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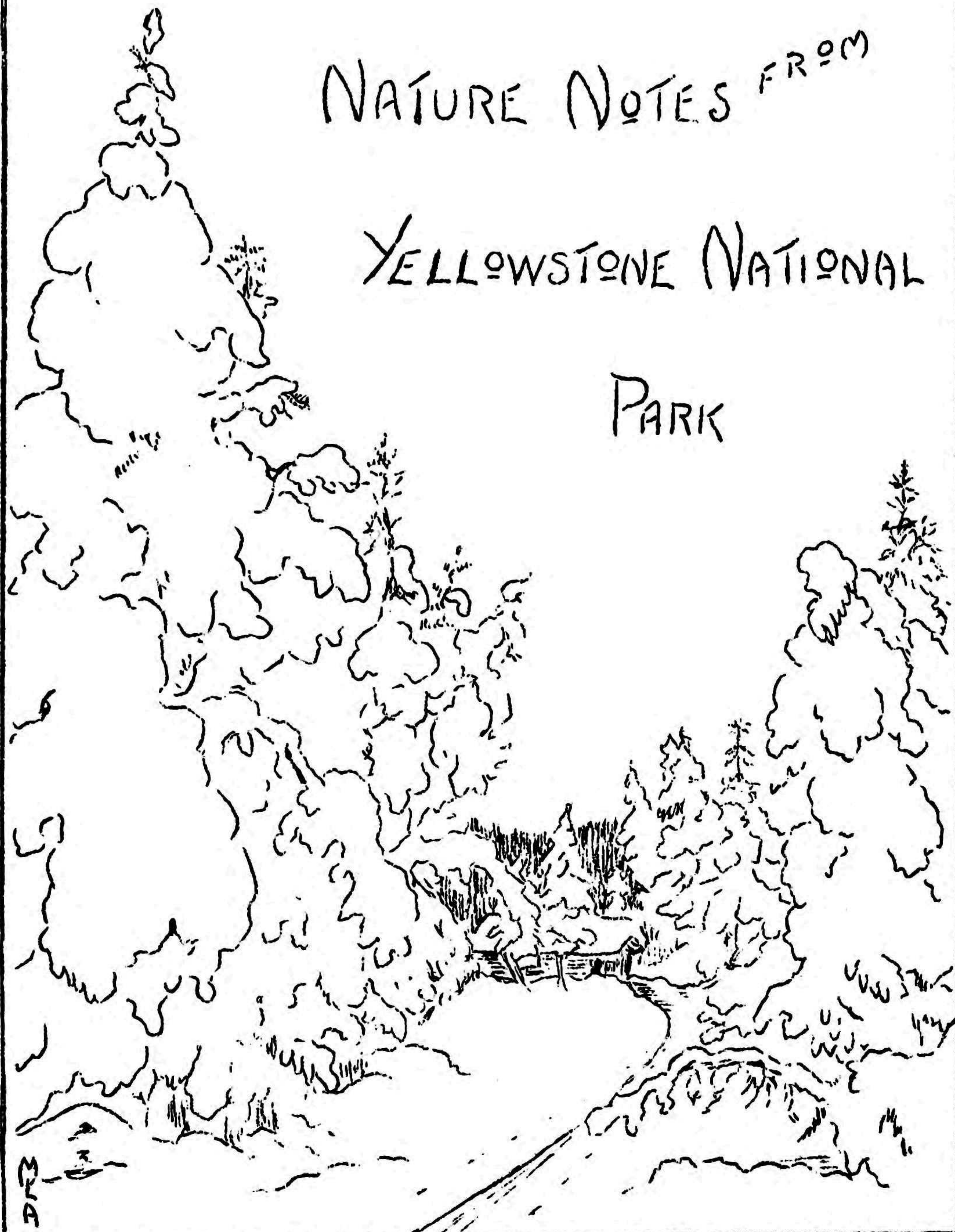
JANUARY 1, 1929

No. 1

NATURE NOTES FROM

YELLOWSTONE NATIONAL

PARK



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YELLOWSTONE NATURE NOTES

Volume VI, No. 1

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 "NATURE NOTES FROM YELLOWSTONE PARK" AND AUTHOR.

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Winter Comes to the Yellowstone

Geo. C. Ruhle, Ranger-Naturalist

A frigid, piercing wind sweeps with unrestrained fury across the old Parade Grounds at Mammoth. It tugs and tears at the trembling structures and rages around chimneys and corners with its hollow sobbing moans. Small clouds of snow scurry here and there before its vacillating course, and shivering man fights for a pathway against its bitter storming. Winter has come to the Yellowstone.

Each season has its own peculiar charm, and while winter may be often regarded as the season of a desolation of whiteness, it possesses intrinsic beauties without which the world would be poorer. What is more beautiful than a landscape softened with a heavy blanket of snow, or transmuted into fairyland by the magic wand of hoar frost and ice? On walking thru the silent aisles of the forests which appear like grizzled beards on the hill-sides, each tree is found to be heavily fraught with snow, and stands like a hooded penitent, still and pulseless. Rivers and brooks line their courses with ice adown which they may laugh and gurgle in carefree manner, never mindful of the season's chill. Meadows and bare hillsides show a grand expanse of snowfield, wind-rippled or billowy, with wind-chased dunes caught at random by clumps of gray sage or tufts of sere grasses that protrude thru the surface like islands in a snowy sea. All is softened with indistinctness by the mistiness of a storm, thru which the sun rarely penetrates, a diffused disk of silvery brilliance at which the eye can gaze unblinking.

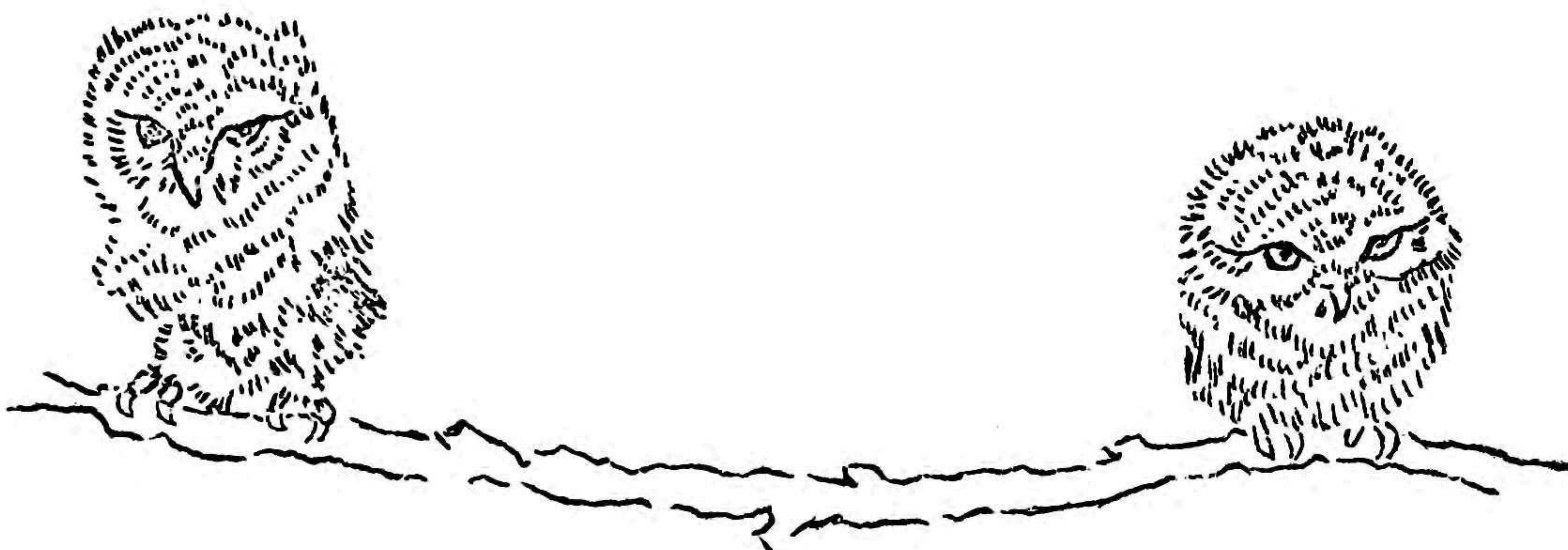
Though usually hidden behind loaden banks of clouds, the celestial sphere is unveiled at times to show its clear azure colors or to serve as a screen for the twinkling stars, the golden sunset, or the brilliant Aurora. Nowhere do the stars nearer the horizon display such dazzling hues as at higher altitudes. Running thru all the colors of the spectrum with incredible rapidity, their brilliance is indescribable.

Upon cold, clear mornings, the hot springs at Mammoth send upwards dense clouds of fleecy steam like the ascending columns of smoke from acceptable sacrifices on ancient altars. The beauty of the terrace bowls and platforms is enhanced by fluted rows of blue icicles, which mingle and contrast with the permanent stalactites of travertine sinter. The immaculate whiteness of snow hides the dull grays and creams of older deposits,

and augments the brilliant blues, greens, yellows, and pinks of water and algae. The horizontal strata on the face of Everts and the rugged outlines of the rocky precipice on Sepulchre are touched up or brought into strong relief by white shadows of snow lodged in crevices and on ledges. The golden lichens near Rustic Falls gleam in wintry splendor in frames of ice and snow.

Geysers play in winter-time much as they do in other seasons, but the arched columns of hot water which mount heavenward in graceful folds are most frequently hidden in masses of steam, much denser because of the cold atmosphere. Nearby trees catch the steam and water which freeze and clothe each needle and branchlet with transparent crystals that serve as myriads of prisms in the sunlight, glowing and flashing in resplendent iridescence. When gently wafted by the wind, these ice-burdened branchlets send forth rare music, a glorious tinkle, tinkle like the chimes in a Chinese temple garden.

Winter unappreciated is a time of desolation and death, but those who love Nature, those who have an eye for beauty, revel in its glorious displays and regard it as the completion of the year's cycle.



The Camp Bird

Fred Johnston, Park Ranger

I wonder why the owl was chosen as the bird to represent wisdom among the fowl. He does look wise and possibly is gifted with a sense of craftiness, but practically speaking it appears as though legend and fairy stories are responsible for the generous opinion that the owl characterizes knowledge among the birds. From the acts of intelligence noted in the camp bird could it be unjust to the owl to speak of the camp bird as "the wise old camp bird"? Surely not, when one considers the injustice the camp bird has suffered for so long, by being called a robber.

The acts of camp birds, mistaken for theft when they fly into a tent as soon as the owner's back is turned, and fly right out again with almost any article of food, can only in honesty be called a clever act by a wise bird.

During the past summer I had the pleasure of witnessing an actual test of the intelligence of camp birds, and it was really surprising as well as amusing.

A garbage pit about three or four feet in depth was the favorite assembling place for six or seven camp birds and numerous attempts to catch one of the birds while he was busy in the pit devouring scraps were unsuccessful. Finally a scheme was devised to lean a canvas sheet on two poles at the edge of the pit, so that it could be dropped, covering the pit as soon as a bird entered, by pushing on the sticks. The birds, one by one, were captured in this manner, marked with green and red strings, and released. Being friendly birds, and wise to the fact that they would not be harmed by human beings, they were soon flying around again, inspecting the pit which so mysteriously trapped them. Then the acts of intelligence and amusement began. The bravest of the marked birds flew to the edge of the pit, cautiously looked in all directions, dove into the pit and immediately flew out with a scrap in his beak. This he enjoyed on a nearby limb of a tree, while the rest of the marked birds followed suit, and although many attempts to catch them again in the same manner, the camp bird had solved the mystery and all attempts failed. It takes an intelligent bird to reason out, rather than abandon, an obstacle.

Recently an act of intelligence I have noticed in the camp bird has appeared, since the freezing of the scraps in the garbage pit.

In the morning or afternoon, by standing on the porch and whistling a few times, three camp birds will appear from the trees ready for some food -- usually pieces of hot cakes. They fly to the porch, fill their beaks as full as they are able, and fly back to the trees, where they cache all they have crammed in their beaks. They continue this until all the food has been cached and fly away contented, with their food stored for emergency. When the snow is on the trees they have little trouble in caching their food so the wind will not blow it down, as they push it down into the snow with their beaks. A person is immediately reminded of a dog burying food when he sees a camp bird go through such a similar process. I'm sure now that I know why crackers were falling out of a tree close to camp last summer.

The owl may also show many signs of intelligence, but he has yet to learn that he is handicapped by being afraid of man. That's why I prefer to say "the wise old camp bird" instead of owl.



Love for Life

W. Ward Yeager, Park Ranger

It is often said that a few and only a few wild animals will wilfully attack man, but on the other hand there are said to be only a few who will not attack if cornered. The coyote, the so-called "coward" is true to both the above sayings.

I shot a coyote lately, shot him through one foreleg so that it was useless, and he fell. Then arming myself with a solid club I approached him to end his suffering. When I approached, instead of trying to run he bared his teeth and lunged at me, to be knocked down, never to rise again.

To my surprise I then noticed the coyote had made his fight for life with only one good leg to aid him. A toe was gone from the other front foot and one hind leg was gone from the heel down. Now, then, could the coyote be called a coward if he dies fighting for the life he had loved so well? Even the life that had treated him badly.

Brevities

I heard a sharp knocking at my kitchen door one evening and thinking it was some one stopping in I promptly opened the door. There before the door was a nice five point buck deer ready to "knock" again with his antlers. Since that time I have seen him often, and he has a keen liking for potatoes, bread, etc. Even willing that one should feed him.

-- W. Ward Yeager

A few days ago I shot a coyote while on patrol. As soon as the sound of the gun died away two golden eagles appeared and kept soaring like buzzards until I had skinned the animal, when they swooped down on the carcass. Evidently they knew what the sound of a rifle signified.

-- Ted Ogsten

A few evenings ago I witnessed a most unusual procession going past the office. Twelve rabbits, hopping solemnly in single file, one after the other, made it look like a game of follow-the-leader.

-- Dorr G. Yeager



Weasels

Newell F. Joyner, Park Ranger

"The forehead is low, and the nose sharp; the eyes are small, penetrating, cunning, and glitter with an angry green light. There is something peculiar, moreover, in the way that this fierce face surmounts a body extraordinarily wiry, lithe, and muscular. It ends in a remarkably long and slender neck, in such a way that it may be held at right angles with the axis of the body. When the creature is glancing around, with the neck stretched up and the flat triangular head bent forward, swaying from one side to the other, we catch the likeness in a moment -- it is the image of the serpent." This is the unattractive picture of a Weasel which Dr. Coues painted for the reader of his "Fur-Bearing Animals". And it was this same animal which drew from us exclamations of wonder and admiration while we were driving along the snow-covered road from Lake to Canyon the latter part of November.

Of course we had no chicken yard that might be robbed, and didn't immediately think of the animal's predatory nature when we first saw it. What we did notice was the spotless white coat with the black tail-tip, which was for a long time so highly esteemed by royalty. This white coat rendered it nearly invisible at times as it went leaping along, or stood up on the blanket of snow which covered the sage-brush and rocks. When first seen it was about forty feet from the car. As we stopped and watched, it would plunge into the snow, apparently in search of field mice, continuing under the snow for six to ten feet, then suddenly popping out at some unexpected place. After rising on its haunches and observing the surrounding territory it would dive back under the snow. Finally it came within ten feet of the car, the engine of which was still running. It observed us for nearly half a minute, then went back into the snow again, and in a couple of minutes was hunting again on and under the snow some two hundred feet away.

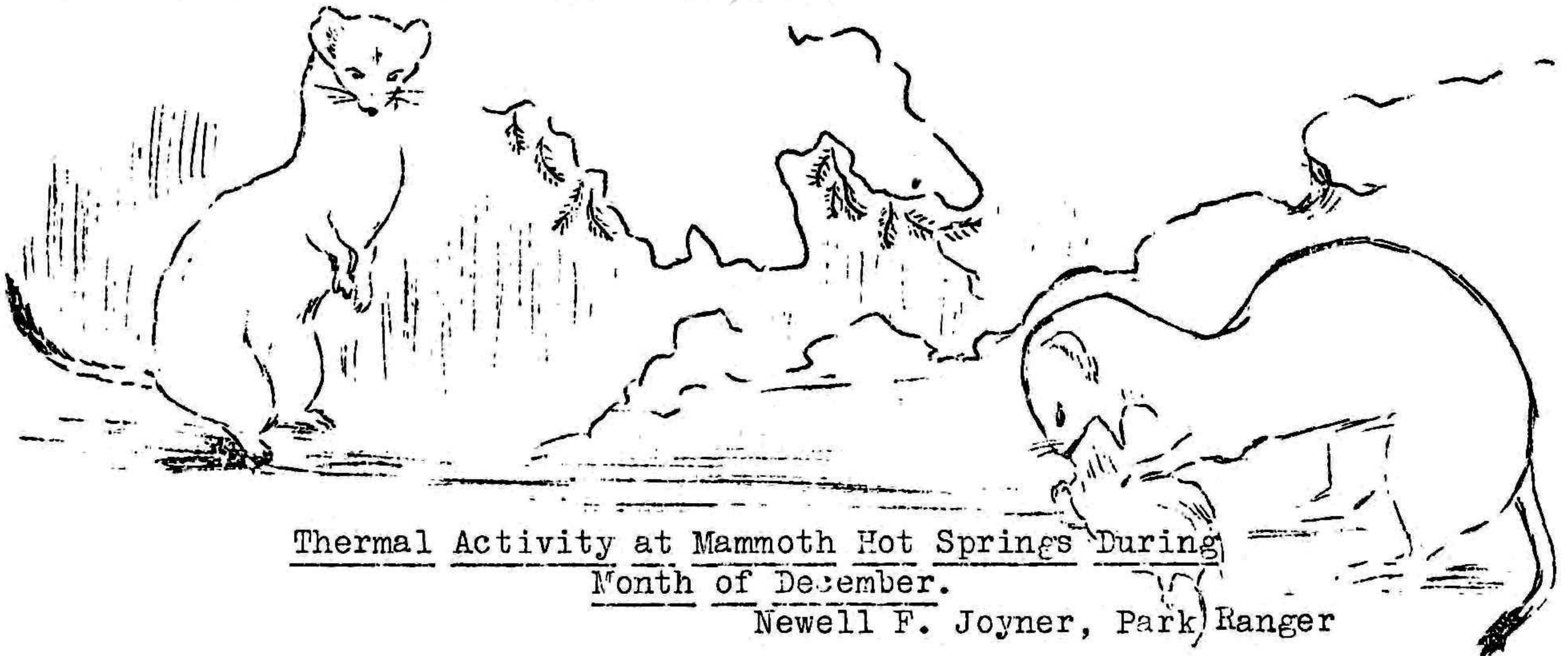
We drove on, but upon returning some two hours later, we noticed a moving object in the car tracks forty feet ahead of us. Again the car was stopped, and there came toward us a weasel with a large field mouse in its mouth. It came to within ten feet of the car, when it finally jumped out of the track and headed across the snow. It seemed so unusual at that moment, that the truly admirable animal which we had observed a few hours before could have assumed the role of killer, and captured the field mouse which it was carrying. The carrying of that prey was no small task as there was six inches of light snow on the ground, and every leap that the weasel made it sank down into the snow two inches. It was carrying the mouse, which was still warm, by the nape of the neck. Upon examination we could see no blood in the tracks.

The life habits of the Weasel have been played up as being wantonly destructive. No doubt that, when this animal comes around the farmer's premises his thirst for blood occasionally leads to depredations of the chicken roosts -- but, this same animal lives to a large extent upon field mice and ground-squirrels which cost the farmer annually an untold sum of money and effort. It is the opinion of a number of authorities that only

certain individuals go "a-henning" and that the majority of the weasels care for mice and ground-squirrels only. From all of the evidence, then, it seems that it behooves us to kill only those individuals of the species which have actually been found guilty of causing great losses to us.

It is a peculiar fact that an animal with such a craving for blood and wanton destructiveness of rodent pests should also have the habit of storing food. But Coues, Bachman, John Burroughs, and others have testified to that habit being highly developed. And evidently the weasel which we had observed made the kill, and was taking the field mouse to its nest where it would be stored, possibly as food for the future.

The number of young of this species (*Putoris arizonensis*) varies from four to seven, with an average number of five to a litter. They are born from late May to July, dependent upon the locality in which they are found. Ranger Roy Frazier tells us that he has observed in this region that the young are brought out of the nest about the first of July. How long they remain in the nest after birth is unknown.



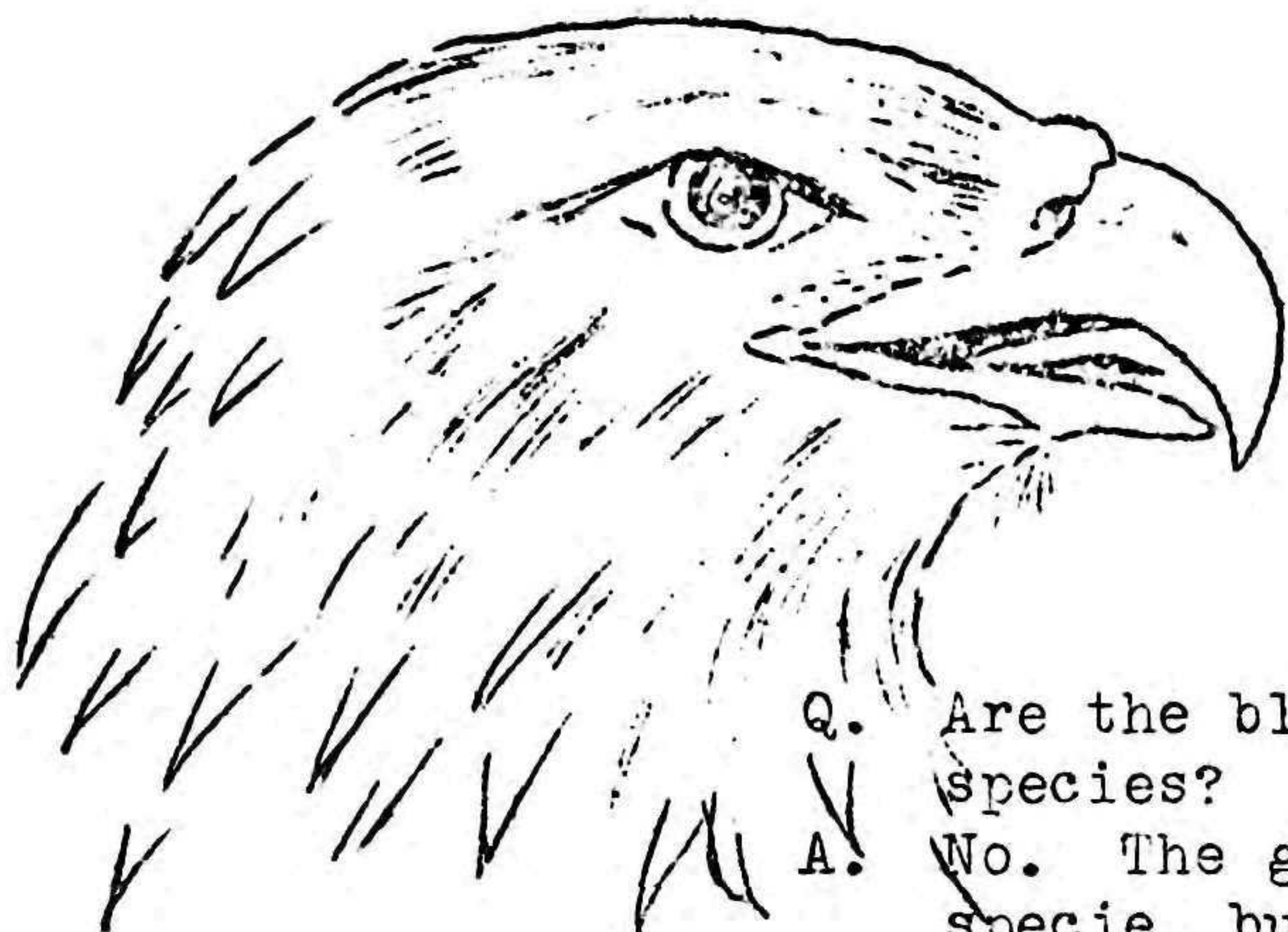
Thermal Activity at Mammoth Hot Springs During
Month of December.

Newell F. Joyner, Park Ranger

The trip over the terraces made on the last day of the month was accomplished without a great deal of difficulty due to snow, which averages a depth of 6 inches. There has been a slight cessation of activity on the terraces. Minerva is not quite as active as a month ago. Old Angel Terrace has experienced a decrease in activity, as well as has Harrow Gauge. There was more activity at Old and New Hymen Terraces, Blue Springs and Main Terraces.

No dead birds were observed in Stalactite and Stygian Caves, nor were bats found in Devil's Kitchen.

Deer and snowshoe rabbits were observed, as well as tracks of coyote and elk. A Blackheaded or Stellar's Jay was seen in the open, as well as a large number of Clark's Crows and magpies.



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.

Eagles in Winter

Considerable interest has been caused during the past winter months by the activities of the bald eagle. From every section of the park reports are coming to this office of the abundance of these birds. Many new and strange things have been observed in connection with these birds.

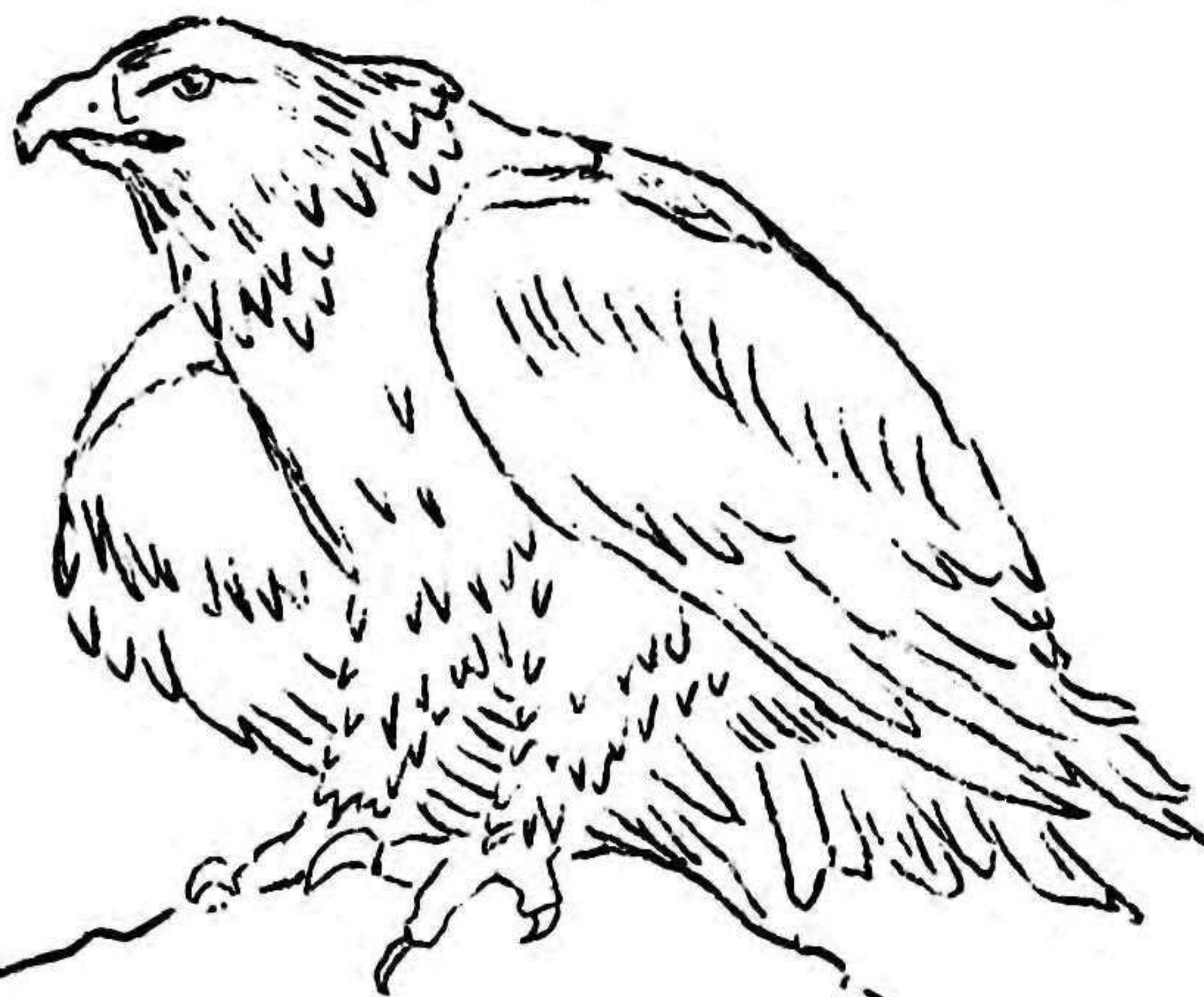
Assistant Chief Ranger Ted Ogsten at Lake Station sends in the following report: "I have noticed more eagles than ever before around Lake, especially along the shore. They are mostly the bald species, but a few golden eagles have been observed. There is one nest, 3 feet across, located in the top of a high dead pine near the Lake shore. Out from this nesting tree are a number of warm spots in the lake which never freeze over. Some of these spots are nearly two acres in extent and a few days ago I estimated 3000 ducks in one spot. On one occasion I saw an eagle dive among the ducks, grab two or three of them and fly to shore. At that time, nine coyotes emerged from the brush and, frightening the eagle away, devoured the ducks themselves. Evidently this is their method of obtaining food."

Assistant Chief Ranger Joe Douglas reports the following interesting happenings from Riverside Station: "As Ranger Miller and I were making a patrol between Madison Junction and Fountain we saw a bald eagle swoop down and catch a fish. I knew that they were mainly fish eaters, but have always been under the impression that they let other birds, principally osprey, do the fishing and then robbed them. Later we saw three bald eagles along the Firehole. It is spawning season for Lochleven trout and there are many in the river at the present time. As we were returning from the patrol we saw a golden eagle having lunch near Terrace Springs. We investigated and found that it was eating a Canada Goose, which was still warm. About three miles west of Riverside Station there have been five golden eagles all fall. The Madison River is full of ducks and geese and in all probability that is what they are feeding on."

From Hellroaring Station, near the north line, Ranger George Bagglely sends the following report: "I have often heard the statement that 'eagles will eat so much they can not fly'. At first it seemed absurd that these proud American birds should make such gluttons of themselves. Absurd though it may seem, it is true nevertheless. While hunting coyotes this week I saw three eagles, two golden and a bald, in this condition. They looked very much like a plane loaded for a transatlantic flight, with so much fuel they could not take off. It is very amusing to watch them trying to rise in the air. If not bothered, however, after a few failures to take off on the level ground, they will walk to the top of the nearest knoll, then with a running start, volplane into the air. When taking off they will head into the wind if possible."

Note by Park Naturalist: Common as the eagles are, it is quite evident from the above reports that all is not known concerning them. The report of Mr. Douglas of eagles actually catching fish is certainly news to us and it may be that this is the first observation of the kind ever made. In a recent article entitled "The Canada Goose in Yellowstone Park" M. P. Skinner says, "I have seen the great Golden Eagles swoop at geese,

but never saw them catch or kill one." Mr. Douglas has definitely proven in his report, however, that an eagle can catch and kill a goose. Mr. Ogsten's note that an eagle carried off several ducks in one swoop certainly proved that the bird is a glutton, as well as Mr. Baggle's observations of "volplaning eagles".



Weather Conditions at Mammoth Hot Springs

Glen Jefferson, Meteorologist

The month was near normal in all except precipitation. No decided temperature changes occurred and altho daily minimum temperatures averaged below normal only one below-zero temperature was recorded. The highest temperature was 42 degrees on the 27th, the lowest -1 on the 19th.

Precipitation totaled 0.84 inch, 0.98 below the normal. Snowfall totaled 10.7, four inches below normal. Snow averaged 6.4 inches in depth at the end of the month. There were 12 days with 0.01 inch, or more, of precipitation. The percentage of possible sunshine was 43, 4 percent above normal. There were 5 clear days, 10 partly cloudy, 16 cloudy.

