations in earnest. The smaller opening was located some fifteen feet beyond the main entrance and was about three feet in diameter. We crawled into this to find a very comfortable den about three feet high and nine feet in diameter. To my surprise there were no bad odors and no evidence of bear excreta. The place was neat and orderly and the floor bare and smooth. In the center was a hollowed out nest-like structure lined with bits of sticks, grass, withered moss, pine and spruce cones, and some horse dung. We concluded that this nest, about eighteen inches in diameter, was the bed in which the little cubs had snugly slept during the long cold winter nights. The den seemed an ideal place protected from wintry blasts, especially since the outer cave would likely become well filled with drifting snow, and shut out the winds. Such is the comfortable home in which the American grizzly leisurely sleeps through the long severe winters so common to the Yellowstone.

RANGERS VS GRIZZLIES

By Assistant Chief Ranger Fred T. Johnston

Just what is a ranger's job? That's a hard one to answer. However, when he's not assisting visitors, fighting fires, feeding elk, rounding up buffalo, patrolling the park, pulling moose out of swamps, counting deer, sawing winter wood, surveying timber, regulating traffic, or doing his regular chores, he may be found out catching a few grizzlies for some aspiring zoo. That's where this yarn, but it's not a yarn, originated.

The grizzly surplus in Yellowstone National Park in 1930 was sufficient to warrant sending a few specimens to various zoos, providing said grizzlies could be caught. Ranger Harry Trischman and Ranger Allyn Hanks were assigned the catching job and in due time headed for the Canyon Bear Feeding Grounds with the portable bear trap. The trap is built on the order of a cage large enough for a bear to get in, and is mounted on an old Ford chassis. A trigger to which bait is attached holds a door in the end of the cage open. When the bait is molested the trigger is sprung and the door drops down, to the bewilderment of the bait molester.

Placing the baited cage on the feed grounds where the bears were in the habit of assembling for their evening meal, Harry and Al drove back up the hill to wait for results. For two nights in succession the expedition was extremely successful. Nice specimens of grizzlies were caught with ease and shipped away. The third night was different. The wrong bear yanked on the bait and no sooner had the door slammed behind him, than he saw his mistake. He tried to bite the door off with no success, so because he was mad or wanted assistance, he started roaring at nothing in particular. Roaring describes it, too--He'llroaring and Roaring Mountain weren't even in it.

Naturally the other ten or fifteen grizzlies that were peacefully eating near the cage, became slightly perturbed, and when Harry and Al started driving down to the cage a chorus of roars greeted them. Honking the horn failed to produce the customary effect. Instead of grizzlies scattering to all parts of the woods as they were supposed to do, they retreated only a short distance. This was ticklish business considering the protection offered by an open car against a mob of full grown grizzlies, so Harry and Al started roaring along with the bears. I guess they roared the loudest because they were able to reach the cage unmolested, but just as Harry jumped out of the car to hook onto the cage, a large-sized grizzly started after him.

He had a pick handle in his hand, but nobody wants to fight a grizzly with a pick handle. So true to human nature and remembering that grizzlies cannot climb very well, he looked for something to climb. The cage was all that was available. He lost no time in starting its ascent, but this particular pursuing bear could at least climb cages and was demonstrating the fact on the opposite side of the cage unobserved by Harry. Harry gained the top first, however, but even so the situation wasn't pleasant, with the pursuer so close to his objective. The pick handle had to be relied upon at that moment. Swinging it down on the grizzly's head, Harry shouted in terms only a ranger or grizzly could understand. It might have been the pick handle, or maybe it was the language, but believe it or not, the subdued bear left and neither he nor his associates offered anymore resistance while their comrade was being hauled away enroute to his new zoo home.

About Harry and Al? Oh, they hired out to be "tough"--they like it; it's part of their job.

GREGARIOUS GRIZZLIES

By Ranger Mark H. Greenwood

Authorities tell us that grizzly bears do not travel in groups. In fact most reports indicate that they travel alone except during the mating season.

On the evening of July 26, an incident occurred which tends to indicate that bears as well as people are gregarious, and that they occasionally travel in groups or bands.

As I drove out from the bear feeding grounds at 8:15 p.m., near the mouth of Otter Creek my attention was drawn to some animals entering the far side of the Yellowstone River. I called them to the attention of



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Judge Graham, who was with me, and we almost immediately saw that they were grizzly bears.

There were ten in all, six yearling cubs and four adults. They swam very rapidly with their heads well above the water. We parked the car directly opposite the point they entered the water, thinking that they would perhaps drift with the stream, but they came in a direct line for our car, going upstream rather than down. To avoid them, we pulled our car ahead. However, just as they started across the road another automobile came along. One of the females suddenly stopped, and then charged after the passing cars for two or three rods. They hurriedly and noisily passed over the road in the direction of the bear feeding grounds.

THE SURVIVAL OF THE FITTEST By Chief Ranger George F. Baggley

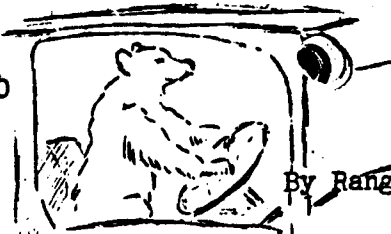
What curious phenomena prompts members of the animal world to attack and kill individuals of their own species when they become old and crippled is as much a mystery as many of their everyday habits which man does not as yet understand. As strange as this may seem to the layman, it is true in many of the different animal families. The grey wolves of the plains were quick to take advantage of the old age of their leader when he became too old to lead the pack. Venerable old bears that have been leader for years are sometimes killed by the young males or forced to leave the scenes of their reign and go off by themselves to die when they can no longer hold their place by physical strength.

In the Yellowstone Park buffalo herd there are many old males which just about rule the feed grounds in the winter when the herd is being fed at the Buffalo Ranch. These old fellows come in with the herd in the fall and early winter when the herd first drifts onto the feed grounds. Later in the winter, when the snow gets deep and forage is scarce, the individuals which have been whipped out of the herd begin to drift back to the feed grounds one at a time. Sometimes they are accepted by the herd and allowed to eat with the rest at the long hay line which is put out by the buffalo keeper and his men. Occasionally, however, if the individual is an old male, he is in for some trouble unless he is highly respected by the group.

Last winter Chief Buffalo Keeper Joe Douglas was a witness to two killings by a group of bulls when a strange bull came to the feed grounds after having been out alone for a long time. Both of the bulls killed were rather old and not in good shape. Being somewhat weak from want of food, they fell an easy prey to the strong young bulls on the feed ground.

"Doug" says that on their trip to the feed grounds one morning they saw seven or eight bulls, as he thought, having a frolic in the snow. When they returned from feeding, the bull with which they were apparently playing was dead, having been gored to death by the young bulls. Such occurrences are not uncommon in the buffalo herd even on the summer range in the high mountains of the Lamar River region. As unethical as this may seem in the animal world, it is undoubtedly their method of applying the age old law of the survival of the fittest.





ANOTHER BEAR STORY

By Ranger Naturalist Trusten E. Peery

Shortly before the season opened the employees of Canyon Lodge were surprised to hear the continued blowing of a horn from an automobile parked in front of the lodge. Upon investigation they discovered a small black cub sitting in the front seat tooting the horn, accidentally or intentionally, with his paw while the mother bear, who remained outside, seemed to enjoy immensely the antics of her child.

An employee who saw the entire affair claimed the cub had climbed into the car in search of food and had accidentally touched the horn button and, pleased with the unusual sound, continued the performance.



BEARS WILL BE BEARS

Oh, say, have you seen the Yellowstone bears?
You may see them in dozens or see them in pairs,
As cunning as kittens and gentle as hares
It is said.
But old Uncle Grizzly, the king of the dump,
By swinging his paw on the enemy's rump
Sends him hunting a sheltering tree or a stump
Good as dead.

The brown mamma bear has a nose that can guide her
To the food laden tourist, a willing provider
Of sweets for herself and the cubbies beside her
Like as not.
But to tell the bear facts these collectors of toll
Unblushingly hold out their hands for a dole
And put you, like racketeers playing a role,
"On the spot".

Ah, memory tells how a young Brownie belle
In search of cosmetics, I'm sorry to tell,
Came into my cabin, and did she play---well---
With my bag!
Yes, she ripped out the side of the suitcase in haste,
At leisure selecting what suited her taste---
The talcum, the lipstick, the film moving paste,
And a fag.

The above was sent to us by Mr. Nowlin, Principal of the East High School, Kansas City, Missouri, after a visit to the park.



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Practically all of these fat squirrels had disappeared by August 1st. The ones living in the grounds near by were still to be seen two weeks later.

I feel guilty of causing these animals to commit the unpardonable park offense, namely, hurrying through. Certainly my solicitation of their welfare regarding food caused them to miss two weeks of the squirrel and tourist season of 1934.

ANOTHER ROBBERY CHARGE AGAINST THE YELLOWSTONE BEARS

By Ranger-Naturalist E. T. Bodenbergl

During the past two weeks the pine squirrels (*Sciurus hudsonicus ventorum*) have been very busy collecting the cones of the white-bark pine (*Pinus albicaulis*) and hiding them in their numerous caches. One squirrel, that has been a pet all summer about our tent along the lake shore, has been burying his supply of cones under old logs behind the tent and in holes which he digs in the forest debris.



Recently the black bears have been frequent visitors to the refuse can near the tent. We have noticed that each time after a bear has finished inspecting the contents of the can, he then proceeds to dig up some of the squirrel's caches. At first we thought that the bears were merely licking the resin with which the white-bark cones are so abundantly supplied. However, upon closer observation, we saw that they would shell the seeds from the cones by crushing them slightly and then eat the seeds. Apparently the squirrel was well enough aware of the mischief being done, for on several different occasions we have seen him following a few feet behind the bear, retrieving and hiding cones uncovered by the thief.

The seeds of the white-bark pine are quite sizable, being about 1/2 inch in length and very plump. Upon shelling the seeds from a large cone, I have found a single cone to contain 91 perfect seeds. So it is not surprising that the bears are raiding supplies of such delicacies.

This morning a dwarf weasel came into the kitchen at the Cooke Ranger Station. At first I thought it was our pet pine squirrel, but it was too small. My next guess was that it must be a baby weasel. However, it was easy to see that the animal was fully matured. Then

December 14 - Ranger Curt Skinner has made some very interesting observations of the activity of a black bear (*Euarctos americanus*) which has been hibernating in a den beneath the cafeteria at Old Faithful. Beginning with December 2, this bear came out of his den either every day or every night except two stormy ones until December 14, the day of the last observation, for the purpose of gathering more grass for his den. Ranger Skinner estimated that he was probably a four year old. Not once during these forages did he observe the animal eating, as its sole purpose seemed to be to gather more covering. After pulling up a pile of grass, the bear would back-up toward his den, clawing the grass with his front feet and pushing it with his rear, until the den was finally reached. The early morning temperature on December 3 had been 13 degrees below zero, and the thermometer was registering about zero when the bear was observed. On the fourteenth, the grass-collecting activity was carried on with the thermometer reading four degrees below zero. Perhaps bruin felt the need for more "blankets!" W.E.K.

December 15 - During the past two months there have been several interesting changes on the hot spring terraces at Mammoth. Baby Spring, quite active early in November, is entirely dry. A large flow of very hot water pouring from the two vents south of Angel Terrace is depositing beautiful travertine at a very rapid rate. Cleopatra is now flowing from a second outlet. Water from Blue Springs is flowing over the front of Jupiter Terrace in three places.

* * *



With approximately 75 traps, and in view of what I saw, I would say conservatively that 2,000 birds will be destroyed over this one season.

As the end of the trap line was approached, I was surprised to see a Mountain Chickadee hanging head down from the trap in which he was caught. He appeared dead, but a close examination showed that the jaws of the trap had caught only the feathers of wings and tail. I released the trap, but the little fellow was nearly dead, unable to do more than blink his eyes. I placed him upon my head and placed my big wool cap over both bird and head, and continued to the base of Eagle Peak and Pass. Here no sign of animal life was noticed. A swift gale came through the Pass piling snow to an unknown depth and making any winter passage into the Park almost impossible. The idea of having the Park line follow the divide is a very effective one.

After securing photographs the downward journey was begun. Returning down Eagle Creek, I completely surprised and photographed a large bull Moose at 50 feet. He had a magnificent set of antlers, which according to the book, should have been shed before now. I was amazed that he could go faster through 4½ feet of snow than I could follow. Arriving at the cabin late that evening, I was elated to find that the Chickadee had revived sufficiently to partake of a feed of bacon cooked in beans and to fly happily through the open doorway to freedom the next morning.

The return home was a pleasant and comparatively easy trip. Twenty five miles were covered in less than 7 hours. Beautiful vistas and many glimpses of animals rounded out the day and the trip gave me a new thrill in the fact that I am living in Yellowstone Park, and a fervent hope that someday trapping will be outlawed in our National Forests as it is in our National Parks.

 "SCARFACE, THE STORY OF A GRIZZLY" by Dorr G. Yeager

A REVIEW

There have been books and then more books ground out by the presses of our country in the past year, and most of them passed as quickly into the discard, but it is refreshing to find a few that ring of a quality that speaks for an all-time permanence. Of such caliber is "Scarface, The Story of a Grizzly," written by Naturalist Dorr G. Yeager, formerly of Yellowstone and Rocky Mountain National Parks, and published by the Penn Publishing Company.

The story of "Scarface" might have been the story of any grizzly, but Mr. Yeager has given his giant grizzly such character that the great animal carries one's sympathies for his departing kind from his inauspicious beginning as a wee cub to the end of his many and varied experiences as a "king" of his race.

Preluded by a poem of ode-like dignity, -- "The Last Grizzly Speaks," -- in which Mr. Yeager has captured the age-old cry of futility of "Kings" of

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any kind to long endure, the story gets quickly under way as the Mother of Scarface seeks out a hibernating den on the shoulder of Mummy Mountain in what is now Rocky Mountain National Park. From the very first, man is pitted against the grizzly and the role played by the "two-legged animal," though minor in tone, becomes poignant with drama when, in conclusion, the man, grayed with his seventy years of living, watches the last scene in which the thirty year old "Scarface" departs this sphere to join the ghosts of his kind, and as in the poetic prelude, "--sing this deathless song-- 'Still I Am King.'"

"Scarface" knows no age discrimination in appeal for it attracts (by test) people ranging the gamut of age differences from early adolescence to ripest maturity.

The volume is especially appealing to Yellowstone--for here and here alone, the very last of the grizzlies are pitted against the relentless demands of man---and man will crush, dominate, and finally exterminate all grizzlies.

William E. Kearns, Junior Naturalist

A CHIVALROUS LITTLE BUCK AT SYLVAN PASS

by

Lucile Oberhansley

Inasmuch as we have about four feet of snow in this vicinity, we were amazed to see, at dusk on January 13, a procession of Deer (*Odocoileus hemionus macrotis*) gravitating in unerring precision toward our two salt licks, where heretofore since Old Man Winter called, only Moose frequented.

The Deer traveled in single file with a doe leading. Not far behind her was a second doe, followed by three fawns. In the rearmost was a two-point buck. Their progress, slow and laborious, was accomplished by a series of graceful leaps, the leader stopping occasionally to fortify herself anew. The does seemed to have an almost frantic craving for the salt, for as soon as they reached it each of the two appropriated a cake.

Although the buck had been contented to lag behind and let the does do the strenuous trail breaking, as soon as he perceived their hunger for the choice morsels, he sprang with agility in their direction and in an adroit manner selfishly guarded the salt. He made no attempt to lick the salt, but stationed himself as an ominous sentinel. Despite many subtle and various manners of approach, the does were unable to attain the coveted salt.

He kept up his vigilance for almost an hour and then left the salt to molest the three fawns who were browsing under a huge spruce tree. The does were permitted a few precious licks and then the buck repeated his antics. At last, in utter dejection the two does started their downward trek, followed by the others, single file in the original manner.

A short time previous to the Pelican Valley episode, Ranger Gerald Yetter, travelling up Yellowstone River on horseback, came upon two irritable old buffalo bulls at the mouth of Crevico Gulch. One had ventured out on a marsh in his quest for swamp grass and had become hopelessly bogged down in the soft mud. Ranger Yetter decided to investigate, but as he approached the animal the second old bull mistook the friendly advance and charged madly down from the hillside. Two subsequent attempts were made to approach the imprisoned animal, but each time the buffalo guard forced Ranger Yetter to retreat. This sparring game proved fatiguing even to the patience of a ranger; so Ranger Yetter finally headed his horse up the trail, pursuing the less hazardous task of making an elk census in the region.

Investigation on the following day revealed that the imprisoned buffalo had died during the night, and the old guard had left his post.

BEAR MAKES EARLY APPEARANCE

Milton Funk, lodge winterkeeper at Old Faithful, reported that an adult brown bear came out of winter hibernation on February 15. This is almost three weeks earlier than the normal appearance of a bear or two at Old Faithful, and fully five weeks earlier than the normal appearance of most bears in the park.



in the snow practically every night, Mr. Funk said.

---C.K.S.

This particular bear is an old male which is known to have hibernated beneath the floor of Old Faithful Lodge for the past six winters. Since his first appearance this winter, he has been prowling about

IT ISN'T THE SPRING TIME

All wildlife must have its turn and now the ticks, Dermacentor albipictus, are learning a little of how the elk and some of the other game animals live. This is the time of the year when elk are frequently observed bedded down on a snowdrift, even when there is plenty of dry ground to bed down on. It is not the spring time or the warmer weather that causes the animals to seek out a snowbank bed, but because it affords a temporary relief against the tick invasion.

---F.W.C.

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FEW WANDERLUSTS AMONG YELLOWSTONE'S ELK By Ranger Curtis K. Skinner

It would seem most natural that a wild free animal like the elk in Yellowstone, unchecked by fences or other barriers, would become quite a rover and would cover a wide range. However, a check on the movements of nearly fifty of these animals since 1924, shows a remarkable tendency for them to remain close to the particular locality where they were born.

Since 1924, a great number of elk have been marked in Yellowstone Park with small aluminum ear tags furnished by the U.S. Biological Survey, each tag bearing a number. In this way, considerable data regarding the movements of the animals have been obtained when elk bearing the tags have been recaptured for shipping alive to various parts of the country or when tagged animals have been killed by hunters outside of the park.

Records for the past ten years show that only one animal had traveled a hundred miles or more from the place where he was tagged. This animal, a large bull, was killed by a hunter in Jackson's Hole November 12, 1927. He had been tagged as a calf at Mammoth Hot Springs in March 1924.

Five animals bearing ear tags have been taken by hunters along the Gallatin River west of the park, these tags revealing that the elk had been tagged at Mammoth Hot Springs fifty miles distant.

These are the exceptional cases, all of the other data seem to indicate that the majority of the herd has a tendency to remain for years near the place of their birth. Thirty elk which were tagged at Lower Slough Creek in 1930, 1931 and 1932, were found at the same place in February 1935. Eleven animals were observed at Mammoth Hot Springs which had been marked with ear tags at the same place in previous years. Two elk which had been tagged at Mammoth Hot Springs were observed this winter at the Game Ranch, which is less than ten miles distant.

----- BEAR TROUBLES

Spring is just around the corner--and so are bears for that matter. With the arrival of bears a park ranger is sure of one thing.....bear troubles.

All forms and quantities of tear gas failed to discourage bears last season, but still we are not licked. Chemical mixtures for repelling dogs have proved successful to some extent upon the bears. More experiments are forthcoming this summer. Just what chemicals will prove successful, if any, is impossible to say. For at present we have no bears to experiment upon. ---F.W.C.

DEATH GULCH IN 1888, 1897, AND IN 1936

by

Junior Naturalist William E. Kearns

Ernest Thompson Seton in his "Lives of Game Animals, Volume II, Part I, pages 75-77" gives a graphic description of Death Gulch as observed and photographed in 1888 and in 1897. Death Gulch is located in the northeastern part of Yellowstone on Cache Creek, a tributary of the Lamar River, and is a small narrow valley void of vegetation and filled with suffocating gases.

After re-reading Mr. Seton's account of Death Gulch, I was prompted to visit the area to determine its condition in 1936 as compared with the findings of 1888 and 1897. Accordingly, on Thursday, September 17, accompanied by Clyde Stewart, the trip was made. We hiked in from Lamar Creek, following Cache Creek to Wahn Springs and then keeping to the ridges, climbed along Death Gulch from its beginning to the top of the divide above.

In his story, "The Biography Of A Grizzly" Mr. Seton has "Wahn" meet his death in a valley filled with poisonous gases, and in "Lives of Game Animals" Mr. Seton supports this climax with quotations from reports of members of the U. S. Geological Surveys.

In the latter reference, Mr. Seton writes: "Twice it has been investigated by members of the U. S. Geological Survey. In 1888, Walter H. Weed visited the place and wrote an account of it for Science, February 15, 1899. After commenting on the volcanic origin of the gulch formation, he says--'Although hot water no longer flows from these vents, gaseous emanations are now given off in considerable volume.'"

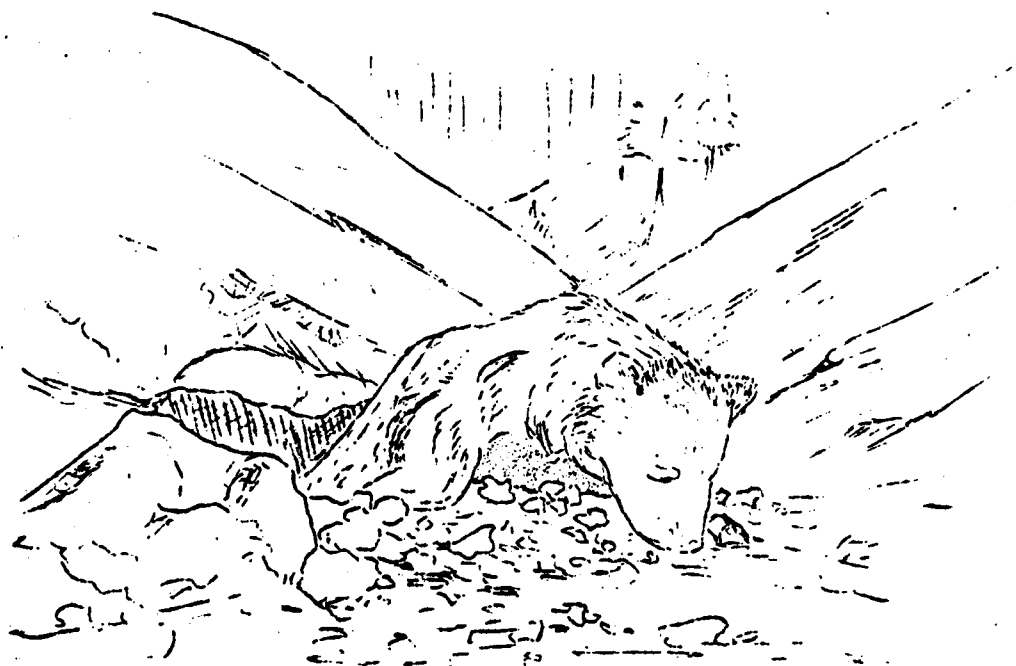
Continuing, Mr. Seton writes that "Arnold Hague, his (Weed's) chief was 'successful in obtaining evidence of the presence of carbonic-dioxide gas' in these emanations." And that,--

"Weed says: 'The gulch ends, or rather begins, in a scoop or basin about 250 feet above Cache Creek, and just below this was found the fresh body of a large Bear, a Silver-tip Grizzly, with the remains of a companion in an advanced stage of decomposition above him. Near by were the skeletons of four more Bears, with the bones of an Elk a yard or two above, while in the bottom of the pocket were the fresh remains of several Squirrels, Rock Hares, and other small animals, besides numerous dead butterflies and insects. The body of the Grizzly was carefully examined for bullet holes or other marks of injury, but showed no traces of violence, the only indication being a few drops of blood under the nose. It was evident that he had met his death but a short time before, as the carcass was still perfectly fresh, though offensive enough at the time of a later visit.'"

"The remains of a Cinnamon Bear just above and alongside of this

were in an advanced state of decomposition, while the other skeletons were almost denuded of flesh, though the claws and much of the hair remained. It was apparent that these animals, as well as the Squirrels and the insects, had not met their death by violence, but had been asphyxiated by the irrespirable gas given off in the gulch. The hollows were tested for carbonic acid gas with lighted tapers, without proving its presence, but the strong smell of sulphur and a choking sensation of the lungs indicated the presence of noxious gases, while a strong wind prevailing at the time, together with the open nature of the ravine, must have caused a rapid diffusion of the vapours."

"Professor T. A. Jaggar, Jr., made an examination in 1897, and in Popular Science Monthly for Feb., 1899, pp 5-6, described it as 'Death Gulch, a Natural Bear-Trap.'"



"The Old Grizzly In Death Gulch"
from photograph by Prof. T. A. Jaggar, Jr.
in "Lives of Game Animals" by Seton

"Climbing through this trough, a frightfully weird and dismal place, utterly without life, and occupied by only a tiny streamlet

and an appalling odour, we at length discovered some brown furry masses lying scattered about the floor of the ravine about a quarter of a mile from the point where we had left Cache Creek. Approaching cautiously, it became evident that we had before us a large group of recumbent Bears; the one nearest to us was lying with his nose between his paws, facing us, and so exactly like a huge Dog asleep that it did not seem possible that it was the sleep of death. To make sure, I threw a pebble at the animal, striking him on the flank; the distended skin resounded like a drum-head, and the only response was a belch of poisonous gas that almost overwhelmed us. Closer examination showed that the animal was a young Silver-tip Grizzly (*Ursus horribilis*); a few drops of thick, dark-red blood stained his nostrils and the ground beneath. There proved to be 5 other carcasses, all Bears in various stages of decay; careful search revealed oval areas of hair and bones that represented 2 other Bears, making a total of 8 carcasses in all. Seven were Grizzlies, one was a Cinnamon Bear (*Ursus americanus*). One huge Grizzly was so recent a victim that his tracks were still visible in the white earthy slopes, leading down to the spot where he had met his death. In no case were any marks of violence seen, and there can be no question but that death was occasioned by the gas."

The picture today has changed. When we visited Death Gulch, we kept up on a low bordering ridge to the west and did not chance the streamlet course up the bottom of the gorge for although a slight breeze was blowing, the gases were intense enough to give us severe headaches.

The area around Wahn Springs was also heavy with gas, and would indeed be an unhealthy spot should the wind not keep it partly free from gas. Death Gulch begins at the edge of Cache Creek and twists its former tortuous and grim way for some three hundred yards upward, ending abruptly on a small glacier-carved bench. A second, smaller gulch continues upward from the bench until lost in the timbered slopes of the mountain side.

As we proceeded upward, a deer bounded ahead of us, followed the rim that we were using, and traversing the upper gulch, disappeared in the timber above. When the intermittent breeze would stop for a moment, a decidedly dizzy effect was caused by the gas, and we were forced to stop often for breath. Careful observations failed to reveal any remains of either insect or animal life, and the only evidence of death was in a single, weathered bone which was found on the bench between the lower and upper sections of the gulch.

There is undoubtedly a lesser Bear population in Yellowstone now than there was in either 1888 or 1897, and it is also evident that Death Gulch has lost some of its potency. At any rate, Professor Jagger's "Death Gulch, A Natural Bear Trap" was not working as such when we visited the area, and from the lack of evidence has not been "set" for some time.

LEAVES FROM OUR DIARIES

July 5: While fishing along the Firehole River, two adult mink (*Mustela vison energumenos* Bangs) came noisily down the bank of the river, sometimes swimming a short distance and again following the bank. It appeared that they were educating the young mink which was being carried on the back of one of the adults by taking him on a pre-season trip over territory that he was later to travel alone.

J. King

July 14: On a short drive in to Mammoth from Tower Falls the following animals were seen: beaver (*Castor canadensis missouriensis* (Bailey)); muskrat (*Ondatra zibethica osoyoosensis* (Lord)); Rocky Mountain Mule Deer (*Odocoileus hemionus macrotis* (Say)); black bear (*Euarctos americanus cinnamomum*); elk (*Cervus canadensis canadensis*); and antelope (*Antilocapra americana americana*). There is nothing unusual in such an observation, and it is cited merely to indicate the opportunity that visitors have (if they drive slowly) to see game. We stopped for a few moments on the hill near the junction of the old road above Blacktail Deer Creek to hear the vespers of the birds, and never have I heard so melodious a twilight chorus.

W.E.K.

July 15: A big bull moose (*Alces americanus shirasi* (Nelson)) feeding in Swan Lake in late afternoon put on a great show for many spectators who happened by on the highway two hundred yards away. He was shoulder deep in the water and every time his head went under, he would almost disappear. After scooping up an antler full of water-plants, he would emerge, toss his head in the air, shake off the plants and then turn and view his interested audience as much as to say, "How do you like that?" A yearling moose selected a more secluded feeding area in and about the pool hidden in the lodgepole pines to the south of Bunsen Peak. He was frequently seen there during the summer and may have been the same moose that ranged near the Boiling River below Mammoth last winter.

G.C.C.

July: When walking along the Red Rock Trail with Ranger-Naturalist Fix and in the vicinity of Crystal Falls we noticed a water ouzel (*Cinclus mexicanus unicolor* (Bonaparte)) sitting on a rock not more than fifteen feet away. We both sat down and trained our field glasses on the bird. Our observation lasted for at least eight minutes, and during that time the bird did not bob up and down, but remained motionless. However, the nictitating membrane opened and closed continuously.

Robert Fowler

August 1: The little Pikas or Rock Conies (*Ochotona princeps ventorum*) odd little creatures, not much larger than a good sized meadow mouse, with round ears and no tail and a sort of dark gray brown coloring, have been seen recently in the rocks near the Duck Lake pier. They are busily storing their winter's supply of grass, and as the lake is closed to fishing, they are seldom molested.

Harry Woodward

August 12: About 10:30 p.m. Mr. Stagner and I heard the bugling of an elk. This was the first bugling we have heard this summer.

Robert Fowler



November-December, 1936

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(*Cygnus columbianus*), but from the deep-throated voices it was certain that a number were Trumpeters (*Cygnus buccinator*). W.H.K.

November 18: On Mary Bay and in the Fishing Bridge area I counted 110 Swan. From their close formation it was impossible to get an accurate count of Whistlers and Trumpeters, but both were present. F.H.A.

November 18: Repeatedly this fall I have seen a Doe Deer who has one antler. This antler is on the right side of her head, is some twelve inches in length and has one prong. On the left she has but a tiny nubbin of an antler, barely big enough to see. She is apparently normal in every other respect, and her two Fawns, which are nearly as large as she, are splendid creatures. I have been able to get several pictures of this trio as proof for any "doubting Thomas'!" D.D.C.

November 27: Several times in the last few weeks, I have seen a pair of Otter (*Lutra canadensis canadensis*) on the Yellowstone River at a point about a half mile above the rapids, and today I watched them for some time while they fed upon fish which they had caught. These two animals climbed out on the rim ice on the east side of the river to dine on their catch. I have often heard that Otter will eat waterfowl, but although I watched them for long periods they did not annoy the Ducks in the least. In fact, the Ducks swam about the swimming Otter without evidencing any fear at all. F.H.A.

November 29: Even in the animal kingdom it isn't always size that counts the most in a fight. Two Muletail Deer Bucks (*Odocoileus hemionus macrotis*), one with four points and one with six points, had a glorious battle this morning on the slopes back of the Ranger Station. For over an hour these two battered each other and for the greater part of that time with antlers locked. For awhile it looked as though the older animal would be killed by his smaller adversary, for he was down and to all appearances had his neck broken. However, after a considerable interval, the larger animal finally regained his feet and in doing so managed to wrench himself loose and thus freed the locked antlers. After a few half-hearted attempts to defend himself, the older buck retired in disorder and the two were last seen as they disappeared in the Aspens (*Populus tremuloides*). D.D.C.

December 1: A Black Bear (*Ursus americanus*), evidently about a two year old, has been nosing around the Tower Falls Ranger Station every afternoon for the past few days. This same bear visited the winter-keeper at Roosevelt Lodge and pre-empted his meat supply. His rambles have also been taking him on regular visits to the Mess House and to the dump. D.D.C.

December 3: Coyotes (*Canis latrans*) have been numerous around the Gallatin Ranger Station this fall, and one young pup is so bold that he comes right up to the station and feeds regularly at the garbage pit just back of the dwelling. W.H.G.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Yellowstone National Park
Yellowstone Park, Wyoming

YELLOWSTONE NATURE NOTES

Vol. XIV January-February, 1937 Nos. 1-2

This is one of a series of bulletins issued regularly for the information of those interested in the Natural History and History of Yellowstone National Park and the unmatched educational opportunities offered by this region. PUBLICATIONS USING THESE NOTES WILL PLEASE GIVE CREDIT TO "YELLOWSTONE NATURE NOTES" AND TO THE AUTHOR.

Edmund B. Rogers
Superintendent

William E. Kearns
Illustrator

C. Max Bauer
Editor

THE SPEED OF GRIZZLY BEARS

by

William E. Kearns, Assistant Park Naturalist

Some time ago, we received a letter from an interested person requesting information on the speed of grizzly bears (*Ursus horribilis*), and citing the fact that a local naturalist in his vicinity considered the grizzly as comparatively slow in the animal kingdom. With a background of old-timer lore on the speed and cunning of this great animal, I determined to discover, if possible, the facts as they might be available for Yellowstone.

Ernest Thompson Seton, in his "Lives of Game Animals," has the following to say regarding the speed of the grizzly:

"Swift too, is he, in amazing measure for his build. Those who form their idea of a bear's speed from watching a hulking, slouching prisoner, are sure to be amazed at the real thing. For 50 or 100 yards a Grizzly can go faster than any horse, and keep it up indefinitely. It is well known that in the spring of the year, the Indian ponies that have wintered out and are poor, very commonly become the prey of the Grizzly, who can now catch them on the open plain. Townsend tells of a wounded Grizzly that pursued closely a man on horseback for half a mile, snapping at the horse's heels, and apparently would have captured the object of his wrath but for a timely volley from the man's comrades.

"J. M. Mackenzie describes the famous Grizzly, Clubfoot, as able to keep pace with a horse going downhill, but not uphill.

"In view of this, it will be seen how absurd it is for any man to think that he may escape from a Grizzly by simply running.

"Wright says, 'The Grizzly can outrun the Black Bear by nearly

half, no man can match him in speed, and it takes a pretty good horse to catch him."

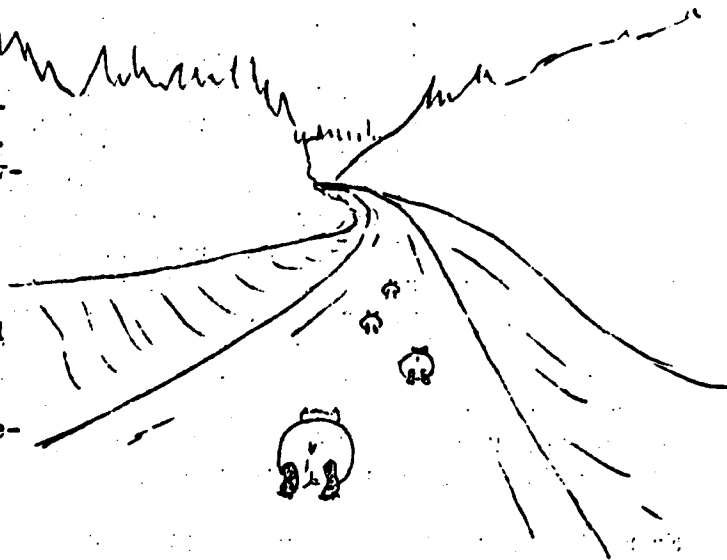
Seton gives the summation of the views held by men during the time when the horse was the means of comparison for speed. Now let us see what we find in Yellowstone with a speedometer on a car as a check.

In April 1930, Dorr G. Yeager, former Park Naturalist, and Carl P. Russell, then Field Naturalist for the Park Service, had an excellent opportunity to "clock" the speed of grizzlies. The road to Norris had just been plowed free of snow, and these men were making the first trip of the season to the Norris Geyser Basin. Just after passing the eight mile post, a mother grizzly and two cubs were met in the road which was a narrow canyon banked by snow on either side, piled to heights of from three to five feet. Rearing on their hind legs, the grizzlies scrutinized the car, and then to the relief of the occupants, "turned and headed down the road at a rolling lope." Following at a respectful distance, the bears were trailed for approximately two miles at a speed of twenty five miles per hour, with but one pause, and that when the mother in rounding a curve lost sight of the car and reared on her hind legs to look for it, resuming her gallop at once when the car was sighted. Mr. Yeager says.... "The speed mentioned in this article should not be taken as a criterion for the speed of a grizzly. At no time (naturally enough) did we push them to a maximum." (This summary of Mr. Yeager's article is taken from YELLOWSTONE NATURE NOTES, Vol. VII, No. 5 for May, 1930).

Another very dramatic incident was recorded by Ranger Cliff Anderson (now of Yosemite National Park). Mr. Anderson and his family were driving toward the Cooke entrance of the park and were beyond the Buffalo Ranch. In rounding a curve near the Devils Well, a female grizzly and her two cubs were seen feeding on a carcass near the road. There were two cars preceding the Anderson car and the road was muddy with considerable slush snow in it. As the cars approached, the mother grizzly charged and jumped down into the cut made by the snowplow in recently clearing the road, but for some reason, just before the cars reached her, she sprang back up on the snow bank at the side of the road. While she was in the cut, her cubs disappeared over the hill into Soda Butte Creek. When the mother regained the bank and failed to see her cubs, she immediately gave chase to the cars which were then about fifty yards ahead of her. A brother of Mr. Anderson, who was riding in the rumble seat of the six cylinder Oldsmobile, became alarmed and warned the Ranger by rapping on the rear window. Vigorously blowing the horn, the Ranger tried to get the cars ahead to speed up all that they could, but due to the condition of the road, much speed was impossible. The grizzly quickly overtook the cars, and then jumping up on the snow bank, lunged out and down at the car. Several attempts were made in this manner to catch the car, but the grizzly missed each try as she lost time in jumping up on the snow before leaping for the car. Needless to say, the Ranger's brother had crawled down into the back of the car and had closed the rumble cover! They were chased from the Devils Well to Hoppe's Prairie,

a distance of approximately two miles, and the maximum speed (remembering road conditions) was 28 miles per hour. The bear had just come out of hibernation, which must also be considered.

District Ranger "Ben" Arnold has reported further evidence on this question of speed of grizzlies. While the Arnolds were driving from Mammoth to Tower Falls one night early last summer, four grizzlies, a mother and three yearling cubs, were seen in the road ahead of the car at a distance of about two hundred yards. The bears immediately turned and ran down the road for a full half mile before dashing up the hill into the timber and out of sight. For the last quarter mile, they averaged 30 miles per hour and were not crowded at all. The bears were running on the oiled road, and did not have the advantage they would have had on a dirt surface.



We have had reports of grizzlies making 35 miles per hour when running before a car, but as I have been unable to verify any of them with a written statement, they shall be omitted.

Knowing the nature and disposition of the grizzly, no sane person is going to pursue and crowd one in a car, for fear that the animal might turn and demolish the car and perhaps, the occupants, too. From the foregoing incidents as cited, it is seen that speeds have actually been recorded for the grizzly up to and including thirty miles per hour with the bear setting his own pace. What they might be able to do under "pressure" or in anger is entirely a matter for supposition.

From observing grizzlies and having seen them, starting from a standstill, hurl themselves with tremendous speed upon an approaching rival, there is little room in my mind for the thought that they are "slow moving creatures." Grizzlies are powerful beasts, and as evidenced by the aforementioned reports, have considerable endurance, for covering two miles at from 25 to 28 miles per hour proves a stamina that would certainly try the best of horses.

Perhaps, after the roads are plowed open this spring, some obliging grizzly may run a faster heat, or some fool-hardy individual may crowd one to nearer the maximum, whatever that may be, but until such time, the best speed for grizzlies in Yellowstone, which I have been able to find, is thirty miles per hour.

LEAVES FROM OUR DIARIES

February 15: While skiing near Angel Terrace with Frank Oberhansley this morning, we heard a beautiful lyric bird-song which puzzled us both. A warbler at his best would have been given stiff competition by this songster. Suddenly the delightful melody was interrupted by harsh, querulous notes, followed closely by raucous calls, and then the versatile singer appeared in the limber pine (*Pinus flexilis*) where he had been screened from view. It didn't seem possible that the Steller Jay (*Cyanocitta Stelleri*) could be the producer of such a repertoire but just to prove it, he repeated his performance in full view.

--W.F.Kearns

March 7: The past few spring-like days have evidently deceived some of our hibernating friends. Today a Golden Mantled Marmot (*Marmota flaviventris nosophora*) was seen enjoying the warm sun on a south exposure in the Hoodoos. An hour later a Black Bear (*Euarctos americanus cinnamonum*) was encountered at the entrance to his den on a hillside north of Mammoth. This bear has been in hibernation since November 18 and will probably remain donned up at least another month.

--F.R.Oberhansley

March 10: A beaver (*Castor canadensis missouriensis*) was seen coming down his trail in the deep snow from the trees above to Crescent Lake. Making his way leisurely down the hill and out onto the lake, he dove through a hole in the ice to reach his lodge.

--W.E.K.

March 13: While on patrol with Ranger Watson to Heart Lake, we followed an Otter's (*Lutra canadensis canadensis*) track for over 15 miles, saw a Lynx's (*Lynx canadensis canadensis*) track on Witch Creek, and near the Harebell Cabin, saw where a Marten (*Martes caurina origins*) had killed a Snowshoe Rabbit (*Lepus bairdii bairdii*) as evidenced by the story in the snow.

Several Red-winged Blackbirds (*Agelaius phoeniceus*..?..) were seen near a hot-spot on Snake River today.

--Judson Rhoads

March 15: The matter of the Townsend Solitaire (*Myadestes townsendi*) being an all year resident has been decided in the affirmative in the light of observations made this past winter. Townsend Solitaires have been observed near Mammoth or at Tower Falls on the dates which follow: November 2 and 13, December 1 and 23, January 10 and 23, February 13, 15, and 20, and on March 8.

--W.E.K.

March 17-18: The following notes concern the activity in the Norris Geyser Basin: new activity west of Congress Pool; mud geyser, inactive, except for subterranean roar of steam and splashing of water; Hurricane Vent is very active; great piles of ice encroach upon Valentine Geyser from the northeast; Constant Geyser erupting to heights of from 10 to 13 feet; there is more activity and more run-off than in the past from Porcelain Hill.

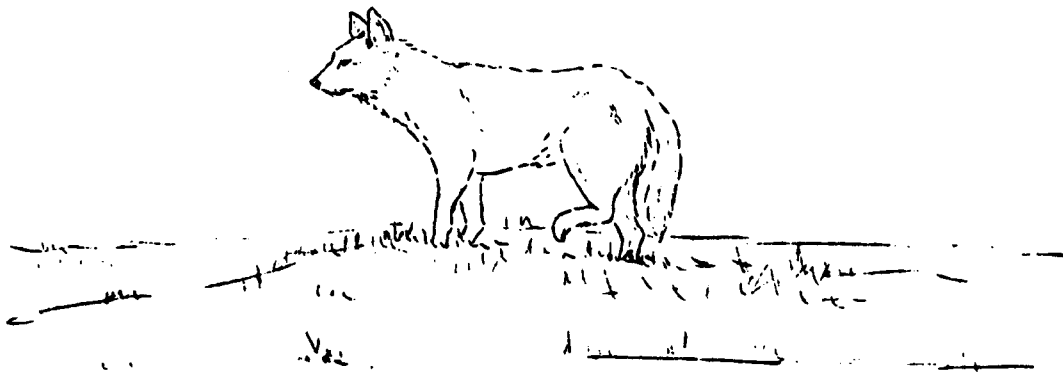
An American Bald Eagle (*Haliaeetus leucocephalus alascanus*) was seen flying over the Gibbon River near the Norris Mess Hall.

--W.E.K.

early throes of that disease.

As the coyote fled I had little difficulty in keeping pace with him on foot. He was soon winded, for when I stopped the pursuit, he traveled for about ten feet farther and dropped on his side where he lay panting. As I again approached he fled in an awkward manner. Something was wrong with his rear legs; they didn't track. After several relays during which I secured the pictures I wanted, Ranger Bauman happened by on his patrol and together we cornered the coyote on the bank of the Gibbon River. His only way out was to swim the stream, which he finally and laboriously succeeded in doing. Attaining the opposite bank, he again came to rest and immediately became oblivious to our presence as he stood spasmodically jerking first one rear leg and then the other.

Since dogs are not permitted to run loose in the park, it would appear that coyotes within the deep interior would have little opportunity to become infected with distemper. However, this is a possible source of such an infection since dogs are commonly kept in the campgrounds on leashes and such campgrounds are commonly visited by coyotes.



OBSERVED AT THE BEAR FEEDING

by

Ranger Naturalist Irwin B. Douglass

The relationships of the animals in Yellowstone to each other are a never failing source of interest to the visitors. Several times at the Canyon bear feeding excellent opportunities were presented for seeing incidents illustrating these intricate life relationships.

The table scraps that were put out attracted not only the bears, both black (*Euarctus americanus*) and grizzly (*Ursus horribilis*), but also ravens (*Corvus sinuatus*), seagulls (*Larus californicus*), and an occasional coyote. The coyotes were timid and rarely came upon the

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platform with the bears, but their timidity did not seem to come from any fear they had of the bears.

As soon as the garbage had been dumped, some of the bears would select choice morsels and head for the edge of the woods, there to lie down and eat them unmolested. On several occasions a coyote would see a bear carrying off a piece of meat that was equally attractive to him. Although he was no match for the bear in a fight, it was rare that he failed to get the meat. The usual procedure was for the more active coyote to run up behind the bear and nip at his hind quarter. As the bear would drop the meat to turn and growl, the coyote would grab it and nimbly jump out of reach. Then with head held high the wild dog would trot off with his prize while the bear, as though exasperated, would return to the platform.

A part of the bear lecture was always devoted to explaining the differences between the black and the grizzly bears. Occasionally, an accommodating black bear would give a demonstration of his tree-climbing ability. More than once a black stayed for the entire duration of a lecture up a lone pine that stood in the open area beyond the feeding platform.

One evening an unusually large black climbed the tree and sought to make himself comfortable. He must have ventured too far out on a limb, for without warning it suddenly broke and bruin hit the ground with a resounding thump. Protected as he was by his thick fur and ample layer of fat he was uninjured but as he moved away it seemed a great effort for him to regain his ursusian dignity.

Once during the last week of August the visitors had the opportunity of witnessing one of Nature's unusual incidents. For several evenings the immature seagulls had been coming with adult birds to share the salad with the bears and the ravens. On this particular evening two coyotes had also come down. Although the ravens and adult gulls had little fear of the bears, they were greatly alarmed by the presence of the coyotes and took flight whenever they came near. All the birds stayed safely out of reach except one incautious young gull that became too absorbed in his eating. With a rush and a snap, one of the coyotes had him in his mouth.

The cry of the bird and the commotion of the coyote's rush attracted the attention of three grizzly cubs and they immediately started running toward the coyote. He in turn dropped his prey and retreated to a safe distance. The cubs were all curiosity. They muzzled the shapeless mass of feathers but they made no attempt to eat it. Later, their curiosity satisfied, they moved away.

The young gull had not been killed and soon began to flop about. Occasionally, its movements would attract the attention of the cubs but none made any attempt to molest it. The bird gradually

recovered the use of its legs but its wing had been broken so that it could not fly. The coyote stayed in the offing the rest of the evening but didn't acquire sufficient courage to come to the feeding platform and retrieve his catch. No doubt, when the people in the enclosure had left and the bears on the platform had eaten their fill, the coyote enjoyed the young gull as an unusual and welcome addition to his bill of fare.

OSPREY: THE FISHERMAN

Note: There is considerable conflict of opinion as to the manner in which an osprey (*Pandion haliaetus*) carries his fish catch. Following are two short articles, the first being written by Randall Watkins, a ranger naturalist in Yellowstone during the 1937 season, and the second by Wayne Replogle who was a ranger naturalist in Yellowstone during the 1936 and 1937 seasons, prior to which he had been a temporary ranger for several summers.

Many visitors to Yellowstone Park, particularly of the Canyon region, ask if the bird they see flying about is not the Bald Eagle (*Haliaeetus leucocephalus*). It is quite true that the bird they see so frequently while viewing the Canyon has a white head very similar to that of the Bald Eagle, but if they will observe closely they will note that the tail of the bird is of a brownish color instead of white as that of the Bald Eagle. Then, too, this bird is much smaller than the eagle. He is known as the osprey, or, commonly called the Fish Hawk. There are many Bald Eagles in Yellowstone Park but the most common bird flying in the Canyon is the osprey.



Does the osprey always carry the fish with the head pointed forward when flying? Does the osprey always catch the fish with the head in the forward position? Will the osprey reverse the order of the fish if he catches it with the tail pointed forward? These are some of the most frequently asked questions while the park visitors watch the osprey carry his fish to the young or to some suitable

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On July 3 while fishing in the Yellowstone River near where Yellowstone Lake empties into it, I became interested in the maneuvers of an osprey flying above the water. Knowing that this bird was fishing the same as I, and knowing how often the above questions are asked, I discontinued my fishing and observed the osprey.

The bird was flying at a height of about 150 feet when the wings were folded and straight down into the water he went. He was under the water only a few seconds when he came up with a Cutthroat trout (*Salmo lewisii*). (*Salmo lewisii* are the only species of game fish in the Yellowstone Lake and River above the Yellowstone Falls). When the bird came up out of the water he was near enough for me to see definitely what the position of the fish was. The tail of the fish pointed forward. The osprey flew about 100 feet high, dropped the fish, swooped down and caught it again with the head pointing forward this time. Since the bird did not change the position of the fish again as far as I could see, I judged that it was in the right position.

--Randell Watkins

A great deal of speculation is done regarding the manner by which the osprey carries his trout catch; that is, head first. I believe there is too much presumption in the belief that he carries it that way for ease of flight, ceremony of kill, etc. In many instances I have observed the catch and never have I seen the bird rise from the water actually carrying the fish tail first. The catch of the fish is made by approaching it from behind and following it in its line of swimming. I have seen many fish carried very awkwardly by the osprey, sometimes hanging almost vertically, head down.

--Wayne Replogle

FIVE TOO MANY GRIZZLIES

by

Marguerite Lindsley Arnold

Late in the evening of October 31 while driving from Mammoth to Cooke Ranger Station with Mrs. Pierson and my son, Billy, we had an exciting encounter with grizzlies.

We had crossed the Gardiner River Bridge, two miles out from Mammoth, and started the climb up the hill. As our car lights swept around the curve they revealed five grizzlies in the road. We stopped the car at once and saw that it was a mother and four yearling cubs. After a quick survey, the bears turned and ran up the road.

Anxious to see how fast they were traveling, we followed. Two of the cubs were successful in clamboring up the hillside but the others continued up the snow-covered highway.

The mother suddenly stopped, reared to watch the car lights, and then charged! Either the lights seemed too ominous, even to a grizzly, or she changed her mind for with equal abruptness she stopped, altogether too close, and raced back after her cubs. Once more we followed. Again that huge beast turned and charged. She approached us, as grizzlies do, on a double-time lope. As she had stopped before, we naturally expected--at least hoped--that she would act accordingly this time. But . . . on she came. It was snowing lightly, and what a picture that bear made as she rushed upon us! Providentially, she slid to a stop when within a foot of the car, sniffed, blinked at the lights, and retreated once more.

This bear may not have been very large, but when standing on four feet, the reach of her back came up even with the top of the radiator of our Hudson.

Resuming the chase up the long grade, we found that the best speed of the bears was fifteen miles per hour.

LEAVES FROM OUR DIARIES

October 21: Today I saw three black bears (*Euarctos americanus cinnamonomum*) in their hibernation dens. Each had selected a natural cave under huge blocks of travertine at the base of Terrace Mountain.

--Frank R. Oberhansley

October 28: Late this afternoon while Temporary Ranger Gene Young and I were descending the west spur of Specimen Ridge we heard the clashing antlers of two fighting bull elk (*Cervus canadensis*). One hundred yards below us in an open glade two magnificent bulls were engaged in battle. I was amazed at the viciousness of the fight at this late season. No advantage was gained by either bull except a temporary one when one of the bulls was favored by having a down hill push. As we approached closer, a group of cows feeding nearby fled into the timber with such commotion that both bulls lost interest in the fight for the time being and followed the cows into the timber at a dead run.

--F.R.O.

November 11: Today Ranger Dave Condon and I counted 199 swans on Yellowstone Lake and River. This large number is attributable to the fact that a majority of the birds were Whistling Swan (*Cygnus columbianus*) making their regular stop enroute to their winter quarters. Seven families of Trumpeters (*Cygnus buccinator*) were counted in which there were a total of 14 adults and 29 cygnets.

--F.R.O.

November 11: Today on Mary Bay Ranger Dave Condon and I observed a Bald Eagle swooping at what we thought to be a duck. However, he

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HIBERNATION OF BEARS

by
William E. Kearns, Assistant Naturalist

Not long ago, I read an article in the Saturday Evening Post by J. Frank Dobie on "The Last of the Grizzly Hunters." The statement that bears "lay up and suck their paws," (hibernate) from "November for four months," caused me to do a bit of investigating of the "theories" for bears hibernating.

Here in Yellowstone, the beginning is largely determined by the weather, but the majority of both grizzly (*Ursus horribilis imperator*) and black (*Euarctos americanus cinnamomum*) bears go into hibernation in October and November. The earlier the snows come and the colder the weather, the sooner the bear seeks out his den. When seasonal conditions are more favorable, some of the bears may remain out as late as December. The period spent in hibernation will vary from four to five months, and here again, weather plays an important role, and is often the deciding factor. A few bears may appear in February, but it is usually mid-March or even the first of April before the majority appear.

Few actual observations have been made of wild bears in hibernation, and in the time of my father and other old timers, supposition and conjecture took the place of fact. With some, the belief was rampant that all bears gorged themselves on pine needles immediately before going into their dens for the "all-winter sleep," assuming that these needles would form a lining in the bear's stomach and keep him from getting hungry before the weather moderated and he could again find food. Still another, as suggested by Mr. Dobie, was that the animal would suck his paws, until by spring they were too sore for the bear to more than hobble about.

With the majority, the belief is still current that an animal in hibernation loses all consciousness, and that bodily processes slow down to a point where the heart scarcely beats and the blood barely flows. With the Marmot (*Marmota flaviventris mosophora*) and the Pocket Pin (*Citellus armatus*) this is true, but not so for either the grizzly or black bear found in Yellowstone. Observations made in specially constructed dens indicate that the bear is not absolutely in a state of coma, but rather, the opposite. Upon the approach of the observer, the bear would move, sometimes growl, and on being annoyed, would repel the annoyance if too aggravated. While on a ski trip around the grand loop during the winter of 1935, I went to visit the den of a black bear in the hope of getting pictures. His winter quarters were beneath the floor of the kitchen of the lodge at Old Faithful and near a trap door. Lifting this door, I lowered my camera and the necessary paraphernalia to the ground some four feet beneath, intending to follow. Fortunately, I looked first with the aid of a flashlight and saw a large black bear moving toward me as rapidly as the floor joists would permit. Hastily retrieving my outfit, I just had time to lower the door, closing it almost in the bear's face.

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where he had dug-in and the bear ran toward a distant stack. He was not observed eating hay. Monday morning about 9:30 A.M., the little fellow was again seen, headed for a near by stack. From all appearances, the coyotes had pre-empted his bed of the night before. The bear was seen almost daily and his condition was so pitiful that the men fed him scraps nearly every morning. A week after he was first observed, he spent the night sleeping on top of the hay and although the thermometer registered 37 degrees below zero, he was up and ready for breakfast Sunday morning. As suddenly as he had appeared, the bear vanished, probably in a newly acquired den in one of the numerous haystacks.

Several days later, the Piersons reported that a second two-year old black bear was in the vicinity, and that he had moved in to dine on the contents of the garbage cans at the Ranch House. This second bear was in much better condition than number one, and was marked quite differently so that there was no doubt as to his identity. Mrs. Pierson stated that "he seems to hear alright, but from the half-baked way in which he acts, his eyesight must not be right." When a person approached, the bear would jump, raise his head, and finally seem to smell-out the source of the disturbance. It has been suggested that he may have been suffering from snow-blindness.

The second arrival wasn't satisfied with the scanty fare afforded at the garbage cans, and moved in on the Piersons' porch where he helped himself to bacon and butter, and later made-up his bed on their back porch. The latest report (February 14) is that this bear is still at the Ranch and eating from the garbage cans.

Wondering how many instances of this sort had been recorded, I perused back issues of Nature Notes with the following results: in the issue of February 28, 1926, this item concerning bears is noted:

"On the 6th of January, a large black bear and three cubs were outside at the rear of the Lake Hotel. The old bear is seen nearly every day. In coming out they are very careful to keep in the same tracks on paths made on previous trips and do not exert themselves very much. These bears have taken for their winter abode the cook's quarters of the hotel. The place left open is not large and underneath the floor makes a good den for them. Even after the snow was on they spent many hours pulling coarse slough grass and dragging it in for a bed. It seems possible now that the old bear will be out almost every day during the winter, if fed."

Ranger "Ben" Arnold who was at Lake the winter of 1925-1926 as winterkeeper for the lodge, relates the incident of two big black bears, "Nicodemus and Nebuchadnezzar," coming out from their hibernation den under the hotel building after the trails were well packed, and states that they remained out more or less all winter. On one occasion, they

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"stole" a pair of pants belonging to Ed Admunsen, hotel winterkeeper, from the clothes line and took them to the den, supposedly for lining. (Al was a big fellow, and they were an immense pair of pants!) On another escapade they visited the laundry room of the hotel and removed a heavy fabric belt from one of the machines. Dragging it to their den, they chewed it until it was ruined for further use. These two bears visited the garbage cans of the rangers and winterkeepers, but did not venture from the beaten trails at any time.

A further reference in Nature Notes is found in the issue of February 28, 1927, as follows:

"A large black bear that has been hibernating under the hotel at Yellowstone Lake appeared on the trails in the vicinity of the buildings on the 19th of February. He was out during an interval of two days. His activities consisted in part, of the theft of a ham from the winter keeper and after finding nothing further of interest he returned to his den. This is the first and only activity of bears reported since late last fall, with the exception of the captive bear, Juno, at headquarters station. Frequent visits have been made to his den during the past two months and we find that he is easily aroused but is very sluggish in his movements. He accepts very little food and rarely emerges from the den. His disposition is harmless and gentle."

Mrs. Marguerite L. Arnold informs me that several years ago, former Park Naturalist Edmund Sawyer attempted to feed Juno, the chained pet, while he was in hibernation, but she states, "the bear just wasn't interested."

On Christmas day, Ranger David Condon saw a black bear running across the firing-line just north of the Park, and on January 8, Junior Naturalist F. R. Oberhansley viewed the carcass of a bear in the same vicinity. These men surmise that this animal might have been literally bombarded out of his den by the heavy firing of the hunters massed in the area, and that the bear was unable to make good his escape.

Bears have been observed outside their dens in winter at various times through the years, usually after unseasonably warm days, but with the exceptions noted (with others unrecorded and unknown), the bears did not go more than a step or two from the entrance of their dens.

From actual observations of bears in hibernation, we know then, that they sleep for indefinite periods, are restless at times, even to leaving their dens, and that when on such foraging expeditions they may eat. However, as far as I've been able to ascertain, the bear in hibernation will not eat. Ranger Frank Childs offered bacon and sweets to several bears while they were hibernating, but without exception, they refused the proffered food.

The weasel which we observed at Mammoth had a body length of about five and one-half inches, a tail of about half the length of the body, and behaved in a truly sophisticated and adult manner. Mr. Anderson agreed that the weasel, or weasels, which he observed at Canyon were about the same size and were probably *Mustela cicognanii leptus*.

Vernon Bailey in his book "Animal Life of Yellowstone National Park, page 147" says of the Dwarf Weasel (*Mustela cicognanii leptus*) "A very small weasel is reported as occasionally seen in the park, and a tiny track that I saw near Lewis Lake may well have been made by the dwarf weasel, which is found throughout the mountain region around the park. It is not so large as some of the mice that it hunts, but in general appearance and in habits it is a miniature of the other weasels, turning white in winter and brown in summer."

LEAVES FROM OUR DIARIES

March 31: Bears are supposed to choose their first food with nice precision upon emerging from the hibernating den. Having passed the entire winter without eating, the stomach and intestines become shrunken with disuse. A variety of vegetable matter, therefore, seems requisite for resumption of the digestive processes before the main business of eating gets fully under way.

Contrary to this idea, Dr. Fallis and I surprised a large, black male bear near Orange Spring Mound feasting upon the carcass of a bull elk that had recently died. As we approached, the bear moved sluggishly back into the timber. He had gorged himself to the point of apparent discomfort, judging not only from his actions and distended condition, but also from the fact that he had eaten the vital organs and an entire hind quarter of the elk. "May good digestion wait on appetite."

Frank R. Oberhansley

April 24: This day I counted twenty-three newly born buffalo calves in a herd of one hundred sixty cows in Lamar Valley. (Note: Up to the present time eighty-eight calves have been counted in Lamar Valley herd and an estimate of one hundred calves is given by Assistant Chief Ranger Barrows.)

F.O.

April 24: We were afforded a real treat today when we saw two sandhill cranes (*Grus canadensis tabida*) feeding in the meadows of Elk Park, and as we drove on to Gibbon Meadows, eight of these majestic birds were soon near the margins of the Gibbon river. We watched them until darkness curtailed the scene. Their ceremonious mating

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May 16: At 2 P. Ballard and in the Madison downstream tip densis canadensis the elk moved ed within a fe launched a fil the geese were elk, displaying perhaps 50 feet right bank. 1 dead run and geese then rot

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May-June, 1938

antics were accompanied by shrill, bugle-like calls. Knowing that these birds are very rare and in fact, nearly extinct, except in such areas as Yellowstone, we were humbly grateful for such an unusual opportunity.

W. E. Kearns

May 16: At 2:10 p.m. on May 16, 1938, Mr. Jack E. Haynes, Mr. E. B. Ballard and myself noted a solitary elk cow on a small island in the Madison River, a mile or two below Madison Junction. On the downstream tip of the island a pair of Canada geese (*Branta canadensis canadensis*) were apparently building a nest. As we watched, the elk moved down the island toward the geese. As the elk approached within a few feet the geese rose into the air and diving at it launched a first-class attack on the elk. As far as we could see, the geese were striking at the elk with both beaks and bodies. The elk, displaying much discomfiture, dashed into the river, plunged perhaps 50 feet down the stream and then, turning, dashed toward the right bank. The geese continued their attack until the elk, on the dead run and shaking her head, reached the fringe of the timber. The geese then returned to the point at which they were first observed.

Edmund B. Rogers

May 20: On May 20, 1938, about 3:35 p.m., Mr. Jack E. Haynes, Mr. Joe Joffe and myself observed an immature moose grazing in an open meadow a hundred yards to the west of the highway, a short distance south of the Mud Volcano. When first seen, the animal was moving along slowly in a standing position. In a few moments it got down on its front "knees" and continued to graze, moving a considerable distance in this position. (Mr. Haynes took a moving picture of it.)

E.B.R.

May 27: While talking over the telephone this afternoon about 5:00 p.m., I noticed that we had visitors in our yard. Two huge grizzlies (*Ursus horribilis imperator*) were investigating the Weather Checking Station at a distance of about 40 feet from the Ranger Station. Apparently satisfied with their examination, the huge beasts moved down toward the road. When they reached the footpath leading from the ranger station to the checking station, they stopped suddenly and cautiously sniffed the trail over which I had passed but a few minutes before. My fresh tracks seemed objectionable to them, and they turned back up hill, woofing and slapping at each other in a carefree mood. After a short period of scuffling, they disappeared in the timber above the station.

E. L. Arnold

June 1: Two young Camp-robbers (*Perisoreus canadensis*) were brought into the feeding station near our cabin by their parents, and have remained in the vicinity. They will come up on the back porch to eat and are very tame. One of them was suffering from either an injury or weakness when the two young birds arrived, but no trace now remains of any infirmity and they both are thriving on Ranger Station fare.

LEAVES FROM OUR DIARIES 1938

July 8: This evening at dusk a huge grizzly bear (*Ursus horribilis*) approached to within less than fifty feet of where I was sitting on the front porch of Fern Lake patrol cabin. My horse was too much occupied with mosquitoes to pay much attention to the grizzly, but I was duly impressed as he approached. A slight movement on my part attracted the bear's attention and as he reared up in characteristic fashion to secure a better look, he appeared to be fully seven feet tall. Not particularly caring for a closer view I gave a lusty Camanche yell that sent the bear on a dead run toward the timber. His progress was checked momentarily due to the fact that he collided head on with a large pine tree.

F. R. Oberhansley

July 29: About 10:00 A.M., L. L. Carver of Darby, Montana, reported seeing two mature mountain lions and four cubs at the six mile post on the Tower Falls road.

George Walker

August 8: Today it required just four and one-half hours for me to locate the much publicized "Lost Lake" near the Continental Divide between West Thumb and Old Faithful. One hour was consumed in return from the Lake to the main highway.

F.R.O.

August 8: This evening while returning to Mammoth from Tower Falls in a rain storm, a bull moose (*Alces americanus shirasi*) dashed directly onto the road in front of my car just as I reached the top of the hill at Geode Creek. He slipped on the wet pavement and landed on his rump with hind legs stretched in grotesque manner straight out on each side of his front legs. As he stopped his unexpected slide, he looked back over his shoulder with such a ludicrous expression on his face, that had I the ability to reproduce on paper a drawing of the event, success would certainly be mine. In a state of near panic, the moose finally struggled to his feet and with a last wrathful glare at me, trotted off into the brush.

W. E. Kearns

August 9: About 3:45 P.M., while four hundred people were assembled at Riverside Geyser to view the spectacular eruption, an unusual visitor made an appearance. Just before the eruption began, an animal was observed swimming up stream past the base of Riverside Geyser cone where the hot water from the lower vent emptied into the river. Unperturbed it continued up stream a short distance where it scrambled upon some rocks, pausing long enough for us to see its flat tail and to identify it as a beaver (*Castor canadensis*).

H. T. Lystrup

August 25: The first bull elk (*Corvus canadensis*) with bare antlers was seen today near Snow Pass. Apparently the velvet had been shed for several days.

F.R.O.

August 26: Late this evening while returning from a trip to Death Gulch I heard a bull elk bugle for the first time this season.

F.R.O.

A CLIMBING GRIZZLY

By

Park Ranger Rudolf Grimm

There had been evidence of the presence of a bear in the vicinity of my quarters for several weeks. Overturned garbage cans, dug-up mar-mot dens and tracks bore testimony to this. Also, several of the branches of the apple trees growing in the yard were found torn off, but this was at first blamed upon the numerous elk that daily feed here until some of the higher branches and finally the crown of the trees were noticed to be demolished. This, of course, was recognized as the work of a bear, especially as the trunks of the trees bore claw marks. The visits of the bear occurred entirely at night, and consequently we did not get to see him, but since black bear are not uncommon in this vicinity, it was assumed that the animal was of this species of the bear family.

On the night of November 3 there was a skiff of snow on the ground and a bright moon was shining, making out-door objects clearly visible for a considerable distance even from a lighted room, when, casually glancing out of the window, a large and small bear, presumably mother and cub, were observed ambling apparently aimlessly at a distance of approximately sixty yards from the house. All at once the cub made a dash for the vicinity of the apple trees and was followed somewhat more slowly by the larger bear. A number of deer that had been feeding under the trees took fright at the approach of the bears and ran off. The bears passed within forty feet of where I was standing, and I positively identified them as grizzlies by the very prominent hump on their shoulders and by their mannerisms.

For several minutes the two animals fed upon the apples lying on the ground. Then the older and larger bear raised up on her hind legs, gazed up into the tree, and dropping down on all four legs again, approached the trunk. Rising up again, she climbed it by grasping a limb about five feet from the ground, pulling herself up and stepping with her hind feet like a man climbing a tree, her progress at times obscured by the foliage, she ascended until her head and shoulders could be seen in the very crown of the tree. She vigorously shook the branches and apples cascaded to the ground from the loaded tree, and the cub immediately busied himself with the fruit. The brightly colored apples were clearly visible on the snow, and they were seen to disappear as if inhaled from in front of the grizzly's snout.

The old bear would pause for an instant as if to rest, with front legs and paws stretched at right angles from her body and over the branches presumably in order to better distribute her weight (estimated at

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500 pounds) as her roost was none too secure at that height, only to again resume the shaking of the tree. In the course of this performance branches as well as apples were dislodged. This went on for about ten minutes, but a rap upon the window pane made the cub instantly alert and caused him much uneasiness, which was manifested by nervous running around and away from the tree. Finally the old bear descended the tree in reverse manner, but when she reached a point about eight feet from the ground she released all hold and slid down. She immediately raised up on her hind legs and looked about, but finding nothing amiss began feeding on the apples, the cub joining in the feast. However, the latter evidently had not recovered from his scare and appeared very nervous. He soon walked off and was followed a little later by his mother. However, looking out of the window later that night, both bears were again seen feeding on apples, though the older bear was not observed climbing the tree again.

On the following day a measurement was taken from the highest point in the tree reached by the grizzly, and it was found to be twenty-one feet. At this point a branch was broken or bitten off, and also a small amount of fur was found clinging to the stump of the branch. Limbs three inches in diameter were lying on the ground, and several of these had the appearance of having been chewed or twisted off. Claw marks were found on the trunks all the way up into the top of the tree, but it is presumed that these marks were made by the bear in its descent rather than in climbing. These claw marks have the form of straight and vertical scratches, running parallel with the trunk of the tree.

It has often been contended that a mature grizzly cannot climb; however, I have decided to no longer subscribe to this belief, and should it ever be my lot to have to climb a tree in order to escape from a grizzly, I shall take great pains to avoid apple trees.

LEAVES FROM OUR DIARIES

November 12: Ninety-two swans, including both Trumpeters and Whistlers, were counted between the cascades of the Yellowstone River and the lake outlet. Three pairs were observed with six cygnets each.

Frank R. Oberhansley

November 13: Six coyotes were observed this morning feeding from the carcass of a bull elk that came off second best in an encounter with "Spud" Olson and a truck.

F.R.O.

November 16: Three or four pairs of otter have been fishing for spawning white fish with good success along the Madison River near the west bound-

About 100 yards farther down stream an elk calf was encountered lying near the trail in such a weak and emaciated condition that it was unable to regain its feet. Fresh tracks of the coyote in the now snow plainly showed that he also had seen the calf earlier that morning and that he actually detoured away from it in arriving at the old skull farther up the trail.

During the course of this snowshoe trip down the Yellowstone from March 16 to 18 inclusive, three other elk calves were observed in a weakened condition similar to the one described above; in addition an old, almost toothless, cow elk was seen in a dying condition where she had been lying for many hours beside the trail.

Frank R. Oberhansley

March 21: Two blue birds (*Sialia currucoides*) were seen at the mouth of Daly Creek today.

A.J.

March 22: Pink sided juncos (*Junco mearnsi*) appeared at Cooke station today. Five steller's jays visit the feeding trays regularly. Our pet weasel "Tippy" is still very much in evidence around the station. Two great horned owls (*Bubo virginianus*) were heard last night. The hammering of woodpeckers in the vicinity of the ranger station is heard daily. Evidently they are preparing to nest.

Peg Arnold

March 22: A goshawk (*Astur atricapillus*) was observed as it flew off a freshly killed and partly consumed blue grouse (*Canachites Dendragapus obscurus richardsoni* ?) near Reese Creek today. On the following day the remains of the grouse consisting of the drumsticks to which some meat and feathers were still adhering were found reposing on a fence post. The goshawk had evidently returned and taking his kill to the elevated position, from where he could scan the country and timely observe any approaching danger, finished his repast.

Rudolph Grimm

March 26: A large black bear (*Euarctos americanus cinnamomum*) was seen in the Hoodoos near Mammoth Hot Springs today. He evidently had recently emerged from one of the many dens in that locality.

More than 100 bluebirds (*Sialia currucoides*) were seen on the flats near the North Entrance this p.m.

F.R.O.

March 28: Another sign of spring was observed this morning. As I was riding across a bare southern exposure near Geode Creek I observed several newly hatched grasshoppers.

J.B.

The illustrations in this issue were prepared by Haydon Lavesque

YEL

John A. Thompson Livingston, Montana. B. S. Montana State College, 1930. Coach and Science Teacher, Park County High School. Ranger Naturalist, Yellowstone, 1937 and 1938. Major, Physical Education. Minor, Biology.

Harry Truman Havre, Montana. B. A. Ohio Wesleyan University, 1923. M. A. Degree, Western Reserve University, 1929. Ph. D. University of Wisconsin, 1933. Professor of Botany, Northern Montana College. Ranger Naturalist, first season. Major, Botany. Minors, Biology and Chemistry.

Randell D. Watkins Kearney, Nebraska. B. S. degree, North Texas State Teachers' College, 1929. University of Southern California Summer School, 1930 to 1934. M. A. University of Southern California, 1934. Athletic Coach, State Teachers' College, Kearney, Nebraska. Ranger Naturalist, Yellowstone, 1937 and 1938. Major, Physical Education. Minor, Biology.

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LEAVES FROM OUR DIARIES

April 8: The carcass of a large bull elk (*Cervus canadensis*) with a wide spread of antlers was observed in the cavern of an extinct hot spring near Angel Terrace into which it had fallen about two weeks ago.

The dimensions of the opening through which the bull fell are 24-1/2 by 27-1/2 inches. When the carcass was removed from the cavern it was necessary to saw off the antlers before the head could be taken out.

Frank Oberhansley

April 13: While skiing near Dunraven Pass this evening I counted more than one hundred elk migrating single file across the divide between Carnelian Creek and Dunraven Peak. The line of elk was long and sinuous and the leadership changed frequently. On several occasions the line was broken some distance from the front and the leadership was assumed by an elk at that point. The elk in front of this point in the line retraced their steps and fell into file along the new tangent. This is the largest group migration in elk that I have observed.

Many fresh grizzly (*Ursus horribilis*) tracks were also seen in the same locality at this time.

Lee Coleman

April 14: The large group of migrating elk observed last evening are now broken up into smaller groups and are scattered over the country to the south of Dunraven Pass. Signs indicate that at least 250 elk came over the divide in the last 24 hours.

L. C.

April 18: A bald eagle (*Haliaeetus leucocephalus leucocephalus*) was seen to dive into the open patch of water of Mary Bay this afternoon and capture a trout about 14 inches long. In attempting to rise from the water he was unable to do more than flap out onto the ice where he busied himself with the fish a few feet back from the water's edge. As he was eating the fish a raven (*Corvus corax sinuatus*) landed on the ice and began circling the eagle in a bluffing manner. The eagle finally took off with the fish and disappeared over the ridge to the east with the raven in pursuit.

F. O.

April 30: A red naped sapsucker (*Sphyrapicus varius nuchalis*) is nesting near the checking station.

W. S. Chapman

May 12: While returning on foot across the divide from Upper Slough Creek today I came face to face with a large grizzly. The meeting was a complete surprise for both of us and our reactions were mutual. We both stopped abruptly and stared momentarily. The hair rose on his shoulders as he looked me over. I instinctively clapped my hands together and let out a yell which to my entire satisfaction had the desired effect on the bear.

In addition to the Grizzly 5 moose (*Alces americanus skirasi*) were seen between the transfer and Slough Creek Station.

John A. Bauman

May 14: The osprey (*Pandion haliaetus carolinensis*) are now nesting on the rock pinnacles in the Yellowstone Canyon.

L. C.

May 16: Several mule deer bucks (*Odocoileus hemionus macrotus*) around Canyon have a new growth of antlers approximately 1-1/2 to 2-1/2 inches long. A bull moose was observed with a new growth of antlers about 8 inches in length.

L. C.

May 29: Saw three Wilson Phalaropes (*Steganopus tricolor*) on the small pond near Hart Lake Cabin. Found the remains of a Trumpeter Swan (*Cygnus buccinator*) in the outlet of Hart Lake. The breast bone was intact. Cause of death unknown but probably occurred last fall.

June 2: I saw a large school of suckers near the north shore of Hart Lake in shallow water.

L. C.

July 25: This morning on Crystal Creek a female Black Bear (*Euarctos americanus cinnamomum*) and her two cubs were observed for sometime as they busied themselves feeding on the large crickets (probably *Gryllus* sp.) that are on the open meadows by the thousands now. These bears were all three very greedily devouring the crickets as rapidly as they could catch them.

David DeLaney Condon

July 28: Beach Spring, located on the north margin of Geysor Hill, has shown definite geyser activity during the summer season. There is continuous ebb and flow in the pool accompanied by boiling and discharge of water during the flow stage.

On July 6th I observed an eruption to a height of about ten feet and on July 12th members of my geyser hill hike were forced off the walk adjacent to the spring by the discharging waters.

L. G. B.

August 11: Mr. and Mrs. Dave Pierson report that at about 5:30 p.m. while driving from Tower Falls to the Buffalo Ranch they witnessed an unusual migration from the small ponds near Junction Butte. Thirty or forty salamanders (species undetermined) were struggling to cross the piled oil surface which was graded up along the highway at this point. While the Piersons watched several of the salamanders were successful in getting over the oiled barrier and started up the hill toward the Butte. Mrs. E. L. Arnold and David Condon have both reported seeing many salamanders in the small lakes in the vicinity of Junction Butte.

W. E. K.

August 12: This morning while visiting the small lake below Madison Junction I enjoyed an aquatic show staged for my special benefit by a family of otter (*Lutra canadensis canadensis*). There were the two adults and two kittens all very curious about my presence in the vicinity of the lake and they at times swam over very close to the shore on which I was standing. To make the aquatic show complete a large old Beaver (*Castor canadensis missouriensis*) came swimming over from one of the beaver houses to see what the excitement might be.

D. D. C.

August 12: This morning, while driving down the Gardiner Canyon I chanced to see two ewes of the Bighorn Mountain sheep (*Ovis canadensis canadensis*) crossing the road from the Gardiner River to the slopes of Mt. Everts. The locality of Mt. Everts is their normal winter range. Their appearance this low during the first part of August is not the usual thing. Both ewes appeared to have spent the summer as dry mothers. No signs of having reared young was evident.

Last Wednesday evening on top of Mt. Washburn just five thousand feet higher I observed fourteen ewes and six lambs. The lambs were gayly frolicking about unmindful of the deep snows which are to come soon. F.H. Brady
Note: A tourist from Colorado saw and photographed two ewes and three lambs in the vicinity of "Eagle Nest Rock" on the morning of August 7.

W. E. K.

Yellowstone Nature Notes

MARATHON SWIMMING FOR BLACK BEAR

by

RANGER NATURALIST WAYNE REPLOGLE

Earlier this season I made a motorboat trip from West Thumb to the Southeast Arm of Yellowstone Lake and during the trip I had the opportunity to observe a black bear (*Euarctos americanus cinnamomum*) making a long distance swim.

We plyed through the strait at Breeze Point and curved southward near the shore toward Wolf Point. As we moved along I was attracted to a grizzly (*Ursus horribilis*) running at a good lope southward away from the approaching boat. He soon fled into the woods and out of sight. In order to avoid any sand bars we moved lakeward about a quarter of a mile when I gave my attention to Dot Island. Some distance between my boat and the island I saw an object in the water. We turned and motored toward it, slowed down to about three miles an hour, and much to our amazement we discovered a black bear making his way to Dot Island. He was at that time a mile or more from Wolf Point and at least that far from Dot. As our boat drew near he became a bit more excited and seemed to desire to turn on us, but finally he headed directly north to the north shore of the Lake. He followed near until he reached the shallow water at which time he scrambled up the bank and away into the forest. I would judge that the bear swam a distance of about five miles. This incident may give some light on bear migration and may lead us to believe that the bear has great endurance.

OTTER IN TRUMPETER LAKE

by

RANGER NATURALIST HARRY L. BUEER

On the evening of August 10, 1939, while concealed in the vegetation at the west end of Trumpeter Lake observing the swans (*Cygnus bucinator*) at the distance and the blackbirds (*Agelaius phoeniceus*) in the nearby rushes, I was suddenly startled and the blackbirds were thrown into a wild commotion by a loud "plop" in the water about thirty feet away. Almost at once an otter (*Lutra canadensis canadensis*) appeared a short distance off shore, swimming frantically, emitting snorting noises, and occasionally roaring up in the water as if angry at my presence. After passing back and forth in front of me for about a dozen times, it swam across the lake and climbed up on a large rock where it remained for about ten minutes before entering the water.

While swimming near me, the otter held a black object in its mouth. I could not see this distinctly but I believe it to have been a blackbird that the otter caught at the beginning of the performance. Some of the birds were observed perching on the rushes just a few inches above the water, within easy reach of the animal.



LEAVES FROM OUR DIARIES

October 30: This evening as I was driving down from Golden Gate to Mammoth, I observed four Bighorn Mountain Sheep Rams (*Ovis canadensis canadensis*) busily eating what at first appeared to be powdered travertine. The sheep paid little attention to me and did not move off until I had approached to within some ten feet of them. The rough material which they were eating and seemed to be enjoying, proved upon examination to be decomposed rhyolite. On the evening of November 6, David Condon and I saw three rams, one of which was eating similar material in a cut bank below Rhyo-Travertine Gulch. According to Dr. Bauer, this material no doubt contained some sulphur or salt deposited by former fumaroles.

William E. Kearns

November 3: A Townsend Solitaire (*Myadestes townsendi*) was heard singing his evening song at about five p.m. today on the upper terraces near the Stygian Caves. When first heard, the melody had definite characteristics of the twilight song of a robin, but the Solitaire had a much more versatile repertoire.

W. E. K.

November 3: Several large flocks of Bohemian Waxwings (*Bombusilla garrula pallidiceps*) were observed in the Mammoth area. Flocks of smaller size have been fairly common all month. On the 7th three flocks of approximately 100 birds each were seen between Lone Star Geyser and Shoshone Lake.

David DeLancey Condon

November 7: Steam heated apartments are desired by more animals than Homo sapiens as evidenced by a black bear (*Euarctos americanus*) which has sought out such a winter "dwelling" in an old hot spring vent on the hill immediately above the Mammoth camp ground. This same den was used by a bear during the winter of 1934-1935, but has not been used since until the present occupant staked out his claim. The den is quite warm, and is kept so by steam escaping from a small opening on the southern side of the larger vent. The unusually open weather has not been entirely to bruin's liking for too many people have learned of the location of his quarters and his napping is often disturbed by unwanted visitors.

W. E. K.

November 7: While at Shoshone Lake eleven Trumpeter Swans (*Cygnus buccinator*) were watched for some time while they were feeding on the shallow waters at the west end of the Lake. These birds were easily identified by their call when they finally became alarmed by my presence and made off for other parts of the Lake. Only one gray bird was present, and it is highly probable that there were ten adults and only the one cygnet.

D. D. C.

November 7: While riding down Shoshone Creek at every ford the abundance of Eastern Brook Trout (*Salvelinus fontinalis*) was noted. Each time the horses entered the water it seemed to be boiling due to the intense activity of the fish as they sought shelter in deeper water.

D. D. C.

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November 10: I saw a rare sight when I peered down at Trumpeter Lake. The entire lake was frozen but for a small circular patch of water near the west end and it was a living, seething mass of fluttering, diving, quacking ducks and geese. Several species were identified and of these the American Widgeon or Baldpate (*Marcea americana*) predominated. Others were the Coot (*Fulica americana americana*), Mallard (*Anas platyrhynchos platyrhynchos*), Redhead (*Nyroca americana*), American Goldeneye (*Glaucionetta clangula americana*), Barrows Goldeneye (*Glaucionetta islandica*), Lesser Scaup Duck (*Nyroca affinis*) and Canada Goose (*Branta canadensis canadensis*.)

D. D. C.

November 27: A total of 211 swan were seen on Lake Yellowstone. Of these two were near West Thumb, 117 at the mouth of Pelican Creek, 73 at Storm Point, and 19 on Mary Bay. Of these 27 were identified as Whistling Swan (*Cygnus columbianus*). Of the remaining 184 birds there were very few Whistlers present for almost all calls heard were those of the Trumpeter Swan.

D. D. C.

November 27: Near Bluff Point on Lake Yellowstone a large raft of Baldpate ducks were watched for some time. There was an estimated five to six hundred birds in the flight and was the largest single raft of birds I've had the opportunity of watching on Lake Yellowstone.

D. D. C.

November 28: The California Gull (*Larus californicus*) is still with us for several were observed at the mouth of Alum Creek on the Yellowstone River on November 28.

D. D. C.

November 28: A Black Bear (*Euarctos americanus americanus*) has taken up winter quarters under the lake boathouse. Two visits have been made to this bear's den and on both occasions fresh tracks give evidence that he had been out prowling around, but at the times his den was inspected he was at home and very much awake. He seemed to resent being called upon and gave vocal protest by moaning, groaning, and chopping his jaws together.

D. D. C.

November 29: The Highland Spring on the Mammoth Hot Spring terraces is again active after a long period of dormancy. It was flowing a good head of water on this day and the algal growth was just beginning to develop in the yellow and pink colors.

D. D. C.

November 29: The late fall has been highly favorable for game to remain in the back country and all animals have been rare along the main road. However, on a trip to Mary Lake one bunch of 184 elk (*Cervus canadensis canadensis*) was seen; also several other small bands bringing the total elk seen on the drive, there and return, to better than 500 animals.

D. D. C.

NATURE NOTES FROM A DOORSTEP

by

Mrs. Fred W. Bieberdorf

If one were compelled to be confined only to a ranger naturalist's tent, life here in Mammoth would still be interesting and different. Every night since we arrived here on June 10 we have heard the coyotes (*Canis latrans*) down in the valley and often much closer - just a few feet from our cabin. It is not an infrequent experience for us to see two and sometimes three run in single file right by our doorstep. This exploration of our premises usually occurs around seven o'clock in the evening. Several times we have heard our animal friends give a sharp cry when they're directly in front of our cabin - quite startling but so interesting. It is a common belief that coyotes predict the weather, but this certainly has been disproven here this summer.

Another unusual incident which we witnessed from our doorstep was the activity of a little pine squirrel. He was busily engaged in breaking up a pine cone when suddenly he spied an oily cloth which had been used on a car hung on the limb of a tree. The pine cone was immediately abandoned and the cloth became the object of chief interest. The squirrel took one end of it and began pulling it down the road. The cloth was about 40 inches in length and a yard in width and the squirrel had quite a task ahead of him to get it to its desired location. After he had gone about half the distance, he suddenly stopped and began biting and pulling it into two pieces. This procedure took very little time and greatly helped to solve a complicated situation. Then one piece of cloth at a time was carried away, evidently to be used in the nest.

The usual visits from the bears - including the trapping of three which necessitated the climbing of a tree by a ranger - and the observation of other animals and numerous birds have helped to make our summer in the Park a most pleasant one.

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 BRUIN TAKES A TURKISH BATH

by

Mrs. Fred W. Bieberdorf

On the afternoon of August 29th, we were stalking a Black Bear on the Mammoth Terraces in order to get a picture. Bruin was very accommodating and suddenly decided to take a bath. He ambled over to the base of Angel Terrace, looked around for a moment and then climbed up the terraces to one of the pools. After testing it for temperature, Bruin crawled in, carefully dipped up the water with his paws and went about his bath.

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The pool is about four feet long, three feet wide and eighteen inches deep. The temperature of the water was about 90°F. Judging by the bear's action in locating the pool and by his activity afterwards, taking a bath in the warm water of the Hot Springs was evidently not a new experience for him.

LEAVES FROM OUR DIARIES

March 19: This is a "parlor" wildlife observation and for that reason is submitted with some reluctance, as it is felt readers of items of this character are led to believe the authors never get far enough from the cabin to really see anything important. The truth of the matter is, however, on isolated stations upon occasion some very unusual animal habits and antics are revealed. For instance, the night of March 19 a scratching was heard, outside one of the windows of the second floor of the cabin. As the window was opened a flying squirrel (*Glaucomys sabrinus bangsi*) could be seen scampering about on the window frames, and an instant later it scurried up the radio antenna pole attached to the end of the cabin. My reward came when it glided beautifully downward into a lodgepole pine about twenty feet away. This is the first time I have ever had the luck to see one of those interesting creatures in action. Outside the Park trappers catch them frequently in martin sets, but even it is rare indeed when they see them as they are nocturnal travellers.

John G. Lewis

March 22: Birds making the earliest spring "debut" in the district of Snake River are as follows: Bluebirds (*Sialia currucoides*) were first observed on the river meadows March 14. Next a white breasted Nuthatch (*Sitta canadensis*) became a visitor to the station on March 17. On a ski patrol to Cascade Creek on March 22 three Redwing Blackbirds (*Agelaius phoeniceus*) were seen.

J. G. L.

March 26: On a hike over the hotspot area near the river, two Redwing Blackbirds (*Agelaius phoeniceus*) and a pair of western Meadow Larks (*Sturnella neglecta*) were observed. The last arrival was a pink sided Junco (*Junco naevius*) seen on the station bird tray, on the 27th of March.

J. G. L.

April 17: This evening one two-year-old Grizzly bear (*Ursus horribilis*) was seen on the hot springs terraces between the Opal Spring and the Liberty Cap.

Leo Coleman

April 21: On the afternoon of April 21 in the long meadow near Nymph Lake a pair of Sand Hill Crane (*Grus canadensis*) were seen feeding in company with a large flock of Canada Goose (*Branta canadensis*).

David Condon

April 26: Today I saw a pair of Myrtle Warblers (*Dendroica coronata*) in the willows near Gardiner. This seems an early record.

William S. Chapman

May 5: This morning while I was standing by my car I saw quite a variety of wild life over at Beach Spring. There were five elk (*Corvus canadensis*), five buffalo (*Bison bison*), two moose (*Alces americanus shirasi*), two coyotes (*Canis latrans*), one grizzly bear (*Ursus horribilis*), three swan (*Cygnus buccinator*), half a dozen mallards (*Anas platyrhynchos*) and ravens (*Corvus corax*), and about fifteen geese (*Branta canadensis*).

Earl Somingson

June 3: I observed a male western tanager (*Piranga ludoviciana*) in the willows just outside the north gate the afternoon of May 23. Charles Wright reports seeing a male today near his home in Mammoth.

William E. Kearns

June 9: The heavy wet snow today created havoc with trees and nesting birds. The robins (*Turdus migratorius propinquus*) which had been incubating their eggs in a well constructed nest just beneath our bedroom window had their home completely demolished when the heavy weight of snow broke the shrub containing the nest spilling it, eggs, and birds on to the ground. A pair of yellow warblers (*Dendroica aestiva*) had their home broken up by the same storm.

Norrie D. Kearns

June 10: This morning while driving toward Tower Falls through the Blacktail area at about 8:45 a.m. in company with Jean Turpin we had an interesting experience of watching a coyote (*Canis latrans*) chase, capture, and eat a pocket pin (*Citellus elegans*). This all occurred right near the roadside and the coyote paid no attention at all to us.

D. D. C.

June 19: At 7:00 a.m. a pair of Trumpeter Swan (*Cygnus buccinator*) flew over the Mammoth area and when last seen were flying over the Gardiner River toward Lava Creek.

D. D. C.

Bald Eagle (*Haliaeetus leucocephalus*)

July 8: Mature bald eagle seen fishing in bend of Yellowstone River near Sour Creek across from highway. Green-wing teal (*Nettion carolinense*) feeding quietly on embayment and paying no attention to eagle.

July 15: Immature bald eagle seen just across Yellowstone River from Otter Creek with Red Tail Hawk (*Buteo borealis calurus*) in full pursuit.

August 2: Extensive improvements have been made recently in the beaver huts that are found in the small lake called Loon Lake below Madison Junction. The beaver (*Castor canadensis missouriensis*) have been moving in mud and sticks, plastering up the roof of the huts, and have made many runways from the water back on to the land areas nearby. One large beaver was induced to come out of the hut and moving pictures in kodachrome were made of him.
David De Lancey Condon

August 2: For the first time in Yellowstone, I saw a Wilson's Snipe (*Gallinago delicata*) this evening near the thermal springs on the Gibbon River northwest of the Norris Geyser Basin. From the actions and behavior of the bird, I decided that there must be young nearby though I was unable to locate them.
William E. Kearns

August 2: The pair of Trumpeter Swan that nested on Loon Lake very late and hatched two cygnets in mid July have apparently lost one of their young for on this day when the lake was visited and the swans watched for some time only one very small cygnet was seen in company with the adults.
D. D. C.

August 5: Since early in August two bull moose have made regular nightly visits to Camp Roosevelt. They usually arrive about an hour before sundown and are seen at rather close range by approximately 100 visitors each day.
Robert Robinson

August 6: One of the interesting events of the season for the Mammoth Museum area was a game of tag being played by three young snowshoe rabbits (*Lepus bairdii bairdii*) on the front lawn and porch of the museum. These small rabbits would chase each other about the feet of spectators then over up the porch, under the stage coaches, and down the steps at the north end of the porch. The show presented by them proved to be highly amusing to all who witnessed it. This occurred at about 9 a.m. just before the terrace caravan trip left.
D. D. C.

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LEAVES FROM OUR DIARIES

December 5, 1940: About two miles east of the Tower Falls Junction near Rainy Lake, Assistant Park Naturalist Condon and myself frustrated the cannibalistic desires of a coyote (*Canis latrans*). Rounding a turn in the road we noticed an excited coyote run across the road and pell pell up the slope to the left. Our curiosity aroused, we looked about and were surprised to see a coyote carrying the limp form of another at a lively clip up a steep slope. Our approach combined with an obstructing windfall caused the coyote to abandon the prospective meal and dash for cover.

An examination of the locale revealed that a still warm but dead coyote had been killed by a buck deer and the other two had evidently been attracted to the scene by the activity. We also found that the dead coyote had been carried 23 yards up a 30° slope by another at a dead run which impressed us with the strength of that animal species. How many men could run full speed up a like slope carrying a 150 pound load? Albert Long

January 7: While making a patrol from the Snake River Ranger Station to the Cascade Patrol Cabin on the south boundary of Yellowstone Park we made an investigation of a spring-fed slough area of open water on Polecat Creek. We found an open water area on this creek about 1/4 of a mile long and from 30 to 40 feet wide which provided a good feeding area for water fowl. On this area we found 7 adult Trumpeter Swan and three gray cygnets feeding. Since first observing these swan we have checked on them several times and found that they are staying in this area and we are hoping that they will make this their home for the rest of the winter. Wayne Alcorn

January 7: The past few days we have been bothered around the Snake River Ranger Station by a black bear (*Eurarctus americanus americanus*) that has come out of hibernation even though the snow is now 48 inches deep. He has been endeavoring to get into the ranger station and into the wood shed. This bear has made his presence evident only during the night time and because of his efforts to break into the building, a search was made to locate the animal, by following his tracks. He was found and proved to be an old bear that was very thin and whose teeth were practically worn away. It is thought that the poor physical condition of this animal is undoubtedly responsible for his being out of hibernation and seeking food at this time of year. Wayne Alcorn

January 30: While returning to the museum following the lunch hour I had the interesting experience of watching a pair of Townsend Solitaires (*Myadestes townsendi*) who have been making their winter home in the Juniper (*Juniperus scopulorum*) and Limber Pine (*Pinus flexilis*) trees near the apartment house. These birds were trying to drive away from the Juniper

These are just a few of the observations that I have made in one month and must truthfully say that in my opinion everyone should see Yellowstone Park from the summit of Mt. Washburn to get not detailed knowledge, but a vast general idea of this wonderful area.

A MAMMOTH GAME STALK

by

Ranger Naturalist Lowell G. Biddulph

Six adult beaver (*Castor canadensis missouriensis*) and four young ones were observed at the beaver ponds on the game stalk the evening of July 16. During the twenty-minute stop at the ponds, ninety-two people observed adult beaver diving for food, swimming, feeding on fireweed shoots from the bank, and climbing over the dams from pond to pond.

The four young beaver seemed to be playing a modified form of tag game, clambering over willow banks and dams in pursuit of each other and swimming both under water and above.

A total of forty-seven antelope (*Antilocapra americana americana*) were observed on the hillsides and in the Gardiner meadows on the return trip to Mammoth, and a Rocky Mountain Bighorn ewe (*Ovis canadensis canadensis*) was seen silhouetted on the skyline above the eagle nest rock, nursing a lamb. Black bear (*Euarctos americanus cinnamomum*) were seen at the old dump grounds.

Although this particular evening wildlife was especially abundant, there are very few stalks that are not rewarded with enough animals and birds to prove interesting.

SLIDES ALONG MADISON RIVER RIM

by

Ranger Naturalist Sam Beal

Canyons are formed by the cutting of youthful, racing streams plus the action of wind, rain, weathering, chemical action, freezing, thawing and slumping of the side walls. These operations pass the role of ascendancy around. In some cases faulting or sinking of the earth's crust may be effective agents. Glaciers are also canyon makers.

The upper Madison River is filling more than it is eroding. However, the canyon is getting larger. This fact is particularly apparent right now as evidenced by a number of fresh land-slides.

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At the time the observations were made there were three grayish-brown eggs in the nest. The darker color was heavier on the large end of the egg.

Evidently there were other pipits nesting nearby because the anxiety of the flushed bird soon brought others to the scene.

John Mc Millan

June 27: A pair of Trumpeter Swan (*Cygnus buccinator*) were observed flying over Mammoth toward the southeast on June 27 at 8:30 p.m. Because swan have not frequented Swan Lake this year it is believed this pair were returning from feeding on the beaver ponds to small lakes behind Bunsen Peak, where they have been reported on several occasions, via Gardiner River Canyon.

Lowell Biddulph

July 4: The visitors attending the game stalk caravan from Mammoth Hot Springs today had the opportunity of witnessing a "wild" black bear near the upper beaver pond on the old Gardiner road. On topping the rise near the pond the bear was noticed snooping around the pond. The assumption was that the bear was hoping to intercept some unwary beaver that might venture too far from the pond and its actions seemed to support the assumption. After being under observation for several minutes, the bear suddenly became aware of the presence of humans and satisfied with a brief scrutiny, it turned and bounded up the hillside and out of sight with a maximum of speed and a minimum waste of time.

Franklin Potter

July 6: Ordinary uncolored moon rings which usually are attributed to the presence of moisture in the atmosphere by the "old timers" are said to indicate a change of weather within 48 hours are rather commonly reported. On this night a number of individuals independently observed and later mentioned an unusual manifestation of this phenomenon. Around the moon were observed two distinct rings and faint traces of a third. The two distinct rings were as broad as ordinary rainbows and like the latter were composed of the primary colors of the spectrum. All reported observations were made between the hours of 9:45 and 11:00 p.m. The moon was nearly full, the sky was partly cloudy, and no reason could be advanced by any of the observers to account for this unusual display.

F. P.

July 8: Two loon (*Gavia immer elasson*) were observed diving and feeding at Riddle Lake today. Several osprey (*Pandion haliaetus carolinensis*) were observed fishing. After a successful catch an osprey was returning to its nest when attacked by a California Gull (*Larus californicus*) forcing it to drop its prey. The gull immediately dived but missed the struggling fish.

L. B.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Yellowstone National Park
Yellowstone Park, Wyoming

YELLOWSTONE NATURE NOTES

Vol. XVIII

September - October 1941

Nos. 9-10

This is a series of bulletins issued regularly for the information of those interested in the Natural History and History of Yellowstone National Park and the unmatched educational opportunities offered by this region. PUBLICATIONS USING THESE NOTES WILL PLEASE GIVE CREDIT TO "YELLOWSTONE NATURE NOTES" AND TO THE AUTHOR.

Edmund B. Rogers
Superintendent

Albert E. Long
Illustrator

C. Max Bauer
Editor

THE CUNNING COYOTE

by

Ranger Naturalist Herbert F. Lystrup

Many interesting facts have been recorded about coyotes and their habits of living. On the night of July 31, 1941 the few people who braved the inclement weather to visit the grizzly grounds were treated to a fine display of coyote cunning.

There were thirteen grizzly bears on the feeding platform when a sleek coyote nervously pranced into the area. He approached within perhaps a hundred feet of the platform and sat down. A big grizzly obtained what appeared to be a big bone with considerable meat on it. He transferred it daintily from paw to mouth and suddenly whirled and dashed toward the fringe of forest. The coyote, at once alert, ran swiftly to a position between the bear and the forest. The grizzly suddenly became aware of the coyote and lunged fiercely at him. With remarkable ease the coyote sidestepped and circled around the bear. The bear sat down as though meditating the next move. The coyote manouvered carefully around the bear and with lightning speed dashed in toward the bear who reared up surprised but managed to strike out with a powerful foreleg. Again the coyote dashed in and feinted the bear out of position. The grizzly suddenly turned and ran toward the forest but in his clumsy haste lost the meat which the wary coyote at once pounced upon. With surprising dexterity he swiftly ran into

the forest. The huge grizzly was completely bewildered and baffled. He left the area slowly with a dejected lope rather ashamed of how easily the coyote had made away with his lunch.

The coyote must be given credit not only for bravery but for cunning and intelligence.

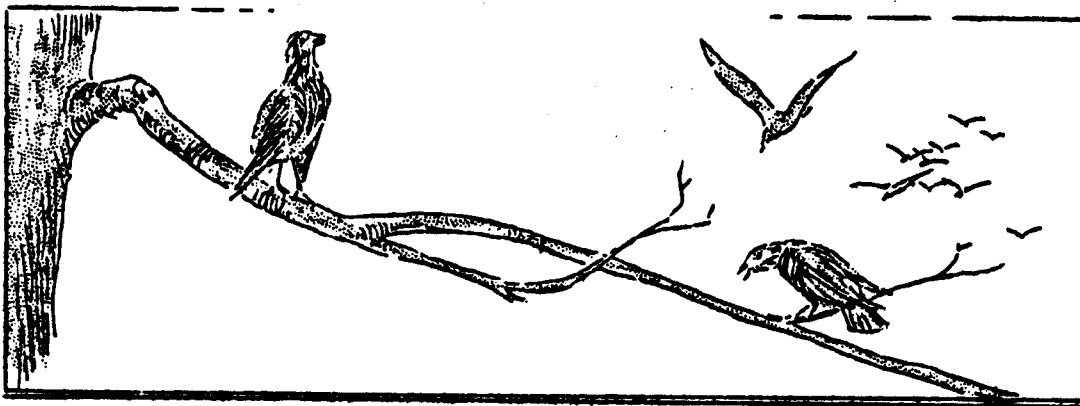
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A CROW'S CONDEMNATION

by

Ranger Naturalist Joseph F. Catmull

All summer a community of crows (*Corvus brachyrhynchos* *hesperis*) have held their roost on a large dead tree near Tower Falls. They have attracted considerable attention with their raucous cawing and seemingly useless short flights. One fellow condescendingly strutted near the observation platform a few times. A top hat and cane would not have added one whit to his bearing, but even crows can fall from grace.



One day we heard quite a rumpus in crow town. One bird came flying into the roost as fast as his frightened wings could take him. He hopped guiltily from limb to limb for awhile in considerable agitation while the few who were there seemed to eye him questioningly. Hardly had he settled when six or seven other crows came beating in and began pecking fiercely at his head. Then they all went after him. He half-heartedly fought them for awhile, and then flew high up trying to escape. But they were fast in pursuit. We watched them curiously, wondering what offense could deserve such treatment. I have several times heard that crows hold trials over the conduct of their members. This is mentioned also in "The Book of Birds" by the National Geographic Society. For all the world this seemed to be an instance of condemnation proceedings. They pecked the offender so viciously that many watching began to express sympathy for the culprit. His efforts to escape became weaker and weaker, and he seemed not able to see where he was going.

One of the interesting observations made during this encounter was the size difference in the two birds. Whereas the Western Red-tail seemed more massive because of his broad tail and wings, the Osprey was obviously larger in wing spread, and in length from beak to tail. The latter bird was also the more pugnacious of the two in battle.

Harry V. Truman.

August 19: As far as convenience for observation by the tourists is concerned, the arrangement of the nests of the American Osprey (*Pandion haliaetus carolinensis*) seems almost to have been planned, for from each of the prominent view points of the canyon at least one nest is in a favorable position for intimate study. One of the disappointments of this season has been the loss of their eggs by a pair of birds nesting in the immediate vicinity of Grand View. It is almost inconceivable that any enemy except perhaps the American Raven (*Corvus corax sinuatus*) could rob this nest in its inaccessible position. Two weeks after the young had hatched in the nests near Lookout Point and Artist Point this pair of birds was seen to add sticks to their nest and to mate. It was hoped that another clutch of eggs (normally two) would be laid whose development could be followed throughout the season, but such was not the case, and within another week the birds were not seen returning to the nest which has remained a barren bundle of sticks for the remainder of the summer.

H. V. T.

August 22: Over the summer I have been persistently impressed with the number of inquiries about the comparable heights of Yellowstone Lower Falls and Tower Fall. On August 22nd I decided to get an impression from a large group of people who came with the busses. With an attempt not to influence their judgment I took a count of the number who thought Tower Fall was higher than the Yellowstone Lower Falls. At least fifty percent thought Tower Fall was higher, or were uncertain. I concluded that many people fail to appreciate the 308 foot drop of the Lower Falls because it is generally viewed from such a distance, from Artist Point it is exactly one mile to the falls, and the canyon, due to its size, tends to diminish it. Tower Fall, to the contrary, with its 132 foot drop, builds in height by comparison, because of the elongated towers and narrow canyon, and the proximity of the view.

Joseph F. Catmull.

August 13: A total of 43 grizzly bears and two black bears were visible at one time at the bear grounds this evening. Probably the best "show" so far this season.

H. V. T.

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gravel and some breaking of the sinter away from the pool edge. This erosion was sufficient proof that there was geyser activity there.

On August 8 Ranger Naturalist Replogle saw the pool in action. Lang and Replogle have made a study of the cyclic action of the pool.

After the play, the pool drops two inches below the rim. Following this is a period of relative quiet during which time the pool rises one inch in the crater.

About 25 minutes after quiescence occurs a very slow escape of gas starts from the north end of the pool. This action increases for approximately ten minutes to the point when eruption occurs. The eruption lasting five minutes.

The nature of the play is a fountain, the gas explosions being large enough to raise the water to a beautiful mound five to ten feet high over a surface of 100 sq. ft. The play is not constant but intermittent as is the case with normal fountain geysers. Four large plays usually are counted after which the pool resumes an attitude of normal quiescence and a repetition of the cycle.

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GRIZZLY FAMILY

by

Ranger Naturalist Harry V. Truman

A very fine group of grizzly bears (*Ursus horribilis imperator*) that has frequented the bear grounds this season is a family of six, consisting of a mother with four large yearling cubs, and a large male, apparently her this season's mate. These animals usually come to the platform as dusk approaches, and they have been observed by tourists upon two occasions to swim across the river on their way to the grounds. Because they always come in from the same direction it is quite possible that this is a nightly occurrence. On one evening only three of the cubs accompanied the group, and it was later learned from tourists who observed the incident that the large male had attacked one of the cubs while swimming the river and had driven it back to the other side. Needless to say, spectators at the bear grounds get a real thrill out of seeing this mother with her four cubs and their "step-daddy".

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GRIZZLY AND BULL ELK BATTLE

by

Lester C. Abbie

On May 20th as I drove the snow plow around a bend of the road between Lava Creek and Blacktail Deer Creek I saw a large bull elk (*Cervus canadensis canadensis*) near the road with what appeared to be a man leading him. As I approached nearer the apparent man proved to be a medium sized Grizzly bear (*Ursus horribilis imperator*) which was reared up on his hind legs endeavoring to kill the elk.

This large bull had shed his antlers and the new growth was very small, so he had entered this struggle handicapped by the absence of his most useful weapon, the long sharp tines of the mature antlers.

The two combatants were fighting at close quarters, the elk fighting for his life, the bear endeavoring to kill, probably for food. The bear had the elk gripped around the neck with his forepaws and was endeavoring to throw the elk, after the fashion of a rodeo performer bulldogging a steer. The elk in turn was endeavoring to get free and by so doing was shoving the bear around backward along the road. Thus from my vantage point I had thought that the elk was being led by someone.

I stopped the snowplow and taking my camera started out to try and photograph the incident. This action on my part disrupted the battle temporarily, for the elk broke loose from the bear and started running away. He seemed partially stunned from his encounter. The bear ran right beside him and kept reaching out his paw now and then to slap the elk on the side of the head. The elk by this time appeared to be about exhausted for his tongue was lolling out and he seemed wobbly.

The slapping action of the bear soon caused the elk to stop and fight again, this time charging the bear, which reared to his hind legs again. The bull's head struck the grizzly in the stomach and the bear then grabbed the elk around the neck. With all of his strength the elk would bunt the bear, each time raising the bear's hind feet from the ground. Shortly the elk became so tired that the bear's weight brought him to his knees.

While all of this was happening I had approached quite near the animals and suddenly the Grizzly sensed my presence. He reared up, sniffed, snorted, and allowed the elk to get up and stagger off into the woods. The Grizzly became frightened and ran away apparently suffering none from the elk's efforts to protect itself.

On my return trip I saw no further evidence of either the mature bull elk nor the Grizzly bear which I had guessed as being about four years old. Whether the bear finally succeeded in relocating his prey has remained a question in my mind.

GRIZZLY BEARS GET FOOD

by

Thomas Thompson

On May 29, 1942 at about 4 o'clock in the afternoon while I was putting up signs along the highway near the Gibbon Meadows I witnessed a wildlife incident seldom seen by human beings.

When I stopped I noted a small herd of elk, about a dozen or so, on the right bank of the Gibbon River about 300 yards away, and across the River from me. The herd appeared to consist of cows, a few of which were lying down. Suddenly they got up and all of the elk started to run. After running a short ways they stopped and looked back up the river. I, too, looked up the river to see what had startled them and I saw close to the bank a Grizzly mother with three yearling cubs coming down stream toward the spot that the elk just left. A light snow was falling and visibility was not real good, but I could tell by her determined gait and the hump on her shoulder that she was a Grizzly.

When the Grizzly and bear cubs came to the spot where the elk had been lying down they commenced to beat the bush, and search for something. She and the cubs spread out, searching on the ground first to the right and then to the left making short jumps as they searched for their prey. After a few jumps I heard a squeal and I knew that they had scared up a calf elk. On investigation and closer observation I found that they had two calves instead of the one. The mother Grizzly was after one and the cubs were after the other. They would get the calves down and then the calves would bob up again, and try to get away.

The squealing of the calves brought back four or five cows close to the bears in an effort to protect their young and I started to blow the horn of my automobile. The cubs stood up and looked all around for a second and then started to run away so I kept blowing the horn. Then the mother grizzly started to run back up the river in the direction the cubs had gone. She ran about a hundred and fifty feet, stopped, turned around, and came back to pick up the calf elk she had dropped. She got the calf and went back up the river. She carried it about a quarter of a mile, dropping it several times, and finally went on out of sight into the timber where the cubs had disappeared. I kept blowing the horn all this time and probably saved the life of the calf elk which the cubs had been after. With the bears' disappearance into the woods the interesting experience came to an end.



LEAVES FROM OUR DIARIES

May 31: Today while travelling the road below Gardiner toward the Game Ranch I had the opportunity to observe the precociousness of nature when I came upon a doe antelope (*Antilocapra americana americana*) which had just given birth to twin kids. One little fellow had just gained his feet and the mother was busy cleaning the other. I approached to within about ten feet of the animals. The mother trotted off a short distance and the little one that was on his feet became frightened and immediately ran away at a very rapid speed travelling about 100 yards before lying down. He ran so fast that I was unable to head him off running as fast as I could. This for me was a new experience to see an animal so newly born display so much energy and stamina.

Albert E. Elliott

June 3: This afternoon at about 4:30 p.m. as I was driving along the road toward West Yellowstone from Madison Junction I had the good fortune to see a large female grizzly accompanied by three young grizzlies probably three years old. These bears had apparently just killed a calf/for that is what they were eating as I approached.

elk

David Condon

June 5: A nest of the American Raven (*Corvus corax sinuatus*) was located near the Midway Geyser Basin today. The nest has young birds in it for although they were not observed the adults were watched carrying food to the nest. The nest is located at an inaccessible spot in the high cliffs and for a detailed examination of the nest one would have to be lowered from the top of the cliff down some 30 feet.

D. C.

June 5: On the 3rd I watched a Sandhill Crane (*Grus canadensis tabida*) incubating her eggs. This same bird was visited this afternoon and the young had hatched so recently that the egg shells and membrane were still moist. The two young had slipped from the nest into the nearby reeds as I approached. They were easily found, however, and returned to the nest. Fine pictures of these birds were made in both colored 16 mm movies and the 35 mm kodaslides.

D. C.

1946

Yellowstone Nature Notes

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BEAR FEEDING IN DECEMBER

by

W. Verde Watson, Park Ranger

Having just returned to Yellowstone after three and a half years in the Coast Guard, and going over my old Park Ranger diary, I find the following notations under date of December 16, 1940:

"I was considerably interested in the trail of a bear (*Euarctos americanus americanus*) that "Scotty" Chapman and I crossed yesterday, so went back today, followed it for over a mile, and noted a thing or two of interest.

"It was the trail of a lone and fairly good-sized black bear that had crossed our ski trail about midway between West Yellowstone and the water gauge on the Madison River, heading northward. To begin with, as I followed the trail, I expected to find it heading determinedly in a certain direction, as I thought the bear was probably bound across country to some definite destination, probably a den. Thus I was surprised to find a decidedly meandering trail, very obviously made by an animal that was hunting for food and not just making a cross-country trip.

"In the distance I followed his trail, the bear had made more than twenty stops to look for food, and though he had made a half-mile of northward progress, he had actually traveled at least twice that far, zig-zaging from east to west of his course. Much of this meandering was from tree to tree, and near several of these trees he had dug through the foot of snow and a few inches into the frozen ground, presumably in search of food. His claw marks were often plainly visible in the firm earth, as was the imprint of his snout where he had pressed it into the shallow holes he had dug. Some of his zig-zaging took him across rather large clearings, and even in these he often stopped to dig into the ground a few inches as he had done near the trees. In the clearings there certainly was no visible reason for digging in any certain spot. It was also noted that the bear would often turn sharply or even back-track a short distance and then go several feet to one side to dig one of his holes. This action seemed to indicate that he had probably smelled something intriguing and had gone aside to investigate.

"The farther I followed the trail the more evident it became that this bear was much more interested in finding either actual food or some herb that his vitals craved than in getting to any destination. Altogether, it was something of a surprise to me, and also interesting, as I had thought bears would either be in hibernation by this time or at least hanging around very close to a den, instead of making forays in search of food.

"A few days after the above observation a similar bear trail was seen crossing into the park about a mile south of West Yellowstone. This may have been made by the same bear, or another, but at any rate bear or bears were still active there in the middle of December."

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Illustrations in this issue -

Cover	-----	by	David de L. Condon
Pages 2 and 9	-----	by	William S. Chapman
Page 4	-----	by	Harold J. Brodrick

BULGY AND ALGY

(The sad saga of the man who wanted a big fur coat and made the mistake of choosing a hungry bear to make it from.)

Bulgy was a big, black bear - -
In Yellowstone wilds he isn't rare.
His swollen paunch from his back would sway
As he looked for food the livelong day.
He lived to eat, didn't eat to live;
Never a thought to his shape he'd give.



Algy was a man - - crazy as a loon.
Folks here would say, "The cops'll get him soon."
He didn't want a home, a fireside, or wife --
And had but one desire in his mortal life.
He didn't want a car, a horse, or a boat --
All that he wanted was a big fur coat.

Algy went to the woods one day,
To find a coat, his survivors say.
Bulgy was a-snoozin', feeling rather blue,
When to his nose came an odor that was new.
He rose to track the smell, with a bound,
And presently our hero, Algy, found.

Algy thought, "Here's the coat for me."
Bulgy thought, "Good to eat? Well, we'll see."
To make this tale shorter, I'll merely say,
Algy got his coat an unusual way.
Bulgy was swelled -- but not with pride --
For he had Algy tucked away inside.

-John Macbeth
(Formerly in Yellowstone,
now in Mount Rainier.)



1947

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Yellowstone Nature Notes

Examination of the body of the fawn revealed that the hindquarters had been practically consumed but the rest of the flesh was still fairly warm which indicated, in the below freezing temperature, that the kill had been made not long before we arrived. After we left two coyotes that had been lurking not far away returned to the spot again but seemed to have their hunger satisfied as they made little effort to eat more.

We are quick to blame the predators for such an act as this, yet we are predatory and frequently kill merely for the sport and not for the need of food. We frequently send wounded animals into the woods to suffer in silence while the predatory animals seldom wound without finishing the job.

We can censure ourselves for our actions for we can control them but we cannot rightfully censure the coyotes or other predators for their actions. They know no other law but that of fang and claw - theirs is the way of the wild.

GRIZZLY BEAR IN PELICAN MEADOWS

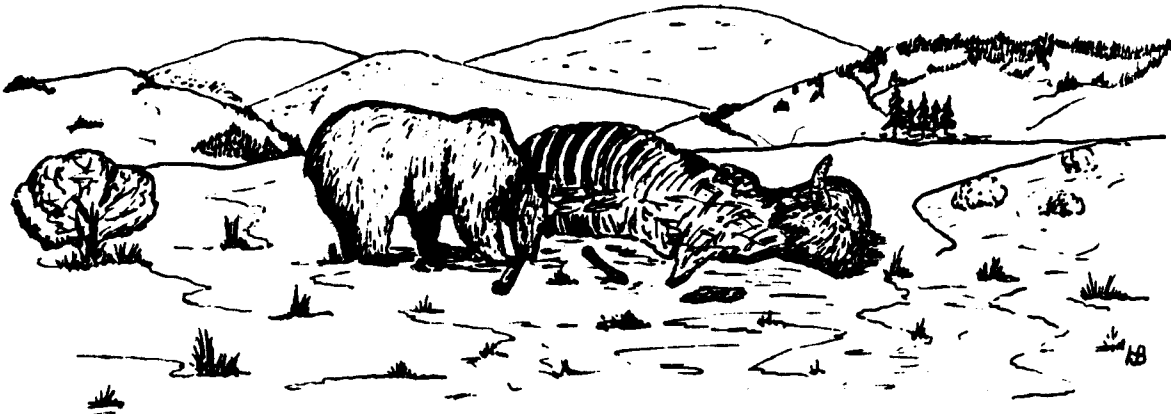
Earl M. Semingsen, District Park Ranger

In mid-October 1946 Ranger Nyquist and I were packing winter rations and supplies to the Pelican Creek patrol cabin. We were travelling about mid-way between the Pelican Creek fire road bridge and the cabin, when, as we rounded a point of timber in the meadows, our attention was centered on a large Grizzly Bear out in the sage brush and grasses. At first glance the animal appeared to be a large dark colored tree stump. We were about 100 yards away when it heard us talking or the noises from the horses' hoofs aroused its interest. The bear first reared full length and stood on its hind feet to take a quick look at us, then quickly turned and ran about 10 yards in the opposite direction from us. It then just as quickly turned and came in our direction on a dead run. For a brief moment I thought it may have decided to stand its ground or charge our small pack outfit. However, it returned to the same spot in the meadow where we first observed it. Then was when we realized that the bear was feasting on some animal that had been killed. When the grizzly arrived at the kill he made several hurried attempts to snatch an extra bite.

By that time our yelling and war-hoop sounds apparently frightened him for he turned away, running full speed toward the timber which was about 200 yards distance. When the bear reached the timber he took another upright look at us, then ran into the woods. Bill Nyquist and I continued down the trail with our horses for they were heavily packed and we had quite a journey ahead. Looking in the direction that the bear had run from us, we saw two grizzlies standing upright and nervously looking us over. These animals were about 500 yards from the trail.

After arriving at the cabin we unpacked our horses, stored the supplies in the cellar and otherwise attended to work necessary to prepare

the place for winter. I stepped out the cabin door to check on the horses for it was snowing heavily; visibility was estimated at 300 yards distance. Glancing over the small meadow by the creek that flows near the cabin I thought I noticed a movement in the sage brush and on closer observation I was sure a large clump of snow-covered sage brush was taking off slowly to apparently transplant itself. Then I called to Bill who was munching a graham cracker and peanut butter sandwich (Nyquist's favorite - you should hear him give the Norwegian dialect and facial expressions on this delicacy). When Bill came to the door we watched a snow-covered grizzly root and grub out morsels of food. The animal could not hear us talking low during the howling wind and snow storm. After watching him patiently scratch about for his meal, Bill asked "Shall we give him the works?" meaning our usual yelling, war hooping, and jumping around like a couple of wild Indians. It was agreeable with me so we let him have the first blast of scary sounds. At first the bear apparently could not accurately detect the direction from which these crazy noises were coming; however he acted quite normal and stood on his hind feet looking in a 180-degree arc for something. When we gave him our second blast of yells with motions indescribable, the bear located us and immediately reversed and ran into the timber taking one more good look at us before leaving our sight.



On our return from the cabin to the Lake Ranger Station that day, we planned our approach to the meadow where we observed the grizzly feasting on a kill, so that we might see more bear than previously. As we rode up over the top of a rolling knoll, we were surprised to see only one grizzly feasting on the kill; however there were two (mother and a cub) about 700 yards from the scene that had apparently been eating there and had moved away in deference to the huge male that was on the feasting grounds. Two others were at the edge of the timber nearest the kill. Since the feasting bear did not see or hear us we decided to see how close we could approach to the animal before he would. We continued on toward him at a normal horse walk and rode within 50 yards of the animal in the open meadow before he noticed our presence. Like the others he wheeled and ran very swiftly to the timber, not stopping for a second look as we had expected him to. Upon observation and examination of the scene of the kill, it was learned that a mature buffalo had been the big attraction for the grizzlies observed there. The buffalo was practically 100% consumed, only a small piece of hide, a few skull bones, and the feet remaining, together with

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the paunch and a large quantity of scattered undigested food. The sage brush and grasses immediately around the kill were trampled down over an area about 30 feet in diameter.

During this eventful day seven Grizzly Bear had been seen by us in Pelican meadows under the spell of the primitive. The day's events will remain as a memory of Yellowstone's never-ending possibilities to offer to everyone the wilderness unadulterated in all its pristine glory. No doubt there are many bear that live in this area since food for them is plentiful. One hundred and twenty six buffalo were counted in the meadows the following day together with numerous herds of elk.

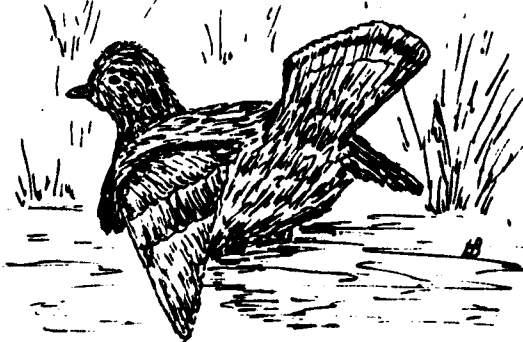
"SARAH BERNHARDT" FLIES AGAIN

Frank F. Kowski, Park Ranger

Everyone has heard of or witnessed at some time or other the wily attempts that a female bird will sometimes use to entice danger away from her nest or her young. Probably the most common tactic practiced by the feathered mother is to use herself as a decoy and feign injury in an attempt to lure the predator into following her instead of preying on her offspring. This maneuver is common with grouse, quail, and other upland game birds as well as with some waterfowl. Ornithologists tell us that smaller birds are also aware of this protective measure and use it frequently - and with enviable success.

The all-time high in this performance was portrayed for Ranger Sedar and myself this summer as we were riding down the Snake River trail several miles east of the ranger station. Suddenly from beneath the horses' feet burst what appeared to be a mortally injured ruffed grouse hen. She fell into the dusty trail ahead of us, rolled over on her side, trailing her extended left wing and frantically flapping the right wing.

We stopped our horses immediately and, although I had seen similar act-resses in the identical role many times during past years, I was momentarily deceived by the earnestness of her characterization and found myself wondering what calamity had befallen her. However, in a second or two she overplayed her part and with an excited 'chrr-r-r' began to limp down the trail still dragging the injured wing. Twisting around to see if she were being followed she made every effort to draw our attention away from the faint 'chirping' of her brood which we could glimpse scurrying through the grouse whortleberry just off the trail to our left.





LEAVES FROM OUR DIARIES



March 23 Several specimens of *Picea Engelmannii* occur in this area with cones borne over the entire tree. We have seen only one other tree with this variation in the park - at northeast entrance. Normal cone growth in this species is in upper third of tree.

Ben Arnold (East Entrance)

March 25 Six Great Blue Herons were observed on the Madison River inside the park today. These birds had started to build nests in the tops of some tall pines.

Walter Gammill

March 27 During the course of our inspection of the elk winter range along Boundary Creek on March 27, we were surprised and delighted to find the first spring arrivals of bird life in the form of a flock of at least one hundred red-winged blackbirds. They were enjoying the warm sunshine and the shelter of a grove of pine trees along the foot of a steep hill just east of Silver Scarf Falls. Even though the snow was still many feet deep in this area their merry liquid notes held a promise of spring.

Lee Coleman

March 27 Up to the latter part of the month a colony of beavers have been active cutting the cottonwood trees about 1/4 mile below the Lower Gardiner River bridge.

Rudolph Grimm

March 27 With the exception of six coyotes seen on a patrol along the Yellowstone River to Cottonwood Creek during the early part of the month, only an occasional coyote was encountered during March. A dead coyote was found near the old CCC Camp; cause of death could not be accurately determined.

Rudolph Grimm

Rudolph Grimm

March 29 The remains of a coyote was found at the entrance to a cave in the rock formation on the hotspot across the river from the Snake River Ranger Station today. Sex was undetermined.

Frank Anderson

April 12 Today, about one mile on the Mammoth side of the Petrified Tree road, I saw my first bear of the season. It was brown and very large. I knew it had been in hibernation all winter and was surprised to see that it was not at all thin and scrawny like most bears I had seen early in the spring at other times.

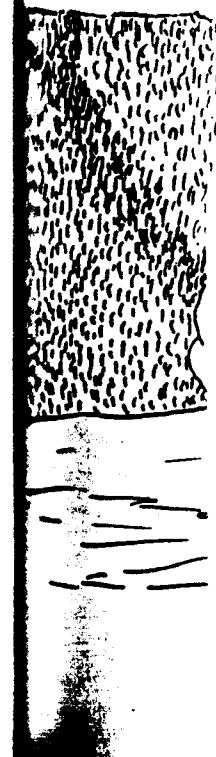
LeRoy Van Cott

April 15 Violet-green swallows put in their first spring appearance today, only two days later than last year when they appeared on

April 13.

Harold Brodrick

Y



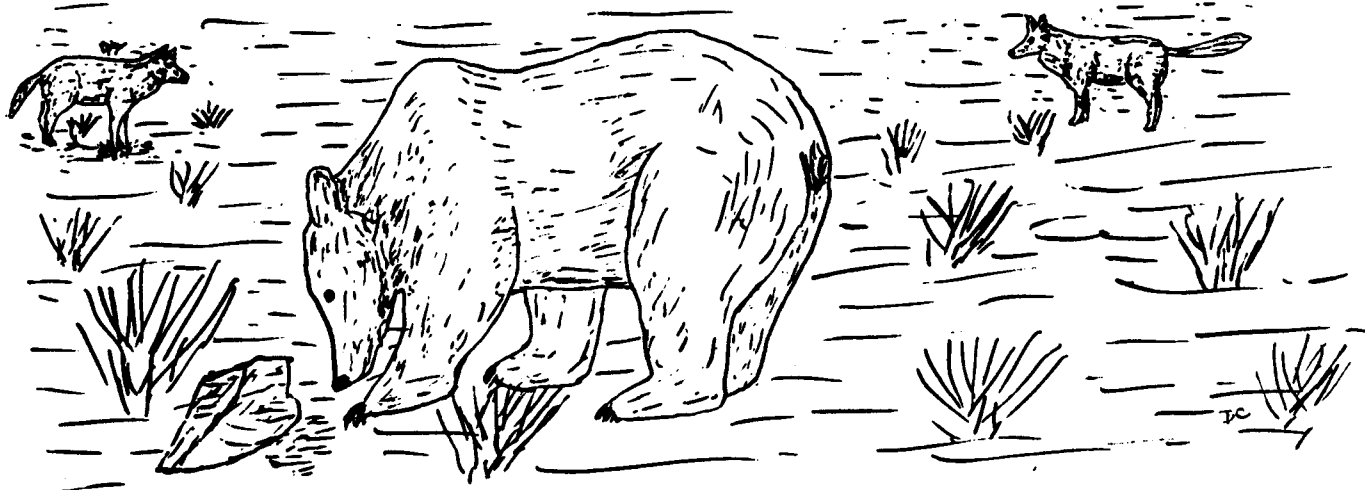
to a higher sphere in life
And also gives one an appreciation for art,
and natural beauty.
For after such wonderful contacts
beyond fully describing
We begin to feel in only a small way
as man in his infancy can feel
The magnitude of our Master's creation.

'Editor's note: Mrs. A. M. Knudson of Provo, Utah is a typical American mother, and her prose poem is representative of the inspirational values received by the average citizen of the United States who visits the greatest of our national parks - Yellowstone. From its natural assets they derive benefit and enjoyment in untold quantities and only occasionally do we find the individuals expressing themselves as Mrs. Knudson has done. It seems certain that although the visitors do not express themselves, they derive values of comparable character to this which they retain in their hearts as memories of their close association with Nature.

COYOTE - BEAR RELATIONS

Rudolf Grimm - District Park Ranger

Merle Rugrud and Frank Lancaster of the Montana Wildlife Restoration Division were riding the range on Swan Lake Flat near the headwaters of Glen Creek on the morning of May 29, 1947 in connection with a cooperative elk-tagging project. On the preceding day they had found two coyote dens in this vicinity. Some distance away they now saw what they believed to be two bear cubs playing around an older bear. The latter appeared to be grazing. Upon approaching within 100 yards, the men saw that the objects of their observations was a grizzly bear and two coyotes.



The small predators were making quick dashes at the grizzly and were snapping viciously at the larger animal, but without getting close enough to actually bite the bear. The grizzly, though apparently annoyed by these maneuvers, was slowly ambling along, occasionally grabbing a bite of grass or making a pass at the closest coyote. Finally, as if bored by the proceedings, he laid down. But the coyotes persisted in pestering him, so the bear resumed his travels. However, now he was in a less amiable mood. He made lunges at his tormentors and in his rage he beat up clumps of sage brush, though they were devoid of coyotes.

After a few minutes of this, the bear rambled off and it became evident that the coyotes had succeeded in their efforts to drive the larger animal from the vicinity of their den. As he left in a rather unhurried manner, the large carnivore did not give the impression of having been defeated, but just did not care to be bothered any more.

Grizzlies are known to dig out the dens of mice, ground squirrels, and marmots, and it is likely that bears would not be adverse to making a meal of some coyote pups. Apparently the coyotes are aware of this trait which may explain their efforts to keep the grizzly away from their den in this particular case.

A short time after Rognrud and Lancaster resumed their travels, they encountered another mature grizzly and three yearling cubs. It is probable that the grizzly observed earlier belonged to this family group. These bears, too, were traveling, taking bites of grasses as they moved along.

Approximately a thousand head of elk now populate the Swan Lake Flat country of Yellowstone Park and it is calving time. Grizzlies as well as black bears have been observed killing and feeding upon elk calves and there is reason to believe that the former occasionally kill mature elk. It is likely that the grizzlies observed were attracted to the open Swan Lake Flat country by the availability of the elk calves.

MOTHER ELK LACKING PROPRIETY

John Bauman - District Park Ranger

In accordance with the season and other factors, a cow wapiti gave birth to her calf during the night of June 8, 1947. This cow chose to be different and instead of selecting a primitive woodland location, she preferred the lawn in front of the lower Hamilton store at Old Faithful, much to the consternation of the store employees who did not feel up to midwifery. The mother and child, however, managed very well until morning when curious tourists began flocking around in great numbers to gape and advise. The poor old cow stood it for a couple of hours, then wearily forced her way through the crowd, nudging the tender-hoofed calf ahead of her until they reached the shelter of trees and a semblance of privacy.

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BEARS - I DON'T BLAME YOU!

Frank Kowski - Park Ranger

Suppose for a moment that you are a Yellowstone bear!

You are probably seated on the edge of the highway amusing yourself at the antics of the human race as it tears past at an excessive speed seeking rest and relaxation amid the splendors of Yellowstone - scarcely pausing to enjoy God's handiwork that you know so well. You shake your head in wonderment!

Amid a squeal of brakes a car skids to a halt in the middle of the roadway and occupants pour out - leaving doors wide open. Another and still more vehicles stop until you fear for the safety of the humans in what you realize is the worst traffic jam you have ever seen.

Cries of "There's a bear," "Grab the camera," "Where's the candy" startle you as people charge across the highway irrespective of approaching cars. Suddenly you find that you have been discovered. Whether you like it or not this is what happens:

You are surrounded inside a tight circle.
You are petted by the offspring of an incautious parent.
You are yelled and screamed at.
You are separated from your cub by a wall of human flesh.
You are poked with a stick until you sit erect to be photographed.
You are pelted in the ribs by a stone-throwing adolescent.
You are fed popcorn one kernal at a time.
You are hit in the face with an unopened can of sardines.
You are kicked in the rump for not posing properly.
You are subjected to every indignity in the book.
You fear what will come next.
In short - YOU ARE ABUSED!

Friend, your disposition must be a lot better than we give you credit for. I don't blame you for biting and scratching your way out of this mess. I'd do it too!



1948

16

Yellowstone Nature Notes

are all rusty beneath and they certainly earn their name of Little Quank by the blatant sound they make.

Chickadees are always at the tray and tree and they eat everything - suet, meat and bread. We have only one Black-capped but probably a dozen Mountain Chickadees have been here all winter.

On March 30th we saw our first Juncos - three little black-capped fellows, probably Junco Hyemalis oregonus, and they stayed around for a week breaking up whole kernels of wheat in their powerful bills. Then they were gone but on April 23rd a flock of about thirty Pink-sided juncos (Junco hyemalis mearnsi) descended on us and they have remained. The funniest thing about them is the way they scratch for seeds - not like a sensible barnyard hen who stands on one foot and scratches with the other - not juncos! They scratch with both feet at once in a sort of double shuffle which is most amusing to watch.

We have an occasional Clarke's Nutcracker, one Magpie and a pair of Ravens in the valley and twice have heard owls but they are all outsiders and do not rightfully belong in our select bird family.

It has been a long, snowy winter and few animals stay up this far when below us a few miles the ground is partially bare. Two or three moose tracks this winter and no deer or elk. Coyote tracks on the snow crust, hunting for grouse, mice, squirrels and weasels. A few weasels, lesser and greater, and one or two marten tracks. An old beaver built a house and took up his abode near the summer ranger quarters and we've been giving him a hand. We feel sure he is Beaverdom's worst engineer for he has felled five or six trees this winter and every one of them lodged. So we have untangled them, hacked off the upper branches and carried them to his house and even made trails to the big trunks so he could get to them to gnaw off the bark. All of our donations have been received, bark eaten and bare sticks stuck in mud on the creek bottom. To date we have not seen Mr. Paddle-tail. We feel sure he will be mildly surprised when the rangers move in next to him.

All winter we had a squirrel who chattered to be fed on bright days and even ventured into the kitchen when a door was left open. Now we have five squirrels and they set up a terrific clamour each morning at dawn (5:30) on our porch. It takes many pancakes to satisfy them - I have even baked bread for the family.

Spring is here. April 12th we had 63" of snow and April 23rd it was down to 35". But the proof of spring lies in the tracks laid down in an inch of new snow the night of the 25th. A big black bear walked all around the cabin and by the deep holes in places the crust wasn't holding him up very well. He pawed over all the old cans and bottles in our dump but, as we burn all garbage and even burn out the better smelling cans, he found nothing to his liking and hasn't been back since. Maybe it was "Piney Bear". Have you read Helen (Mrs. Ted) Ogston's new book? It is very good.

Well, Dave, that is about all and if you find anything of interest you are more than welcome to use it.

Sincerely,

Peg and Ben Arnold

WINTER OBSERVATIONS OF TRUMPETER SWANS

Curtis K. Skinner - Assistant Chief Ranger

That trumpeter swans of Yellowstone National Park and adjacent areas are distributed widely in winter, is indicated by ski patrol observations of rangers and others during January, February and early March 1948. In January 87 trumpeter swans, including 18 cygnets, were observed at the following locations: Hebgen Lake, 50 adults and 16 cygnets; Shoshone Lake, 4 adults; channel between Shoshone and Lewis lakes, 9 adults and 2 cygnets; Lewis Lake, 2 adults; and Polecat Slough, 4 adults.

Subsequently, on February 4, 30 swans (including 4 cygnets) were seen on the Madison River about midway between West Entrance and Madison Junction. And during the period March 2 to 4 patrolmen observed 10 adults and 5 cygnets on the Yellowstone River between Canyon and Lake, 3 adults on Squaw Lake and 5 adults near the junction of Pelican and Astringent creeks.

Obviously these observations made between such widely separated dates as January 12 and March 4 do not constitute a count or inventory of the swan population. Some movements of birds from one area to another probably occurred. The information obtained does, however, add materially to previous records concerning winter habitats of these rare birds.



HOW MUCH DO BLACK BEARS WEIGH?

Walter A. Kittams - Park Biologist

Too often we think in terms of the unusual, feeling that exaggeration is necessary for emphasis. This applies to impressions of the size and weight of Yellowstone bears. Anthony, in his Field Book of

caused a commotion and he followed made a total away from the

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EDITORS NOTE

The given by Rangers representative low valley where we find winter months

While Buffalo Creek meadow. I know well hill so as binocular.

For of an elk he occasionally far enough

1948

Yellowstone Nature Notes

North American Mammals, gives the weight of the black bear as "200 to 450 or 500 pounds". Striking the average within that range is rather difficult because weights vary considerably with sex and age.

When eight bears were killed in early September of 1947 because of their habits of injuring visitors, I was able to make measurements of some mature females and cubs. Park personnel and many visitors became well acquainted with these bears, not only through their begging habits, but because of the injuries to humans attributed to them. If these bears can be remembered well enough to use them as guides in judging the sizes of other bears, the following data might be useful.

<u>Bear</u>	<u>Sex</u>	<u>Age</u>	<u>Weight</u>	<u>Total Length</u>
#1	Female	Mature	237 lbs.	52 in.
#2	Female	Cub	75 lbs.	39 in.
#3	Male	Cub	82 lbs.	40 in.
#4	Female	Mature	235 lbs.	57 in.
#5	Male	Cub	75 lbs.	38 in.
#6	Female	Mature	227 lbs.	56 in.
#7	Female	Cub	80 lbs.	39 in.
#8	Male	Cub	87 lbs.	41 in.

Two of the families, represented by bears No. 1 to No. 5, "worked" the highway about four miles west of West Thumb. The scene of operations of the other family was about midway between West Thumb and Lake Junction. Probably this coming summer there will still be evidence in the form of food wrappers and cans at both of these locations to remind us of them. Numerous tourists could not resist rewarding the beggars with food in spite of regulations which prohibit the practice.

All three members of the first family, No. 1 to No. 3, were very fat as would be expected at this time of year. The canine and incisor teeth of the mother were chipped and well worn, indicating that she was relatively old. Perhaps she was inherently a small bear, having a length of only 52 inches, and added weight as she became older as some people do.

The bears of the second family were in excellent condition though the mother did not have the reserve of fat which the other two mature females had. Probably the cub of this group enjoyed the company of a brother until late July. An automobile critically injured a cub in that vicinity, and rangers acquainted with this family were quite sure that he belonged to that group. The excellent condition of her teeth indicated that the mother was relatively young, but her weight and length rate her as full grown among the three adults. Perhaps she would have added several pounds in later years if man had not infringed upon her existence.

All three bears of the third family, No. 6 to No. 8, were brown in color. The canines of the mother were chipped and somewhat worn, placing her between bear No. 1 and No. 4 in age. She was in fair condition, and her cubs were very fat.

We might consider the cubs to get some idea of their growth and variations with sex. Peculiarly cub No. 5 was among the smallest in weight and length. Even though he had been without the competition of a brother or sister for six weeks, he was relatively small. This raises the question, do single animals benefit through additional care and food in comparison to twins? In both families which had a cub of each sex the males were larger in length and weight than the females. The two female cubs averaged about 78 pounds, and the three male cubs averaged about 81 pounds. At the age of about eight months the males are already larger than the females.

The weights given in the preceding table should not be considered as exact live weights. The measurements were made a day after the bears were killed; therefore an allowance would have to be made for loss of blood and desiccation if comparisons were to be made with weights of live animals. The weights as shown are sufficiently accurate for most uses. If we remember that those three mother bears averaged 233 pounds and the five cubs averaged 80 pounds in late summer, we can evaluate the "whopper" stories about huge bears.

COYOTES ALONG THE YELLOWSTONE RIVER

DeLyle R. Stevens - District Park Ranger

On January 20, 1948 Ranger Way and I left Gardiner at 9:00 A. M. to ride to Lower Blacktail Cabin. As we approached a sage flat about a half mile above Bear Creek, we saw a coyote on the hillside above us. Since we were under orders to collect any crop-ear coyotes, in connection with migration studies, we examined the animal through binoculars. While looking through the glasses we found five coyotes on a small section of the hillside. Upon investigation, we determined that they had been feeding on the carcass of a cow elk. Since five seemed to be a large number of coyotes to be at one dead elk, we decided to keep a count of all of these animals seen during our trip.

The next coyotes observed were about a mile below the Crevice Creek crossing. The trail runs above a section of slide rock, and in the rock we saw four more coyotes. All of them were small, probably a litter of pups. They had been feeding on the carcass of a deer.

We saw no more coyotes until we arrived at Crevice Lake, where a large coyote ran across the ice on the lake. This brought our total for the day to ten.

On the 21st, we left Lower Blacktail to ride to Hellroaring Creek. Opposite the mouth of Oxbow Creek we saw two coyotes cross the trail ahead of us, and a minute later three more followed them. We approached cautiously to see if there were any more coyotes in the vicinity. We could see the carcass of a calf elk lodged in the boulders of a riffle in the river, about six feet from shore. A large coyote, which had not detected our presence, was attempting to get to the elk. As he gingerly tested the water with his forefeet two smaller coyotes walked out toward him. The large coyote ruffled his mane and rushed at the two smaller animals, which immediately fled. At this time our horses

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| 54. One cook's linen apron. | 66. One cotton coat (old road duster). |
| 55. Colored mixing bowl. | 67. Several pieces of iron, copper and aluminum wire. |
| 56. One pair of men's garments. | 68. Innumerable silicified tions of printed paper. |
| 57. One wooden butter tub. | 69. One quart mason jar. |
| 58. One kerosene lamp. | 70. One vaseline bottle. |
| 59. One large copper lid. | 71. One bromo bottle. |
| 60. One oak evenner. | 72. Boards. |
| 61. One single tree. | 73. Poles. |
| 62. Several large barrel staves. | 74. Rocks. |
| 63. Two ear tags for cattle, which bore the name of John Kauer, Rexburg, Idaho. | 75. Sand. |
| 64. Several large pieces of window panes. | |
| 65. One oven rack. | |

The bulk of the material removed from the Thud consisted of poles and particularly rocks. The rocks ranged in size from pebbles to boulders; not less than one half ton of the same was recovered.

Perverted uses of Yellowstone's thermal wonders have definitely produced measurable changes in the functioning of a few of the features. Some of the small geysers and springs have had their pipes completely choked by sand and rocks, producing a non-functioning condition. That the same is not true for many of the larger features is no doubt due to the fact that sufficient time has not yet elapsed since discovery for misinformed and unappreciative visitors to bring it about. However, visitors stopping at the Fountain Hotel who were guilty of the malpractice with the Thud Geyser have been apparently prolific. With the lapse of the years their descendants are in ever increasing hordes swarming over the geyser basins and in too many instances are they emulating their ancestors.



LEAVES FROM OUR DIARIES



May 20: Today a flock of Harlequin ducks were observed on the Yellowstone River about a mile below LeHardy Cascades. These birds were photographed and some interesting colored movies secured.

David Condon

May 30: Two grizzly bears were observed feeding in the meadows near Cascade Lake.

W. Verde Watson

May 30: A check of moose that could be seen readily from the highway was made this evening and a total of 19 were seen between the upper end of Willow Park and Mammoth. One new born calf was seen near the Bunsen Peak road above Rustic Falls.

D. C.

PERMISSION GRANTED

William A. Fischer - Park Ranger Naturalist

It was a warm summer morning. A steady stream of visitors poured into the museum, some wanting information, others just looking. The janitor was busy polishing the glass in the display cases when I became aware of an elderly man and his son studying in great detail the large plaster relief map of the park. Heeding the "do not touch" signs they stood their distance, but the boy seemed to be staring off into space. The man turned to me and said, "I know its against rules, but could my son touch the map?". The question momentarily floored me, but sizing up the situation I told him it would be all right.

It was a thrill to watch his delicate fingers trace out the topography of the Yellowstone, creating mental pictures of this scenic wonderland. Our relief map had served well as a story in braille.

THE VERSATILE BLACK BEAR

George B. Chaffee - Seasonal Park Ranger

On the evening of August 27, Ranger Boyd Cohorell and I were making a check on boats between Lake and Fishing Bridge. We were cruising along in the Yellowstone Park Company Gar Wood speed boat between Stevenson Island and the mainland; suddenly we observed a swimming figure headed toward the middle of Lake Yellowstone. It was first assumed that this moving object must be a man, but lo and behold it very soon turned out to be none other than a large black bear, swimming with the agility and grace of an otter and not altering his course for anyone. Our boat pulled along side, received a depp scowl from the determined swimmer, and after failing to intimidate him or slow him down we pulled away. The bear was last seen heading for Stevenson Island with no more fear of the lake than his white polar cousin might have shown.

It only goes to show that if you want to escape from one of those furry chaps, you might as well climb a scrub pine as take to the water.

ESTIMATING THE AGE OF ARTIFACTS

Wayne F. Replogle - Park Ranger Naturalist

With few exceptions all museum visitors and students of history are interested in computing the age of a museum piece or in finding out its source or original ownership. A normal person will catch himself thinking, "Now, what in the world did this use to be? How was it used? And who used it--when?" Few people will fail to pick up an arrowhead, a piece

unusual hydrothermal activity (it being his day off) remarked with stoic calm, -
 "Didn't Giantess Geyser play too?"



LEAVES FROM OUR DIARIES



June 8: About midnight my daughter and I were driving into the garage when before us in the driveway stood a bobcat, blinded by the lights. He was larger than the domesticated carnivore, very wary and crouched for only a second, then darted into Mr. Marmots hole under the garage.

Mrs. T. Paul Wilcox

Sept. 30: When the maintenance of the incinerator stopped and the Mammoth garbage was dumped on the main dump, an influx of grizzly bears occurred. To date there have been ten separate grizzly bears counted at the dump, one sow and one small cub, one sow and two yearling cubs, and five adults without cubs accompanying. One other grizzly has been sighted frequently at the meadow near the Winter Creek base camp. Possible this bear and some of the Canyon bears are swelling the Mammoth total, but this is a matter for conjecture at this time. Grizzlies have also been working on the Gardiner dump, but no count has been made. It is probable that some of the Mammoth group frequent that area also.

Thomas F. Ela

Sept. 30: A buck deer skull with freak antlers was picked up behind the Indian creek campground and turned into the Mammoth museum. This find interested Chief Park Naturalist Condon, because he had taken movies of this same buck when it was alive, identified by the freak branching of the antlers.

T. F. E.

Sept. 30: Snowy Egret - One of these truly beautiful white birds was seen on the Rechler Meadows on September 2. This species is not found on our Park Check List and it is the first time I have ever seen it in the Park.

Frank H. Anderson

Sept. 30: During the cleaning by the Sanitation Division of the Mt. Washburn toilets, a portion of a Mountain sheep carcass was discovered in the bottom of the chemical toilet on the men's side. The head, hind quarters and skin were missing. No explanation is available.

Frank T. Hirst

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Yellowstone Nature Notes

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summer, Blue Spring and the unnamed spring also remained dry for several days. When observable activity began again it could be seen in all of these springs at about the same time.

In this vicinity only the Cupid Spring seemed unaffected by the action of the other springs.

Still another spring opened up on Main Terrace during the late summer. On August 17 there was no evidence of anything unusual around the footpath west of Main Spring. However, on the following morning a new vent about fifteen to eighteen inches in diameter was observed, and a considerable volume of water was being discharged. Within a few days enough water had been delivered so that a definite pool was in the process of formation, and another section of the footpath had to be abandoned.

Whether this spring is a new one or merely an extension of some of the older established springs has not been determined. Temperature readings taken at the various springs on several different occasions showed considerable variation. Temperature readings varied as much as 32 degrees on the same day and about the same time.

It is certainly true that there is nothing static about conditions on the terraces. Observable changes took place almost from day to day. Here certainly old Mother Nature has accepted with glee the challenge to produce something new and unexpected.

CANYON BEAR APARTMENTS
August 1948

Wayne Replogle - Park Ranger Naturalist

The possibilities of studying bear dens in the Canyon area is unlimited and some important facts concerning these are being presented.

The most outstanding hibernation area that I have found yet is a group of four separate dens in the rim rock area just southwest of the Canyon Auto Camp.

Going through the camp one reaches at the far side an old wooden bridge over which the road goes to reach the camping area above Pryor's store. To reach the apartment house one stops at the bridge and follows the trail to the left up a shallow ravine slightly northwestward for 250 feet until he arrives at the two large hollowed rocks. To the left and up the grassy slope about 50 feet is the rim rock under which will be found the four "apartments". Counting from left to right we will number them 1, 2, 3 and 4.

No. 1 is an open den some thirty feet long in which two or three bears could easily "hole up". The face of the den is protected by drifting snow.

No. 2 is an individual den, excellently proportioned for one bear or a mother and cubs. It will be found about forty feet to the right of Den No. 1 and at the same level.

No. 3 is the most remarkable den I have ever found. The opening is broad with an excellent vestibule. Inside, a hallway reaches for ten or fifteen feet which is eight feet wide and four feet high. At the far end of the hallway the den opens into a room about twenty feet long, twelve feet wide and six feet high, cut out of obsidian sand, and breccia. These materials are decomposing very rapidly leaving the floor several feet deep with sand. The boulders, which were imbedded in the breccia, have been removed for the most part. The inner room shows some dampness but not excessively so. In the main room are two large beds and two small beds. The remarkable thing is the fact that it shows that more than one adult bear will hibernate in the same den along with possibly one or two younger bears.

No. 4 is also an excellent example of a choice of a winter home. Through a long tube-like hallway, sloping upward, some twenty feet long, large enough only for a single bear to pass at a time, there leads to a perfect bed about five feet by five feet by five feet. In this bed on August 17, 1948, I found a large supply of recently pulled grass, most of it green, strewn over the bed. I would guess that due to its freshness it wasn't more than a day old. Some tufts of hair were found caught on the jagged edges of the ceiling rocks at the doorway.

Small finger sized sticks were found in all the beds. This remarkable colony of dens is accessible to the public and if past interest in bear dens is an indication I'm sure large numbers of our guests will be anxious to visit the dens in the future.

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AN UNRECORDED GEYSER AT CANYON

William B. Sanborn - Park Ranger Naturalist

On the morning of August 17, during the 1947 season, while conducting the hike down Uncle Tom's Trail, I noticed for the first time what I believe to be an unrecorded and perhaps unknown geyser.

This small geyser is located approximately 110 yards down stream from the Tom Thumb Geyser in the bottom of the canyon. It is on the north side of the river on a bend, and directly below the Red Rock. The geyser plays from a small opening about two feet above the river water level. It erupts a small unit column of water at an angle of about 45 degrees into the air to fall in the middle of the river. The total distance covered by the erupted column is around 15 feet. The water column is very small and appears to be under considerable pressure. In appearance this geyser is similar to the stream of water that would issue from a garden hose.

Earlier in the season, when the river was high, water flowed close to

Spring Bears

Twice the bears have overturned our garbage cans this spring but have found no garbage - in fact all the cans and bottles have been washed out or burned out. No food. Once we saw a small black sitting on the hillside just back of the house and his eyes were sad. I am sure they feel sorry for us because we just don't appear to have enough to eat! They have deserted us now and that's just what we wanted them to do. Bears are interesting animals and fun to watch - at a distance.

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Birds

Nine Steller jays are quite a sight and our flock numbers just that this May. All of them come to the house two or three times a day and fill up on wheat, suet and bread crusts. We notice when they are eating wheat their throats become more and more distended until the little black feathers there are standing straight out and they all look like boister patients. We wonder if they are carrying grain somewhere to cache it or if they just fill their crops and the rest has to stick in their throats. It started before there were young in the nests - in fact they have been gorging all winter.

We haven't seen a downy woodpecker since early May but the hairies are still with us and just as insistent about having the holes in the Suet Tree plugged with food. They refuse to eat suet from the window tray but if the tree is empty they come to the tray and beat a lively tattoo for attention.

The little nuthatches come less often and always in pairs for suet and we hear the chickadees but do not often see them now. Robins are the first we hear in the morning and the last at night. Apparently no one has told them morning is for larks and "-a thrush at eve" only. Swallows arrived about the middle of the month - a sure sign of summer.

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Pocket Gophers

When the snow finally peels off there are miles and miles of little rolls of dirt which have been carried up out of the ground during the winter and deposited in tunnels in the snow. We don't find many tunnel entrances for they fill them before they go off at another tangent, but solid appearing earth has a way of giving underfoot and it is easy to strain an ankle this way. I'm beginning to believe my Dad was right though I always thought he was just teasing me when he told me the reason you never found a pile of dirt at the entrance to a gopher hole was because the gopher began at the other end. All of this dirt, and it often contains good sized rocks, has been carried in the cheek pouches of the rodents. I wonder if they don't get a dark brown taste in their mouths.

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May 22: Twenty pairs of nesting geese have been counted along the Madison River from Madison Junction to Bakers Hole this month. On May 22 two families of young geese were observed along the river.

Arthur Jacobson

May 31: There are bears and more bears at this writing within a one mile radius of the Tower Falls ranger station. There are three sets of cubs, all twins, and at this early date bear jams occur each day. Since travel will be on the increase from here on out we are in for much trouble this coming season. A rough count of bears at this time totals 23 along the highways in the Tower Falls district.

John Bauman

May 31: Calf elk are plentiful at this time, the first one seen by the writer on the 22nd. One calf moose was observed on the 31st on the highway in the vicinity of Rainy Lake. This calf was seen by many travelers during the late evening hours.

J. B.

May 31: As many as six moose have been observed at one time in the vicinity of Willow Park and Swan Lake Flats. One young moose cow was found dead along the Beaver Pond trail at the lower end of the old horse pasture. The carcass had been fed upon by bear.

Rudolf L. Grimm

May 31: A herd of approximately 40 head of bison have frequented the area around Nez Perce Creek and Fountain Flats. Several lone bulls still are found in the Upper Geyser Basin. The first bison calf was observed on the 9th.

Frank F. Kowski

June 28: Tuesday afternoon, June 28, 1949, at about 2:30 p.m. a raven was observed attacking a mature otter along the shore water of Yellowstone Lake. The occurrence took place in the West Thumb area, southeast section. Several times the raven dived for the otter, but each time the otter would take refuge under the waters of the lake. Never was the raven able to touch the wary otter. No reason can be given for the combat unless the otter was eating the entrails of some fish left by some fisherman for which the raven might have been looking.

Carl W. Martin

June 29: Eight bucks (mule deer) were grazing in the upper end of our Cascade Creek valley this evening - all in fine velvet.

Wayne Replogle

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After a moments reconnaissance, if all was well, he would run out on an arm or shoulder and there poise in confidence as he surveyed the world about him. At Riverside Geyser his antics caused more attention than the eruption of the geyser itself. Now after six weeks his wants dominate the entire household. Instinct peculiar to this rodent (*Sciurus hudsonicus baileyi*) begin to manifest themselves. In his box he makes elaborate preparations for siestas and nightly rest by shredding paper to bits and then pulling his towel securely about his chubby little body. Bits of food are nibbled at and then carried away to remote recesses of our home. It is not at all unusual to find a peanut, walnut, dry bread or wad of paper hidden away in the toe of a shoe. His caches run the gauntlet from coat pockets to corners under beds. His food consists of a variety of nuts such as walnuts, peanuts, cashew nuts, and pecans. Salted peanuts are distasteful. Pinon pine seed constitute his favorite food. Ice cream of various flavors, cookies, cake, bread and fruits, such as pears and peaches are all relished. The common lodgepole pine cone which is the main source of food for his kind is sneered at with utter disdain! If he is tampered with too much his scolding cry is very apparent. He makes his wants known in no uncertain terms. The call of his fellows just outside the door goes entirely unheeded. (I am very thankful that Bill Fischer did not find a motherless bear cub!)

ALFRED PAYS A VISIT

Marguerite Arnold

After I had settled myself for a good night's rest I heard "bang" as the lid was whacked from the garbage can. I have probably mentioned before that we never put any garbage in that can and the jars and bottles are all washed or burned out so there will be no odor to attract bears. But it seems to be part of a bear's nature to whack any garbage can he finds standing around in the woods, even if he doesn't turn it over and examine the contents. By the time I got to the door there he was, up the Suet Tree eating a chunk of suet we had forgotten to bring in that night. He was just a little black fellow and by the time I had found the broom he was gone back into the shadows. I recognized him in the moonlight as being Alfred, son of Fredrica (nee Fredrick until she appeared with her tiny black cub last spring and "worked the road" about two miles from here all summer - teaching him the tricks of the trade.) This year she is back at her old stand up the highway and Alfred, on his own, is doing quite well down the road toward Pahaska. No one has taught him to read the Park Boundary sign and there is an open season on bears down that way, but he was fortunate this spring and is now safe until fall. Of course we may have to change his name to Frieda next year but we are prepared. Enough of genealogy and back to last night.

To reach the refrigerator which stands about three feet from the bedroom door (open but screened) a bear has to climb six noisy wooden steps and I was wide awake and listening hard! I heard mice scuttle across the porch, heard the sleepy sounds of birds in nearby trees, even thought I could hear the plants growing, it was so quiet. But I did not hear that rascal until he inadvertently made a tiny moaning sound and when I peered out the door there he was pawing at the Welcome mat in the bright moonlight, not five feet from me. In a conversational tone of voice I said, "Can't you find it?" He didn't even

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glance toward me but gave up his digging, strolled slowly down the steps and over to a patch of clover where he grazed busily for about ten minutes and then fed again into the forest shadows. I propped a chair in front of the refrigerator door to act as alarm, in case, and went back to bed. He didn't return - maybe he won't if we remember to take in the suet from the bird's tree. Maybe he doesn't know about refrigerators - I hope.

GEYSER ACTIVITY IN THE OLD FAITHFUL AREA

George D. Marler - Park Ranger Naturalist

The following geysers in the Upper, Midway and Lower Basins were observed in action during the 1949 season:

- | | | |
|--------------------|-----------------------|-------------------|
| 1. Anemone | 22. Grand | 43. Riverside |
| 2. Artemisia | 23. Green Spring | 44. Rocket |
| 3. Atomizer | 24. Grotto | 45. Sapphire |
| 4. Bead | 25. Grotto's Fountain | 46. Sawmill |
| 5. Beehive | 26. Jet | 47. Spasm |
| 6. Bijou | 27. Jewel | 48. Solitary |
| 7. Black Pearl | 28. Lion | 49. Spa |
| 8. Bottomless Pit | 29. Little Cub | 50. Spanker |
| 9. Bulger | 30. Lone Star | 51. Spasmodic |
| 10. Castle | 31. Mastiff | 52. Spouter |
| 11. Catfish | 32. Midget | 53. Spray |
| 12. Clepsydra | 33. Model | 54. Sprinkler |
| 13. Cliff | 34. Morning | 55. Tardy |
| 14. Comet | 35. Mortar | 56. Three Sisters |
| 15. Daisy | 36. Narcissus | 57. Triplets |
| 16. Fan | 37. Oblong | 58. Turban |
| 17. Flood | 38. Old Faithful | 59. White Dome |
| 18. Fountain | 39. Pink Cone | 60. Vault |
| 19. Great Fountain | 40. Plume | 61. Vent |
| 20. Giant | 41. Pump | 62. White |
| 21. Giantess | 42. Rift | |

In addition to the named geysers, the following unnamed ones were observed active during the 1949 season:

- | | | |
|------------------------|------------------------|----------------------|
| Biscuit Basin - 3 | Grand Group - 2 | Midway Basin - 2 |
| Black Sand Basin - 1 | Great Fountain - 3 | Orange Sp. Group - 2 |
| Daisy Group - 2 | Grotto Group - 2 | River Group - 2 |
| Firehole Lake Area - 2 | Kaleidoscope Group - 5 | Round Sp. Group - 2 |
| Fountain Group - 2 | Myriad Group - 2 | Sawmill Group - 2 |
| Geyser Hill - 3 | | |

During the 1949 season the behavior patterns of the geysers in general remained essentially unchanged. Of the major geysers the Beehive played with a greater frequency than has been its habit for two score or more of years. The close of the 1949 season would seem to mark the beginning of another active cycle for the Giant Geyser. The 1949 behavior of some of the better known and more popular geysers is as follows:

the number of salamanders to be around 100 or more as they crossed the highway going south at a very slow pace. These amphibious animals travel very slowly across country and we had to stop about 15 minutes to allow all the animals to pass so as not to drive over any of them as they crossed the highway.

They were concentrated on the highway during the crossing period and we checked on the size and approximate number migrating. They ranged from 3 inches to 8 inches in length. Where these animals were going was not determined; however, there is one small lake just south of the highway from the lake on the north and it may have been that they were headed for this pond. This is the first experience of this type that I have had in my many years of roaming Yellowstone Park country.

After the highway was cleared of the salamanders we went on out to Slough Creek and on the return trip at about 10:30 a.m. not a sign of any of these animals could be found and apparently the migration was over. Upon examining the highway where the movement had occurred across it there was no evidence that even one had been run over by a car.

PERIPATETIC PICKET PIN

Wayne B. Alcorn - Park Naturalist

It is a well known fact in Yellowstone that the Uinta ground squirrel, or "picket pin", begins his winter sleep early, usually in late August. It was, therefore, with incredulous eyes that I watched one of these interesting rodents running across the road at the upper end of the Lamar Canyon on November 6. In searching for an explanation for this unusual appearance the most likely theory is that the exceptionally warm weather which had melted most of the snow in that area had penetrated the ground to the squirrel's nest and led him to the mistaken notion that spring had arrived. No one has since reported a picket pin in that area so it is presumed that he recovered from his insomnia or ran into foul play. The possibility of this individual being a somnambulator has not been investigated, but is judged to be remote.

THE SIZE OF GRIZZLY BEAR

David de L. Condon - Chief Park Naturalist

During the summer of 1942 it became necessary to adopt control measures on grizzly bear in the Lake area in order to provide safety to the people visiting the park and stopping at the Fishing Bridge, Lake and Bridge Bay campgrounds. Several grizzly bear were killed and at that time I carefully measured and weighed a number of the animals immediately after they were killed. The results of these measurements were of unusual interest and I have kept them in my notebook pending an opportunity to prepare them for publication.

In measuring the animals a steel tape of good flexibility was used and a series of uniform measurements made on each individual. A set of Fairbanks platform scales was obtained and a plank deck large enough to hold an animal was fastened to the platform so that accurate weights of individuals could be secured.

The statistical information on size, in accordance with the measurements made on each individual and other information on them, is as follows:

Date killed	7/8/42	7/10/42	7/11/42	7/11/42	7/12/42
Sex	male	female	female	female	male
Tip of nose to end of last vertebrae	76 $\frac{1}{2}$ in.	67 in.	68 in.	66 in.	77 in.
Elbow to tip of toe	22 in.	22 in.	17 $\frac{1}{2}$ in.	16 $\frac{1}{2}$ in.	20 in.
R. hind foot - width	6 in.	5-3/4 in.	5 in.	4 $\frac{1}{2}$ in.	6 in.
R. hind foot - length	10 in.	9 $\frac{1}{2}$ in.	7 $\frac{1}{2}$ in.	7 in.	11 $\frac{1}{2}$ in.
R. front foot - width	6 $\frac{1}{2}$ in.	5 $\frac{1}{2}$ in.	4 $\frac{1}{2}$ in.	4 in.	6 in.
R. front foot - length	7 $\frac{1}{2}$ in.	6 in.	5 in.	5 in.	9 in.
Head width between ears	9-3/4 in.	10 in.	9 in.	10 in.	10 $\frac{1}{2}$ in.
Head length	14 $\frac{1}{2}$ in.	13 in.	15 in.	14 in.	12 in.
Height front shoulder	39 $\frac{1}{2}$ in.	43 in.	39 in.	33 in.	41 in.
Height rear hip	38 in.	34 in.	37 in.	31 in.	36 in.
Girth around neck	32 in.	30 in.	29 in.	28 in.	34 in.
Girth around chest	51 in.	52 in.	55 in.	45 in.	55 in.
Weight	497 lb.	346 lb.	340 lb.	375 lb.	590 lb.

The male killed on July 12, 1942 was considered to be an exceedingly large bear and required the combined efforts of four men to lift him around so that measurements and other information could be obtained, yet it will be observed that this bear weighed only 590 pounds. The short broad head of this bear was of considerable interest for he presented almost a pug nosed appearance and his head length and width were a definite contrast with others. The skulls of all of these bears were damaged when shot, but have been saved for study.

The females all fell within the three to four hundred pound range, yet they were all mature and in two instances old animals. The female killed on July 10 had three cubs. She appeared to be a very old animal, all of her teeth were worn down and many of them were mere stubs. She had at sometime suffered a severe injury and had a very bad scar along her left hind leg where there was an extensive area of scar tissue and no hair growing. The females killed July 11 showed no abnormal characteristics, their teeth were well rounded and from their appearance they were animals well past maturity. Both of these were the mothers of two yearling cubs each and the cubs were running with the mothers at the time they were killed.

If the sizes and weights of these animals can be considered as representative of the grizzly bear, the animal is not as large as legend and our own imaginations might lead us to think.

WINTER GEYSER ACTIVITIES

Ruben O. Hart - Acting District Ranger

The Giantess erupted on December 22, 1949. It started its eruption at 10:00 a.m. and lasted for approximately 15 to 18 hours. The exact length of eruption could not be determined because it discontinued eruption activities

One usually came away from Main Terrace feeling that anything might happen there, and that a brand new performance was always in the making.

THE LAW OF THE WILD

Harvey B. Reynolds - Park Ranger

Mother Nature is popularly characterized as a lovable and benevolent old lady who is very busy mothering and caring for her vast numbers of birds, animals, insects and plants. Nature in fact is often of much grimmer aspect. Her harsh character is most evident in the spring when the young of various kinds are unable to defend themselves against the various predators.

For those of us who live in the Lamar Valley this is especially evident when the elk are calving. Almost daily during this season we came upon a mother elk with a newborn calf which was besieged by anywhere from two to seven coyotes. Evidently one coyote alone never tries to worry a mother elk. It takes at least two to play the grim game. While the mother is busy chasing one coyote to a safer distance from her calf another coyote dashes in and snaps at the calf before the mother can return to it. With the number of coyotes increased to seven we can well imagine what chance the mother has of protecting the young calf. One ranger tells of watching seven coyotes worry a mother elk until she was too weak to chase them and could only protect the calf by standing with her body over it. The coyotes came in and killed the calf under the mother's body.

When the calves are older and able to travel they become members of a herd which is waiting in the valley until the melting snows will allow them to migrate to summer pastures in the higher mountains. Then the herd assumes some measure of responsibility for protection of its calves. When coyotes approach the calves the mature animals will surround them and by numbers alone they are able to daunt the courage of any pack of coyotes. The herd will even try to extend protection from the huge grizzly bear as I was able to observe this spring.

I had been working for sometime on the bench meadow across the river from the Lamar Ranger Station when my attention was attracted to the wild flight of a herd of some sixty head of elk from the river bottom to a piece of higher ground directly below me. Truly I had a grandstand seat from which to watch the action that followed. The herd was pursued at some distance by three mature grizzlies. Three calves in the herd were soon outdistanced by the mature elk and dropped far behind. The herd wheeled in a complete circle and picked up the calves again. This method of picking up the calves was repeated at least four times. However, each time the pursuing bears were closer to the calves and on one such circle the calves were picked up just ahead of the bears. This time one calf darted past the herd instead of running with it and was quickly downed by the three bears. I could hear the terrified bleating of the calf for some little time after the bears had downed it. No doubt they began eating without bothering to kill the calf.

EDITOR'S NOTE - The influence of predators such as coyotes and bear upon the

The approximate distance the rabbit travelled after it was struck was about four feet and time elapsed for the venom to take effect, about three minutes. The poison's first sign of working was noticed in the rabbit's hind quarters. The hind legs became paralyzed and then the body began spasmodic convulsions. Soon death was apparent. It's no wonder the rattlesnake is considered the most highly developed reptile in the reptile family.

GRIZZLIES MAKE INFORMAL CALL

George D. Marler - Park Ranger Naturalist

Thursday evening, May 25, while the Marler family was partaking of its evening meal Barbara, who was facing the window, exclaimed; "Bear"! Bear, it was! Not more than four feet from the window, standing on a snow bank which was level with the east window, was a male grizzly about two-thirds grown. He stood in characteristic grizzly pose, swaying from side to side. The food must have appeared appetizing as he was drooling. He stood in his reared pose from five to ten seconds, or until I bestirred myself, following which he made a few bounds away from the window. We were aware of a disturbance near the door, which upon investigation proved to result from two more grizzlies. Upon looking out the door window we observed one grizzly sitting on the snow bank next to the porch, which snow bank was still higher than the level of our eyes. Next to the sitting grizzly was one reared, and with its forepaws on the roof scratching the shingles. Again, as soon as the bears noted our movements they, with a few bounds, joined the first observed grizzly which was then over by the clothes line. From there they slowly sauntered back into the forest.

I have never seen these grizzlies in the Old Faithful area before. I think they were merely casuals which by chance passed near our home and gave it an inspection. Be that as it may, they were not at all unwelcome. The experience was thrilling and pleasing withal.

THE RED FOXES

Merritt S. Johnston - Park Ranger

Travelers have reported seeing red foxes in the Soda Butte drainage from time to time and on the night of December 1 the writer observed one cross the road at Jackson's Grade ahead of the automobile and make his way a short distance up the steep hillside which borders the road at that point. This fox appeared very light in color when the car spotlight was thrown on him. He was observed over a period of about five minutes but did not seem particularly concerned with the unnatural flood of light. He pounced upon clumps of grass several times as though mistaking shadows for mice in the ground cover and was still busily hunting when we drove off.

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has been my experience during the winter months to encounter and pursue wildlife up or down the park highways in a motor vehicle. Two of the park highways, one in the Gallatin area and one to Cooke, Montana are kept free from snow by park and Montana State snowplows during the winter months. These plows pile the snow high on the sides of the highway and whenever wildlife enters onto the roads they are reluctant to leave them if the snow is deep or crusted. I have had the opportunity to chase bison, elk, deer, moose, mountain sheep and coyotes with my own automobile or some government motor vehicle. Today was the first time that I have had a Canada lynx (*L. canadensis*) jump down onto the highway and run on down it in front of the pickup that I was driving.

I left Park headquarters at 1:30 p.m. to go out to the Blacktail Deer Creek elk trap to check and rebait it with fresh hay. On my return to Mammoth I stopped at the Undine Falls parking area to return some blankets and splints to the Fire Aid toboggan at the Undine Falls ski hill shelter cabin. I returned to the pickup and left the parking area about 3:00 p.m. As I was leaving the parking area and driving onto the highway I saw some gray animal walking on top of the snow piled up against the rock cliff by the snow plow. Thinking it was a coyote I hurried after it. As I approached it the animal jumped down onto the highway and at top speed ran on down the Lava Creek road. It was a large, rangy Canada lynx and I was reluctant to leave the packed roadway and take off into the crusted snow which was about 2 feet deep in this area. The lynx ran in front of the pickup for about 1500 or 2000 feet and then violently threw itself sidewise over the rock retaining wall and disappeared into the Lava Creek gorge.

The lynx was one of the largest cats of its kind that I have seen in Yellowstone Park. It was a tall, very leggy and beautifully marked animal. I made three trips during the evening to check the Blacktail trap and on my last trip I saw a fresh lynx track coming out of the Lava Creek canyon onto the highway. It followed the road for about 200 yards and then disappeared into the Douglas fir stand above the road. This observation was made about 11:30 p.m. and about 1 1/2 mile below where the lynx was first seen in the afternoon.

ROADSIDE ANIMALS

Frank D. Rentschler - Park Ranger Naturalist

One of the commonest questions asked the rangers of the park is "where are all the animals?" This question is usually asked in the middle of the day, which is normally the poorest time for seeing them. Our answer is always, "most over, where but they are best seen in the early morning or late afternoon or evening." This is the correct answer, but to be absolutely certain of it, I thought it would be interesting to check on it during the summer. As relief naturalist at Norris Geyser Basin, it was my privilege to drive down from Mammoth twice a week. Since it was necessary to open up the museum at eight o'clock, it was an early morning trip and supposedly about the right time of day to see the animals. This turned out to be true, for during the entire summer out of the twenty-two days of observation there was only one morning that none of the larger animals

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were seen. It should be mentioned that no special effort was made to look for them; just casual observation on the way to work at "go to work speed". No doubt many animals were missed that might have been seen if slow, careful observation had been in order. By talking to visitors at Norris, it was learned that those driving on the Mammoth to Norris road later in the day (after ten o'clock) in almost all cases did not see the animals observed earlier in the morning.

Of the animals observed moose were seen the most consistently, there being only three mornings that they were not noticed. They were seen in most cases in Willow Park. The largest number of any one animal species seen was the elk. Up to about the middle of August, elk were seen every morning with but two exceptions, and then were not observed the rest of the summer. The elk were noticed either in Willow Park, in the thermal area around the Semi-Centennial Geyser, or the meadow at the Norris campground. The swans were seen in all but two cases at Swan Lake. The other animals, such as the bear, antelope and deer were seen at irregular intervals and in a variety of places.

Observations

<u>Date</u>	<u>Deer</u>	<u>Elk</u>	<u>Moose</u>	<u>Swan</u>	<u>Bear</u>	<u>Antelope</u>
June 20	1	3	3	3		
21		21	10	2		8
27	4	13	5	2	1	
28	2	4	6	4		4
July 4			1		2	
5		13	1	1		
11		12	3	1	1	
12		9	1	3	1	1
18		9	2	1		
19		12	2	2		
25		15		2		
26			3	1		
Aug. 1	2	13	2	2		
2		2			1	2
8		2	1			
9			2		2	
15			3			
16			4			
22			1		1	
23			2	2	1	
29				2		
30	<u>1</u>	<u>—</u>	<u>1</u>	<u>4</u>	<u>—</u>	<u>—</u>
Totals	10	128	53	32	10	15

The exact number could not be determined due to the bunching of these birds. I watched them for more than one hour, then returned to the station and checked with the Chief Park Naturalist, Dave Condon, to determine if the birds observed were snow geese.

After checking with Mr. Condon on the markings, size, etc., it was decided that the birds were snow geese. I returned to the lake after making this call to Mr. Condon only to find that the birds had gone; no doubt they were on their way to their nesting grounds and had made a short stop for lunch before moving on north.

I have never before observed snow geese in this area during my experience here and Mr. Condon reported that it was unusual for these birds to stop off within the park.

AN EYE TO THE GROUND

Wallace J. Hennessy - Park Ranger Naturalist

Animal tracks to the majority of us working or residing in Yellowstone Park are so common that we often pass them by with hardly a glance. Perhaps a casual remark sums up the whole situation. However, to the city folks a track of the bear if observed, causes quite a furor of excitement.

Oftentimes in the excitement or casualness of seeing a track we forget that a story goes with the track. Many animals could not make a straight line pattern of imprints if they wanted to, they just aren't built that way. Others not only leave a track imprint, but they drag a tail or shuffle or slide half of their anatomy as they travel. The story of the print is a detailed one.

1. Was the animal a big one?
 - a. Examine the size of the print.
 - b. Examine the distance between walking prints.
 - c. Examine the depth of the print, noting of course, the soil or snow type.
2. Was the animal in a hurry?
 - a. Examine the distance between prints.
 - b. Look for a shuffling print or a clear-cut even print.
3. What direction was it going?
 - a. Look for a slide into the print, generally the vertical side of the imprint is the direction of travel.
 - b. Examine the print for points (toes forward).
4. What kind of animal print was it?
 - a. Learn the patterns. (eight of the



GRIZZLY BEAR
5 claws
12" hind
6" front



MT. LION
18" stride
4" x 4"
4 claws



COYOTE
circular
3" x 3½"
4 claws



ANTELOPE
slender
2 parted
2" x 3"

front and
hind often
together



MT. SHEEP
2 parted
points in
2½" x 2½"



ELK
toes out
2 parted
rounded
3" x 4½"



MULE DEER
points straight
2 parted
2½" x 3"



MOOSE
sharp points
2 parted
points almost meet
5" x 7"

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SURVIVAL OF THE FITTEST

Joe J. Way - Supervisory Park Ranger

While on a patrol up the Lamar Valley on June 11, 1951 I had a new and unusual experience which is the first of this type that I have had in the many years I have spent traveling through the Yellowstone countryside. Phillip Modesitt was traveling with me and when we reached the vicinity of Chalcedony Creek we came upon the carcass of a grizzly bear which appeared to be mutilated.

It is unusual, as a matter of fact exceedingly rare, for a man in the field to come upon a carcass of this species. From all physical evidence the large female grizzly had not been dead for any great length of time. It is my estimate that she had met death within three or four days prior to my discovering her for the scavengers of the wild had not yet started to work on the carcass.

Since it is unusual to find a dead grizzly, I made a complete examination of the bear and the surrounding countryside in an attempt to determine what might have been the cause of death. From the evidence observed it seemed very certain that the bear had in all probability been killed by a buffalo.

Upon examination it was found that both sides of the grizzly bear were badly battered and bruised to a bloody mass and the left side of the animal was punctured between the ribs by a hole $1\frac{1}{2}$ inches in diameter. The immediate area around the carcass was well torn up giving evidence of a severe struggle between the bear and some other beast. There were many large buffalo tracks which had cut up the ground in an arc around the carcass and there were several patches of buffalo hair. All of this helped Modesitt and me mentally visualize the terrific struggle which had undoubtedly taken place to bring about the death of this monarch of the wild. An examination of the general area did not reveal any buffalo carcass nor an injured animal.

We left the area with a pronounced respect for the power and might which a huge bison must have in order to conquer, kill and so badly mutilate a grizzly.

LEAVES FROM OUR DIARIES

November 24: The greatest number of bison counted on one patrol was 180 head on November 24. These animals were scattered in small herds throughout the Fountain, Midway and Old Faithful geyser basins. One old bull was in a very poor condition and no doubt will be an early winter casualty. This bull was feeding along the Firehole River near Biscuit Basin. The greatest number of bison were seen in the Fountain area.

Arthur Jacobson

1952

YELLOWSTONE NATURE NOTES

THE ORPHAN

John S. Bauman - District Park Ranger

On Sunday morning, May 18, I decided to leave the Tower Fall ranger station for patrol up into the Lamar Valley to make routine observations of conditions through the Horseshoe area and to see if there might be any interesting wildlife. I left the station about 7:45 in the morning, and after crossing the Yellowstone River up the valley past Junction Butte and just after passing the small glacial ponds in the lower end of the Horseshoe near Junction Butte my attention was called to the movement of a small animal in the grass near the roadside. I was utterly amazed when I approached this spot to find that the object I had seen was a small grizzly cub. He was a forlorn and sad-looking little fellow and was definitely planning to stay right near the roadside and had no intentions of leaving the immediate vicinity of a small area of grass and sagebrush at the road's edge. The approach of my car frightened him a little and he retreated probably 10 or 15 yards, and there he reared up on his hind legs with his paws dropped and peered toward the automobile and gave three or four frightened grunts.

I parked off from the road and returned to the site where the little bear was holding forth. He retreated but a short distance and then gave forth with a most vicious growl, which, although it was his best effort, was not very frightening. I looked around the countryside to see if the mother might be near. There was no sign of her nor any sign of other cubs or bears. The site where the small cub had taken his stand was in open country more than a quarter mile from any timber and near the edge of one of the small glacial ponds. He insisted on staying near the highway and when I would retreat back near my car and remain still he would come over near the road's edge and proceed to graze upon the grass, and every once in a while would whimper and occasionally would bawl for his mother.

It then occurred to me that some misfortune had befallen the mother and I began a rather intensive search of the immediate vicinity in hopes that I might find some evidence of what might have happened to her. A thorough search of the countryside on each side of the highway revealed no evidence of the mother bear at all, and I felt quite certain if she was in the vicinity the occasional bawling of the young cub would certainly bring her to his side. After watching the cub for several minutes I returned to the Tower Fall ranger station and told my wife Katherine and our houseguests about the interesting discovery; they were anxious to see the little fellow and so returned to the scene with me.

We watched the little bear for about an hour thinking that probably the mother might return in search of him. When she had not put in her appearance and he persisted in staying in a small area right at the roadside I decided I would go and pass the word about the orphan which had been left for us to find. I called Chief Park Naturalist Condon, and since he was going to the Mud Volcano area to meet a party of geologists from the Colorado School of Mines he decided

LEAVES FROM OUR DIARIES

October 15: Bison were observed in the Old Faithful, Midway and Fountain Geyser Basins throughout the month. The greatest count of bison was made on the 15th. 120 animals were counted in the Lower Geyser Basin and near the mouth of the Nez Perce Creek. Ten large bulls are now foraging in the immediate area of Old Faithful.

Arthur Jacobson

October 31: Moose are still concentrating along the Soda Butte near the station. Eight of these animals were counted together, the distribution being five bulls and three cows.

William J. Briggie

November 7: On November 7th a herd of 18 mountain sheep were seen near the junction of the Park boundary and the east side of the Game preserve. They were all ewes and lambs. On the same day two ewes and a ram were seen down on Yellowstone River.

Louis L. Gunzel

November 8: On November 8 a large black bear raided the icebox on the porch outside the quarters. He had consumed a two pound ham and a box of brown sugar before being chased off. He has not reappeared at the month's end.

William J. Briggie

November 23: A herd of approximately 300 head of buffalo have been staying on the upper meadows all month and then moved to the area of Slough Creek and the Lamar bridge the evening of the 23rd. Lone bulls have been observed a number of times and a herd of four to eight head have been staying in the area of the Lamar Canyon.

David W. Pierson

December: Total number of mountain sheep observed was 23. These were on Junction Butte, Specimen Ridge, and along the Yellowstone River bridge. During the last two weeks of December a cow moose and her calf have been feeding on hay in and around the elk trap at Crystal Creek. This pair of animals are bold and on one occasion during the loading of elk at the trap they were observed coming into the corral by some fifteen people.

John Bauman

December 27: The resident pair of martens invaded the meathouse on the 27th by tearing a hole in the screen and enjoyed a meal of Duck and Beef. The torn screen was reinforced with metal lath and the little pirates foiled.

Foster R. Freeman

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dragged industriously into the lake. We inspected a number of downed trees, some old ones cut in previous years and some new ones obviously felled in recent weeks. One of these latter was a big cottonwood with an elliptical bole with axes of 16 and 20 inches. It had been necessary to cut into the heartwood, leaving about an 8" core before this tree toppled.

Between about 6:05 p.m. and 6:45 p.m. Mabel had been watching the beavers and she reports the following activities along the east shore near the old wreck:

"As I returned to the shore I walked around the north end of the marsh and approached the beach from inland, being concealed by willows until just before I came out on the open beach. As I emerged I noted a beaver sitting on the shore perhaps 30 yards north of the wreck. I approached and the beaver retreated into the water, swimming out 5 feet or so. I sat on a stone a few feet from the water while this apparently frustrated creature swam back and forth parallel to the beach, occasionally flapping its tail vigorously (but not diving) and from time to time noisily exhaling its breath.

"Then I noted another beaver slowly zigzagging in from out in the lake. It stopped around 30 feet out and commenced to swim back and forth in a fashion similar to that exhibited by the other beaver nearer to me. While I watched these two, four other beaver swam slowly in towards the wreck and disappeared, apparently having entered the lodge.

"I walked slowly south towards the wreck and at the same time the beaver which had been nearer to shore swam northward a short distance and climbed out on the bank. It then returned to the water and swam out to the other beaver which was still patiently swimming back and forth. The two then engaged in some sort of play, swimming past each other, then turning quickly and repeating the performance, finally swimming away together towards the north end of the island.

"As I returned to the boat I saw two beaver (which may have been two of the four previously observed by the lodge) swimming in towards the lodge from the lake."

When we left the dock on the island at 7:00 p.m. it was just growing dark. We agreed that the impact of our hour and a half on Stevenson Island would not be soon forgotten.

THE ANIMAL BREAKFAST HOUR

Frank D. Rentchler - Park Ranger Naturalist

It is a well known fact that in looking for the wild animals of Yellowstone the best time is either early morning or late evening. But how early in the morning should you be out looking for them? Although sunrise is

undoubtedly the best time, observations were made a little later in the morning with some interesting results. As relief man for the Norris Geyser Basin it was necessary to leave Mammoth early enough to arrive there at 7:30 two mornings per week and at 9:00 two other mornings. What difference would an hour and a half make in the number of animals seen?

The observations were made traveling near the 45 mile per hour speed limit while going to work, without stopping to search for any animals around the corner. Many times one or two elk were seen of a herd which might have been seen if a little more time had been taken. In all cases but the bears, the early hour was the most productive. Observations were made for thirty-six mornings with these results:

<u>Animal</u>	<u>Early (6:45-7:30)</u>	<u>Later (8:15-9:00)</u>
Antelope	26	1
Elk	132	45
Moose	19	14
Bear	12	19
Deer	3	2

Why were the bears out later than the others? They were just waiting for enough people to come along to make their begging worthwhile. As the results show, there was not too large a difference in the moose. Willow Park is their home and since they do not roam like the elk, time is not so important.

One animal not listed but which was observed, is the trumpeter swan. A pair was noted in June on Swan Lake on just one morning. None were seen again until the last six days of observation. They apparently had decided that Nymph Lake was a good spot for they were seen there both morning and evening during this time.

RUFOUS HUMMINGBIRDS (SELASPHORUS RUFUS)

Simon Simonian - Park Ranger Naturalist

In the Old Faithful area several of us had an opportunity to study Rufous Hummingbirds from August 20 to August 24. At least six of these birds were observed among the colorful butter-and-eggs or Toadflax (Linaria vulgaris) flowers growing profusely between Old Faithful Inn and the lower Hamilton store.

I first observed the birds feeding on the nectar of the flowers on August 20 and because of the unusualness I informed other naturalists in the area so they could share the experience with me.

I had never seen so many hummers in one place in the park and only once previously this year had I observed a humming bird in the Old Faithful area. This was between Lion Geyser and Liberty Pool in the Upper Geyser Basin.

Yellowstone Nature Notes

On the right of the observer stretches a beautiful panorama up the course of the Gardner River and Lava Creek. Here in plain sight is the great Sheepeater Canyon Bridge and the gray ribbon that is the Loop Road leading to Tower Fall. Framed in a border of dark evergreens in the distance above the road is the thin sliver of silver in the sunlight - which is Wraith Falls. And in the far distance and holding a commanding spot in the whole picture is the northern sentinel of the Washburn Range - Prospect Peak.

At this point the hiker has the option of crossing near the head of the Gulch and returning to the starting point by way of the trail used by the guided parties on the Nature Trail; or he may continue on for about a quarter of a mile. If he follows the latter course, he will come back into the thermal area near the Palette Spring. In a matter of a few moments and perhaps a hundred yards of space there will be an abrupt change. Forest flora and fauna will again have given way to the plants and animals of the Hot Spring Terraces, and the coolness and solitude of the woods will have been replaced by the boiling, seething activity of the underground forces at work in the thermal area.

Now, by following the Terrace Trail back to Liberty Cap, interesting formations and thermal features can be seen; and at the conclusion of the trip the visitor will have a fine appreciation of the many things this region has to offer.

If the interest evidenced during the last half of the season is any indication of future trends, the Self-guiding Nature Trail bids fair to become one of the popular hikes in the Mammoth area.

A UNIQUE CASE OF BEAR CANNIBALISM

Thomas F. Ela - District Park Ranger

On October 17, 1953, in the evening, it was reported to the Ranger's station at Old Faithful, that there was a black bear cub lying dead in the road three miles east of Old Faithful. According to the reporting visitor, the sow and one other cub were keeping guard and were thus in danger of being struck by a car after dark. This had been the fate of the victim cub seen lying in a small pool of blood which was oozing from its mouth. I went to the scene of the accident but could not find the animal.

On the following morning, I returned to the scene and found the bloodstains in the road and also discovered the sow and live cub about 50 yards north of the highway. The bloodstains left off to drag marks and bear tracks on the road shoulder and adjacent damp swampy ground and then the dead cub was found lying about fifteen yards east of the sow and partially hidden. With great difficulty the sow and live cub were driven away and

I brought the dead cub to the pick-up truck. There, examination showed the animal to have an unbroken body but the head was missing and so was the right hind leg although the skin was still nearly whole in each case. The ears and forehead skin was completely undamaged but lower jaw, nose and skull and all muscles were missing back to the first vertebra of the neck. The femur of the right leg was completely stripped of all muscle and stood exposed in the roll of leg skin. The foot and lower leg bones were completely missing. The skin was licked clean in each case.

Diligent search then revealed several piles of *Vaccinium*, grass, and small forest litter about 18 inches to two feet wide and ten inches high which smelled very strongly of bear. Each pile was then torn apart and two small pieces of cranium were found; the upper palate complete with teeth and nasal sinuses, and the almost complete lower jaw in two pieces. All flesh was stripped away from the bones and the ends of bones were chewed away and everything licked clean before the bones were hidden in the piles of vegetation. Fresh bear feces were found under similar heaps of material but there was absolutely no evidence of other animals at the scene.

A large black bear boar was seen about 300 yards up the road and another sow, with two small cubs in a nearby tree, was stationed about 100 yards away in the forest. Thus, it is obvious that the cannibalism was due to one or more of the bears present and more probably by one of the three mature bears. Since the mother of the dead cub was still guarding the carcass it might be assumed that she committed the act and further conjecture gives a possible reason. It is known that the little bear had a head injury and could easily have suffered a leg injury as well when struck by the automobile. Perhaps the mother bear licked the wounds with intent to help him and, once tasting blood, could not stop there but ate away all damaged portions and carefully buried the parts as later found. It is doubted that an alien bear, for example the adult bear, would have taken the trouble to hide the pieces with probably constant harassment of the angry sow.

SPECULATION ABOUT A BREWER'S BLACKBIRD NEST

Robert Breitenbach - Park Ranger Naturalist

One of our most abundant neighbors at "Condonville" each summer is the Brewer's blackbird. In June each entrance and exit to our cabins is marked by the wild cries of the males bravely performing aerial acrobatics in the vicinity of our heads. This ardent territorial display aids materially in finding the nest, and it wasn't long before we had located three nests in the immediate vicinity of our cabin. One of these nests lent itself to observation since it was within five feet of the driveway to and from our quarters; and was protected by one small sprig of rabbitbrush. Because we both drove and walked down the drive, we were able to make daily observations on progress within the nest.

with skillful interpretation. In addition, he points to the extinct geyser cones and living hot springs on the Shoshone River (Stinking Water) near the mouth of Shoshone Canyon northeast of Cody.

BISON

H. T. Lystrup - Park Naturalist

Early in June, I walked along the short cut through the forest deep in meditation about my evening campfire talk when suddenly there loomed before me a huge form. A startled glance revealed a bull bison who ten feet away looked unusually large. Muscles in the massive shoulders raised the enormous head slowly while a short stringy tail arched over his rump. A cloven hoof pawed the forest floor and inky black bead-like eyes peered a hole right through me. In defiance he seemed to say, "I dare you to cross my path." I cautiously retreated backward with the purpose of getting as many large trees between us as possible. Strange how small all the trees suddenly were. It was not until I had circled the area and walked between the cabins that ruffled composure returned. The bull bison was in his rightful domain and I shall not trespass.

Bison early in June were more frequently seen in the Old Faithful area than bears. It was not uncommon to see three or four of these huge creatures in the vicinity in back of Old Faithful Inn. In the Fountain Flats region they could be observed almost daily 'til July.

A BEAR FALLS INTO THE CANYON

Robert J. Murphy - Park Ranger

On June 3, 1954, at about 1 p.m., a neat appearing young man of about 30 years of age entered Lake Ranger Station. This gentleman immediately introduced himself as James W. Barnes of Enid, Oklahoma, and obviously had something on his mind.

His first question, "Have bears ever fallen into the Grand Canyon of the Yellowstone?" My reply, "It is possible that bears could have fallen into the Yellowstone Canyon in the past, although to my knowledge, I knew of no authentic record. Occasionally reports are received of such misfortunes befalling some of the wild creatures of the Park in this locality, but to determine the sagacity of such relations is often quite difficult."

Mr. Barnes related that at about noon time he was between Inspiration Point and Canyon Hotel in the vicinity of Red Rock Trail. He had been

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observing the Canyon from different vantage points and taking a few pictures. While standing on a point of rocks near Red Rock Trail a medium sized brown bear was observed, attempting to negotiate a slope of the Canyon wall bordered by scattered pines. Upon contouring a more declining part of this slope, the bear lost its footing and was observed sliding down this slope and rolling end over end to a point about 150 yards below. At this location the bear regained an upright position momentarily and staggered to the side and fell over a nearly perpendicular slope toward the river below.

Mr. Barnes stated that he could observe only part of the width of the Yellowstone River at this location. He did, however, watch a section of the river about 250 to 300 yards below where the river's width was entirely visible and where in all probability the bear might be seen floating down the river. The bear was not observed again and after waiting about 20 minutes Mr. Barnes returned to the highway and his car and proceeded to Canyon Ranger Station. Finding no ranger present he continued on to Lake Ranger Station and voluntarily related the incident.

GOPHER SNAKE VS. GROUND SQUIRREL

Francis H. Elmore - Park Naturalist

In the early evening of July 16, 1954, my sister-in-law, Anne Locatelli, while looking for her children in the lower village neighborhood, heard a high-pitched squeaking along the roadside across the street from Ruben Hart's residence. Upon investigation she found a Uinta ground squirrel (Citellus armatus), sometimes called picket-pin, in its death throes in the coils of a bull or gopher snake (Pituophis sayi). The snake, at this time, was trying to grab the struggling rodent's head. Immediately upon seeing the situation, she ran to our house and apprised us of the situation. I grabbed my camera, but by the time I arrived at the scene, the snake had uncoiled and had the lifeless squirrel in its jaws. I picked up the snake with the rodent still tightly held in its jaws from among the tall grasses and shrubs and placed him on the gravel road in order to get his picture. By this time, in which not more than two or three minutes had elapsed, the gopher snake had grasped the ground squirrel by the tip of his snout and was proceeding to manipulate his jaws preparatory to swallowing it. This was an interesting process to watch and was somewhat as follows: As the rodent's head was grasped in the reptile's jaws, one of the upper jaws and the opposing lower jaw would move forward a fraction of an inch while the head and neck worked from side to side. The snake's recurving teeth held one side of the rodent's face and head while his jaws worked from side to side. As the squirrel was pulled farther and

Regrouping behavior of gulls seems to be a mechanical function resulting from social pressures, aggressive display, and individual recognition among "family" members.

LEAVES FROM OUR DIARIES

Francis H. Elmore - Park Naturalist

On Easter Sunday, April 18, 1954, a trip was made to the end of the snowplowing along the Firehole River. Numerous birds and animals were seen including killdeer, female red-wing blackbirds, a melanistic phase of Swainson's hawk, bluebirds, pink-sided juncos, and others. Elk, coyotes, bison and grizzly bears were also seen. Three grizzlies were seen in the north end of Elk Park. Two were small and light colored and one was larger and darker colored. At first we thought that it was a mother and cubs but later decided not. One smaller one was a light straw color and the other a dark straw color while the larger one was a dark brown. We watched them quite a while while they grubbed for food. During this time a raven lit in the vicinity of the grizzlies, seemingly with the avowed purpose of enticing the grizzlies. The raven would alight within a few feet of the grizzlies and one or two of the grizzlies would start for him, whereupon the raven would hop or fly a few feet, and the grizzlies would again start for the raven, the raven keeping just enough distance to keep the bears on the run. Later when the grizzlies moved back into the trees, several ravens were seen perched on a lodgepole pine directly above the grizzlies. While the bears were in the trees it was noticed that they were constantly yawning and the larger, darker-colored one would walk a few steps and then sit down. Once the larger one got one of the smaller ones down on his back and proceeded to play with him and lick him.

As a sidelight to the grizzlies and raven, a week previously a raven was seen doing exactly the same type of enticing to a coyote. The coyote was at quite a distance from the road and digging in the snow while a raven stood close to him raucously egging him on. The coyote started for him time and again and the raven just kept out of reach. The coyote was pulled farther and farther away from his diggings until he evidently gave up in disgust and trotted off. Later the ravens were seen in and around the hole dug by the coyote. It seems logical that the remains of some animal carcass was buried beneath the snow.

1957

DESTRUCTIVE SWEET TOOTH

Roger Contor, Park Ranger

A recent article in the "Journal of Wildlife Management", concerning animal damage to the redwood forests in California, bring to mind an observation made by Park Naturalist Biddulph and myself on August 6, 1951.

We were hiking into the headwaters of Crow Creek from Sylvan Pass when we noticed several dozen freshly damaged trees in one comparatively small area. Typically, a large strip of bark (from a few inches in width to the entire circumference of mature trees) would be peeled off from a point three to five feet from the ground right down to the base of the tree. Puzzled at this, we determined to find the cause.

We soon noticed that only Englemann Spruce trees were being damaged, although the forest was a rich mixture of Lodgepole Pine, Whitebark Pine, Alpine Fir and the damaged spruce species. On the exposed trunks a small series of lightly etched grooves could be seen, but no other distinguishable marks. The lack of claw marks made me reluctant to agree with Lowell's suggestion that it was a bear's work.

So we continued on our hike, discussing the condition as possibly the job of porcupines, beavers, bears-----even "Mallet-tailed cats". This discussion went on as we reached the glacial cirques behind Hoyt and Avalanche Peaks, and might well never have been settled if Lowell hadn't been on his toes as we came back through the area in question later in the day.

I was looking for a hermit thrush that we had seen on our way up when I heard a peculiar ripping noise and stopped; Lowell grabbed my arm and silently pointed into a grove of nearby spruce. There was the culprit at work. A black bear was busily pushing his nose and tongue up and down the freshly exposed trunk of a large Englemann. The stripped bark lay at the tree's base like withered flower petals, and the bear was lapping at the trunk as if it were a candy stick.

In a moment our presence was known and the animal slipped out of sight; but the problem was solved. After grabbing a bite of bark and tearing it down to the ground, the animal would press its incisors into the cambium region, forcing out and licking up the sweet, sugary sap. When one area was cleaned off, another would be exposed.

This apparently isn't a "common" practice, and fortunately so, for this one animal certainly raised havoc with a healthy stand of spruce in just a few days.

THE THREE BEARS - SANS GOLDILOCKS

Clarence C. Alleman - Park Naturalist

About a half mile down the grade leading into the main road on the old Tower Fall highway I came upon three old bears who were industriously examining the contents of a whole carton of garbage that some thoughtless person had tossed out of his car.

Parking my car along side of the road I walked toward the bears in the hope that I might get a good picture; or at least observe some bear behavior that might be interesting.

I moved to within thirty or forty yards of the bears and leaned up against a tree to await developments. While the animals took notice of me, they seemed too much interested in the tidbits they were finding in the carton; and which were by this time pretty well scattered all over the hillside.

Perhaps five or ten minutes elapsed and nothing of special interest took place when suddenly I thought I felt a vibration in the tree against which I was leaning and a bit of bark went sailing past my face. Looking up I saw a small cub, black in color, in the tree directly above me.

I walked away some distance and there directly above me were three small black cubs sitting one above the other about twenty-five or thirty feet off the ground. Apparently they had been quietly observing me all the time. Now, their patience exhausted by my standing under their tree, and probably feeling that I represented no particular menace to them, they went on with the play which I had unknowingly interrupted.

The next thirty or so minutes I had a ring side seat to a performance that would have turned any circus man green with envy.

All of the cubs were in a tall slender tree whose lowest branches were a considerable distance from the ground. They had been sitting on some of the lowest branches; but now one of them began moving cautiously down the smooth part of the trunk. Soon they were all on this smooth section of the tree and spaced about three or four feet apart - for all the world-like Eskimo faces on a totem pole.

The cub in the middle suddenly released his grip and dropped like a shot onto the head and shoulders of the lowest cub. There was a squeal following the thud and the two acrobats chased each other around the tree a couple of times. Finally one of the animals climbed quickly up to the first branches

again. However, 'number three apparently was not going to be left out of the fun for long. He suddenly relaxed his grip, and down he came, like a fireman sliding down the brass pole in a fire station - only to wind up with a thump on the cub below.

This kind of performance went on for some minutes; then came a lull as each cub found a branch to his liking and rested for a time. Then, with slight variations the game went on - for apparently it was a game - much like a group of youngsters in a playground going down the slippery slide.

Once one of the cubs came cautiously all the way down the tree, but a few guttural remarks from the mother bear and he went back up the tree as though jet propelled.

About this time several cars had stopped and with the arrival of a larger audience, the cubs all went back up into the branches, and the older bears began to go thru their usual begging routine.

It seemed to me that the interesting part of the show was over for the time, so I drove on - still amused by the antics of the three little bears - even though there had been no Goldilocks.

TWENTY BELOW

Harlow B. Mills

January, you are cold,
And bitter is the midnight hush,
The trial is not for the old,
But--fawns are bleating in the brush.

The distant frost-crack of a spruce
Breaks through the stillness ominous.
Far cabin lights bespeak the truce
'Tween man and cold; it's not for us.

January, you are cold,
And bitter is the midnight hush,
We do not care, for we are old,
But--fawns are bleating in the brush.

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It is an outside chance that some of the names may be listed somewhere in historical literature. If the names and dates have any significance, they should be recorded now for the sandstone is in a state of flaking and deterioration.

In conclusion, aside from human history and its appeal, the area is worth a visit for the interesting story of glaciation that is unfolded before ones eyes.

LEAVES FROM OUR DIARIES

Antelope are still being observed in the area of the North Entrance Station; a total of 16 were counted on November 29, 1950. November 16, 116 Antelope were counted in the Gardiner-Stevens Creek area. 17 Antelope were observed on November 28 in the area of the old coal mine on the west slopes of Mt. Everts. It is interesting to note that during the first half of the month the Antelope were in several large groups because of the cool weather but because of the generally mild weather the last few days of this month, the Antelope have broken into many smaller groups.

On November 19, 257 elk were counted south of the Stevens Creek Ranger Station. Due to the mild November weather, the elk in this section of the park have not migrated out of the park. A total of 164 elk were counted in the area between Glen Creek and the old C.C.C. Camp.

Five Bighorn Sheep were observed in the park area south of Beckard Flat. No Bighorn Sheep have been seen in the Mt. Everts area although an effort was made to find some on November 28.

~~-----~~ Park Ranger Bob Perkins

The majority of the local bears apparently hibernated during the stormy period at the first of the month. However, a few stayed out around the Cafeteria at Canyon attracted by the smell of food and cooking. The last bear actually seen was on November 10 on the Norris Cutoff.

-----Park Ranger Lee Coleman

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State	State Flower	Flower Family	Yellowstone Counterpart	State Bird	Bird Family	Yellowstone Counterpart
S. C.	Yellow Jessamine	Logania	Mitrewort	Carolina Wren	Troglodytidae Wren	Rock Wren
S. D.	Pasque Flower	Crowfoot	Pasque Flower	Ring Neck-Pheasant	Phasianidae Pheasant	
Tennessee	Iris	Iris	Iris	Mockingbird	Mimidae Thrasher	Catbird
Texas	Blue Bonnet	Pea	Blue Lupine	Mockingbird	Mimidae Thrasher	Catbird
Utah	Sego Lily	Lily	Sego Lily	Sea Gull	Larinae Gull	California Gull
Vermont	Red Clover	Pea	Red Clover	Hermit Thrush	Turdidae Thrush	Hermit Thrush
Virginia	Flowering Dogwood	Dogwood	Dogwood Bunchberry	Cardinal	Fringillidae Grosbeak	Pine Grosbeak
Washington	Rhododendron	Heath	Kinnikinnick	Willow Goldfinch	Fringillidae Finch	Goldfinch
W. V.	Rhododendron	Heath	Kinnikinnick	Tufted Titmouse	Paridae Titmouse	Mountain Chickadee
Wisconsin	Violet	Violet	Marsh Violet	Robin	Turdidae Thrush	Robin
Wyoming	Indian Painted Cup	Figwort	Indian Paint Brush	Western Meadowlark	Icteridae Meadowlark	Western Meadowlark
Yellowstone National Park	Rocky Mt. Blue Fringed Gentian	Gentian	Rocky Mt. Blue Fringed Gentian	Western Tanager	Thraupidae Tanager	Western Tanager

THE THREE HOOLIGANS

Herbert T. Lystrup-Park Naturalist

It happened early one Sunday morning late in June. My third check on Grand Geyser was in the offing. The bridge at Inkwell Spring was crossed and as the swallows gracefully skimmed near the surface of the river water I idly made mental reservations to observe on the return trip; the nests festooned on the rocks under the span. Beauty Pool, Chromatic Spring and the algal run-offs were noted enroute. Suddenly, with majestic force, Grand Geyser gave vent to pent up power by lifting a shimmering sheer white plume skyward. That initial burst automatically accelerated my pace and then abruptly I stopped dead still. Could it possibly be? There on the

board walk in front of Grand Geyser was an audience of three---no other living being was in sight. The Three Hooligans (three year old grizzly triplets) chose this Sabbath to observe geysers. One grizzly sat on the board walk facing the Grand Geyser. He balanced precariously on his rump with his legs wide spread and thrust forward. His one arm was extended while the hand of the other scratched vigorously in the vicinity of the arm pit. His head was tilted backward as the second burst from Grand sent the water even higher. The ludicrous grizzly leaned farther back and was in imminent danger of falling backward but never for a moment did he stop scratching or peering. The other two grizzly bears, after a brief look at the geyser, decided to wrestle and box and paid not the slightest heed to the erupting geyser. Then from the walk near Sawmill Geyser three people, with cameras set at ready, came running to capture a picture of Grand. The Three Hooligans simultaneously stood erect. Human voices and the pounding of feet on the board walk startled them. Apparently they were not in the mood to pose for they swiftly loped up the hillside behind Grand Geyser in that inimitable gait and disappeared into the timber.

Where else in the world could such a scene be enacted featuring grizzly bears and a geyser?

LEAVES FROM OUR DIARY

August, 1957

Tom Milligan-Park Ranger

On August 28, 73 buffalo were observed from the mouth of Chalcedony to the head of Agate Creek. The largest concentration, 51, were located at the mouth of Chalcedony. In this particular group three bulls appeared to be attempting to drive a younger or smaller bull from the herd, but after repeated efforts gave up unsuccessfully.

Three bull moose were observed at the head of Quartz Creek. A bull, two cows and a calf in the vicinity between Floating Island Lake and Elk Creek have given visitors an opportunity for close observation.

One bighorn ram was observed on Amethyst Mountain. Two females were observed on Little Buffalo Creek in the vicinity of the old salting station.

During the latter part of August, large flocks of geese and ducks have been observed on the ponds south of the mouth of Lamar River.

Three does, two fawn and one buck have been seen in the vicinity of the Tower Fall Campground affording opportunity for close observation.

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minutes after Morning terminated its eruption but only to a height of a few inches. Spasm Geyser likewise continued a feeble eruption.

To fully appreciate the fascinating activity in this basin, one needs to read the article ably presented by Park Ranger Naturalist Wm. J. Lewis which appeared in Yellowstone Nature Notes, Sept.-Oct., 1957; No. 5; Vol. XXXI, titled "Some Observations on Geyser Activity in the Lower Geyser Basin, Summer 1957". This area in recent years has certainly experienced a period of rejuvenation. But, what creates and stimulates interest is suspense - never knowing exactly what will happen next. One speculates about the mysterious underground subterranean connections and how the activity can shift from one geyser to another. What delicate balance in temperature triggers the geyser into activity? Changing, shifting activity seems ever present and once more nature throws out a challenge to him who will observe. Most interesting will be the final observations for this season to learn how activity will conform or deviate from the pattern set in 1957.

Statistics:

Date - June 17, 1958

Morning Geyser began the eruption at 9:40 a.m.

206 eruptions were noted

Heights were estimated from 15 to 150 feet.

Total time of the eruption was 52 minutes.

Clepsydra - side vent only-preceeded by ten minutes
the eruption of Morning Geyser.

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BEARS AND PEOPLE

Joseph Joffe - Management Assistant

"Bears will be bears and people will be people and the two don't mix very well when they meet in Yellowstone National Park". A report of damages and human injuries by bears and bear mortalities summarized from all reports submitted by park rangers and park ranger naturalists during 1957 revealed some interesting information.

Warnings put out by rangers and naturalists through talks, literature, posters, signs, and personal advice, inform most visitors that it is contrary to regulations to feed, molest or tease animals in the Park. Yet, there are those careless, thoughtless, intrepid or foolhardy ones among them who insist on the unwise practice of becoming too familiar with bruin. Because of such

actions, four persons were arrested during the summer and brought before the United States Commissioner for flagrant violation of the bear feeding regulation. Numerous others were stopped and warned of the dangerous practice in which they were engaged.

Ninety-one persons were reported as being injured by bears, 90 of them visitors, and one an employee. With a total of 1,595,875 visitors to the Park in 1957 an average of one in each 177,319 fell victim to bruin's behavior. Eighty-eight of the injuries were attributed to black bears, one to a grizzly, and in two cases where the culprits entered tents and injured people their identity was unknown.

It was interesting and fortunate to observe that of the 91 bear victims only one, a visitor, was hospitalized. This lady was confined overnight after wounds on her upper arm were repaired. In this case the visitor was apparently occupied in watching black bear cubs when the mother bear approached from another direction, reached in the car and bit her. Many reports simply state that, "the bear put its head in the car window and bit me!" A fisherman sleeping in the Lewis River campground was severely mauled about the head by a grizzly, which was later identified and disposed of.

Twenty of the 91 casualties were feeding bears which bit or clawed them; in 11 cases nearby people were feeding the bears. Fifty-two of the injured knowingly approached or permitted bears to come too close to them. Only seven attacks were considered to be unprovoked and one case was unclassified due to insufficient information provided in the report. In the one case involving an employee the victim accidentally walked up to a bear beside a building at night and was knocked down.

Not only was bruin charged with 91 injury cases but he was responsible for 123 incidents of damage to property, which was 18 per cent higher than reported in 1956 and about the same as the number of 1955 - 121. Property damaged belonged to visitors in 102 cases, 7 to contractors and their employees, 4 to concessioners, 9 to concessioner and government employees and Uncle Sam had one charged to him. Animals causing damage were identified as black bears in 94 cases and bears were not identified as to species in the other 29. Food tempted bears in 86 reports but was not involved as an attractor in 35 cases. Property damaged by bears included camping equipment, 59; auto and house trailers, 56; buildings, 5; and food only in 3 cases.

Drastic action was required occasionally to avoid further injury to people and damage to property and where the culprits were definitely identified it was necessary to dispose of 23 animals for control purposes. In each of

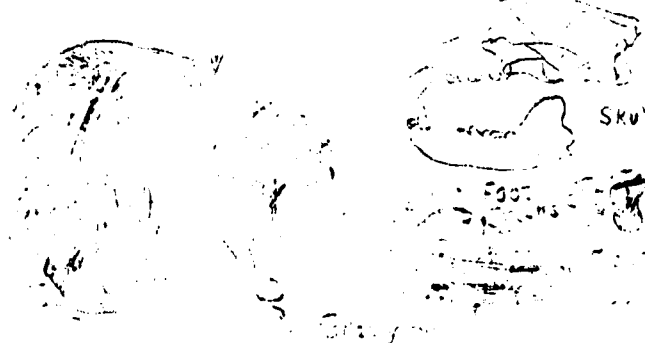
robin parents dove upon the snake - hitting him with their wings and feet. The homey-backyard robin, here in his natural state, succeeded in showing his capability to cope with the aggressor. The snake dropped from the tree - unfortunately landing length-wise on the side of the Gulch Hill and rolling out of control to the Nature Trail. The bull snake himself was thirty-six to forty inches in length, and lacked no facility to quickly gather his wits and disappear into the thick undergrowth. The woods is still adequately populated by the robin, but this particular nest is now empty - no activity has been observed in it during the past two trips over the Nature Trail. Perhaps the snake returned for his meal later!

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A GRIZZLY STAKES HIS CLAIM

Donald C. Stewart - Park Ranger Naturalist

Henry and Bill Winlass, caretakers at Madison Junction, took my wife and I to an area two or three-hundred yards behind the Garbage Dump where the Lodgepole pines reveal the power of the grizzly bear. Several trees some fifty yards on either side of a small spring are stripped of their bark, and there are numerous tooth and claw marks beneath - holes such as twenty-two rifle bullet would make. One tree in particular has been slashed, clawed, and bitten this year. We know that it is not unusual for grizzlies to claw trees in this area - the one in particular. Grizzly hair and bits of mud show that it has also served the bear as a back scratcher. It would seem from old marks that the area has been worked over by generations of grizzlies. One bear now owns the ranch however. Don Teagarden, Park Ranger General at Norris, and the Winlass brothers have seen him. It is our present belief that the grizzly in residence has declared his property rights by the fresh marks made on the trees - particularly to the spring which may be his private bath - the marks are his NO TRESPASSING sign to bear and man alike.



MAMMOTH

Paul D. Sebesta - Park Ranger Naturalist

On July 11, John Teisberg and I were cave-crawling in the Hoodoos by Silver Gate when we happened upon three bear dens. One den was reached after crawling on hands and knees for about twenty feet, where it widened into a little "room" about six feet across and four feet high. It contained "duff", pine needles, branches, and plain dirt. A strong animal odor was present.

We also discovered a bear "duplex". An eight-foot tunnel branched off into two tunnels of about twelve feet each, which terminated in dens about five feet across. These contained green pine branches - indicating recent usage.

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THE STARLING COMES TO YELLOWSTONE NATIONAL PARK

Wayne T. Replogle - Park Naturalist

Hearing some musical but unfamiliar sounds for Yellowstone, I gave my attention to an old woodpecker "window" in a pine in front of Old Canyon Lodge to find to my astonishment my first view of a starling (*Sturnus vulgaris vulgaris*) in Yellowstone National Park. Can it be true that at last this yellow-billed "blackbird" has come to the West?

On June 22, 1958, on the Old Tower Road, I saw gray ruffed grouse (female), hermit thrush (male and female), Townsend solitaire (male and female), and Williamson's sapsucker (male).

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MARTEN SQUIB

Eliot Davis - District Park Ranger

Marten are great tree climbers but they may also be very good second-story men. Their tracks may be seen on the topmost gables of Lake Ranger Station, but when they were seen on the gables of