

NATURE NOTES

Vol. XII

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No. 5-6

CHIEF
JOSEPH



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YELLOWSTONE NATURE NOTES

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This is one of a series of bulletins issued regularly 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 TO THE AUTHOR.

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NOTE ON INDIAN OCCUPANCY

For years there has been a fairly persistent contention among writers and lecturers on Yellowstone to the effect that Indians avoided the area because of a superstitious fear of the geysers. This supposition does not seem to be based on fact. It is true that there probably never were many Indians residing in this region. The long winters with attending deep snows and lack of game in the high country seems to have been the deciding factor. With the summer, came hunting parties of Crows, Bannocks, Blackfeet, and Lemhis. Certain tribes of Shoshones also came for hunting and a trek through the area, while one small tribe of Sheepstealers doubtless spent much of the year in the region.

In Superintendent P. W. Norris' report for 1880 he describes a permanent camp which he found that summer near the east boundary of the Park, on the headwaters of Miller Creek not far from Hoodoo Basin. According to Superintendent Norris, the campsite showed long usage, if not continuous, it was repeatedly occupied year after year for a long period.

We now have evidence in the form of arrow heads, scrapers, and other artifacts from almost every part of Yellowstone Park, indicating that Indians have been at various times in all parts of the area. Few, if any, permanent campsites have been found, but the temporary campsites are numerous. Recently a Park Ranger collected a flaker, several grinding stones and various worked pieces of obsidian from a spot within a stone's throw of the Mud Volcano and the Dragon's Mouth. - The Editor.

THE BANNOCKS IN YELLOWSTONE NATIONAL PARK

by

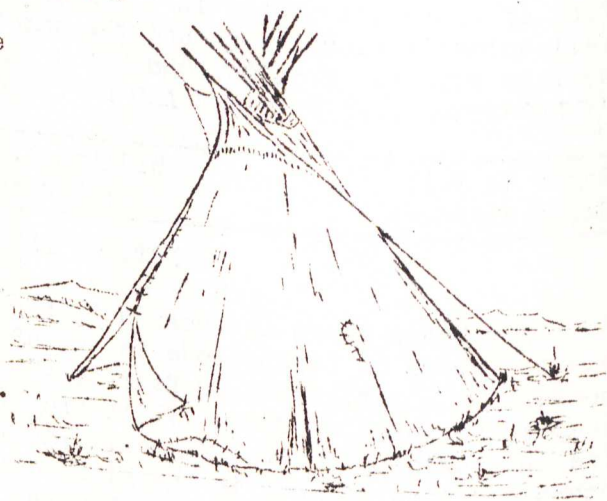
Harlow B. Mills, Naturalist Assistant

Although several tribes of Indians may have entered Yellowstone Park upon occasion, two tribes of the Shoshone Nation, the Sheepstealers and the Bannocks, were the only ones to leave tangible evidence of occurrence within the boundaries of this area according to our present knowledge.

Whereas the former actually dwelt in the Park and earned their subsistence from it, the latter tribe passed through the park annually for a long period of time on their way from their ancestral homes to the west to the upper Missouri where they hunted bison.

The trail left in the Park by the Bannocks on their pilgrimages to the land of the bison was plainly visible in many places as a deep, grassy furrow as late as 1895, after a quarter century of disuse.

The Shoshone Nation was in general characterized by the small stature of the people, who were timid and not of the comparatively high mentality of other neighboring tribes. A few of the tribes of this nation rose over the general plane of development, were mounted, and occasionally met their enemies in open combat. The Bannocks were one of these



Despite the fact that these Indians were considerably above the average of this nation, they held the Blackfeet to the north in wholesome respect, and for this reason they did not travel to the east by way of the Bozeman Pass and the Yellowstone valley; instead they took the more difficult trail to the south. The Henry's Lake area was a great rendezvous for the Bannocks, and from here the trail wound into the Park near the present West Entrance, crossing the Madison River at this point and angling to the northeast toward the confluence of Maple and Cougar Creeks.

Instead of dropping down to the south and thus missing the tip of the Gallatin Range, the trail led to the north of Mt. Holmes, crossing to the headwaters of Indian Creek. It has been stated that a superstitious fear of the Norris Geyser Basin drove the Indians into the mountains at this point. How much truth there is in this statement we will probably never know. However, the Norris area would have been plainly visible to any of them who ventured to the south slopes of the mountain, or to any who climbed to the top of Mt. Holmes to observe the country about.

Picking up the trail again, we find that it travelled down Indian Creek to the Gardiner River, fording it just above the Seven Mile Bridge

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on the present loop road. From this point Superintendent Norris followed the trail with his old "Norris Road" past Swan Lake Flats, through Snow Pass, and down what is now the saddle horse trail to Mammoth. Whatever fear may have been instilled in the Indians by the geysers, apparently the same feeling was not held toward the giant hot spring area.

From Mammoth the trail turned abruptly to the right and recrossing the Gardiner River followed Lava Creek to the vicinity of Undine Falls. Here it climbed the side hill and the old road to Tower picked it up, following it to the Tower Falls. Just above the falls and the mouth of Tower Creek the trail dropped down to the Yellowstone and crossed it. Vestiges of the trail on the north side of the river are still visible, according to E. R. Arnold, District Ranger. In the vicinity of Junction Butte the road to Cooke City picked up the trail again and followed it to Soda Butte where it divided, the south branch following the Lamar River out of the Park and reaching the bison country via the Shoshone Valley. The persevering road builders continued up the branch to the north and followed it as far as Cooke City. Here the trail crossed to the Clarke's Fork and followed it down to the bison country.

It seems altogether likely that this trail through the north part of the Park was used by other Indians than the Bannocks, in fact there is historic evidence that this was the case. In the year 1870, the Washburn-Langford-Doane party saw numerous Crow Indians below the Park to the north, and followed their tracks into the Park. There was a well defined trail leading up the Gardiner to Mammoth where it joined the Bannock trail. These fresh Indian tracks were followed all the way to Tower where they crossed the ford near the mouth of Tower Creek and continued on up the Lamar River, the exploring party turning to the right and crossing Mt. Washburn to Canyon. On August 16, 1870, Lt. Doane, while scouting ahead of the main party, discovered the 15 lodges of this party of Crows near Tower Falls.

It is unfortunate that the policies governing the administration of the Park have evolved slowly through the years, but this slow development was only natural. How much better it would have been had the original roads interferred to a minimum with this remarkable trail. What an historic monument it would have been! What interest could be instilled in the present-day Park visitor were he to cross this well defined trail on his perigrinations through the Park, much as he now crosses the Howard Eaton Trail!

But the possibilities for that are past. Perhaps we should content ourselves with that which remains. Some of the oldest of our American cities pride themselves in the fact that the tortuous streets follow the cow paths of the original settlers. How much more will the tourist enjoy the trip from Mammoth to Tower when he knows that he is following the trail first surveyed and constructed by the Bannock Indians.

THE NEZ PERCE WAR

by

William E. Kearns, Junior Naturalist

The Nez Perce Indians, belonging to the linguistic family, Shahaptian, settled sometime in the past in the area now known as northeastern Oregon, southeastern Washington, and west-central Idaho, a region bounded by the Cascade Mountains on the West, the Bitter Root Mountains on the East, and with north and south boundaries of the 44 and 46 parallels. The native name of the Nez Perces, "Nim-e-poo," signified "the real people," and in the French the name meant "pierced nose." This latter was undoubtedly a misnomer, as the Nez Perce Indians did not make a practice of piercing the nose.

Prior to 1877, it was the boast of the Nez Perces that they had never killed a white man, and they were one of the first of the Western Indian nations to welcome Christian missionaries. Being of the "Earth people" they had no sympathy with the whites' desire to measure-off and parcel-out the lands of their ancestors, and as the march of settlement and the rush of the gold seekers swept over them they became embittered by the practices of the white man. By the treaty of 1855, the United States Government set aside the majority of the ancestral lands of the Nez Perce for a reservation in exchange for certain considerations on the part of the government. All went peacefully for a time, but with the discovery of gold, there followed a rush of men with little or no regard for the Indians or their treaty. Conditions had become such that by 1863 a second treaty was made with the Indians, or rather with a part of the Nez Perce bands, and from then on the signers of the treaty were known as the Treaty Indians, and the non-signers as the Non-Treaty group.

Among the Nez Perce tribes, as with the majority of Indians, no one chief could obligate other than his own tribe by any agreement of his own. Consequently, the Non-Treaty group felt in no way responsible for the acts of the signers or for their obligations. In turn, the U.S. government had no sympathy with such customs, and felt that majority rule should govern the entire Nez Perce group of several tribes.

The Wallowa and Imnaha valleys, ancestral home of Joseph's tribe, was a choice section taken from the Indians by the 1863 Treaty, and there was much feeling both on the part of the Indians and of the encroaching whites as to possession of these and other select areas. In 1873, the Government gave the Indians permission to live in the disputed area. In 1876, a commission was appointed to investigate the differences, and recommended that the Non-Treaty Indians had no standing and should be placed on the reservation as established in the Treaty of 1863, entirely disregarding the Treaty of 1855 which had been signed by the Chiefs and duly ratified by the Senate of the United States.

General Howard in his book, "Joseph, His Pursuit and Capture," had the following to say: "I think it a great mistake to take away from Joseph's band the Imnaha and Wallowa country. No bloodshed has so far resulted, but

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unless these really peaceable Indians are allowed to remain and keep this valley as their own, a great deal of trouble and possibly bloodshed will be the result."

Early in 1877, the government ordered General Howard to carry out the recommendations of the commission. In order to do this, several councils were held with the Indian Chiefs, and after much argument and the arrest of Too-hul-hul-sote, a medicine man who had considerable influence with the younger Indians, it was finally agreed that the Non-Treaty Indians would go on the reservation by June 14, 1877.

On the surface everything appeared to be going smoothly when suddenly on the evening of June 14, a small band of younger Indians took matters in their own hands and murdered several whites. Behind this act, however, was the grim fact that several Indians had been murdered by white men sometime previous, and nothing was done to punish the offenders. Incited by the "dreamers" or medicine men of the tribes, the sons of the murdered Indians recklessly sought revenge, and through their acts of violence plunged the Non-Treaty Indians into war with the United States.

Chief Joseph had no part in the violent acts of the younger men, and was away at the time gathering his cattle preparatory to moving onto the reservation. Returning to his camp and learning of the state of affairs, he realized that the government would not believe him and decided that there was but one thing to do, and that was to cast his lot with his tribe. Accordingly, he assumed the leadership, and began one of the most dramatic campaigns in history.

In compliance with a request from the people of Mount Idaho, near where the atrocities had been committed, Captain Ferry of Fort Lapwai with 90 men made a rapid march and contacted Joseph where the Indian had concentrated his and White Bird's bands on the banks of the Salmon River at the junction with White Bird Creek. The battle which followed was a decisive victory for the Indians. Captain Perry was routed and lost 37 men killed and 2 seriously wounded, while the Indians had but 4 wounded.

After ordering all available troops to move to the scene of hostilities, General Howard took command and attempted to follow Chief Joseph who had crossed the Salmon River and was in the mountains. Howard crossed in pursuit, sending Major Whipple after Chief Looking Glass and his band, then camped on Cottonwood Creek. Joseph, however, evaded Howard in the mountains, recrossed the Salmon and marching quickly across Camas Prairie, fell upon Whipple entrenched at Cottonwood Ranch. Small scouting parties attempting to go to Whipple's relief suffered severe losses or were annihilated, but Whipple's force was finally rescued.

Discovering that Joseph and all his band had eluded him, Howard recrossed the Salmon and hastened toward Cottonwood to relieve Whipple. After withdrawing from Cottonwood, Joseph went to the Clearwater where he was joined by Looking Glass. Their combined forces probably numbered about 250 warriors, and about 450 women and children. Howard, with about 400 men, mostly cavalry, a small artillery unit, and some mounted infantry, advanced

to attack. Superior equipment and numbers told, and after making a desperate resistance, Joseph retreated up the Clearwater to Kamiah Ford.

Joseph was here confronted with one of the most trying of his problems. In the beginning, he had urged his tribe and others to be peaceful; when they began hostilities, his decision was to fight with them, and now when he was ready to fight it out to a finish, some of his chiefs wanted to leave the country and go to the old Buffalo hunting ground in northern Montana. Joseph maintained that the fight was for their ancestral homes, and if it was fighting they wanted, by staying with him they would get plenty of it. Yielding finally to the entreaty of his chiefs, Joseph resorted to strategy to trick Howard, succeeded, and was off with his warriors, women, children, flocks and all belongings before Howard learned of his departure. This move was the beginning of one of the most stupendous retreats in history. Starting over the famous and difficult Lo-lo trail, moving to the east and north over mountains, treacherous torrents, over and thru areas of down timber, encumbered with equipment, belongings, women and children, Joseph led them and marshalled them in a most superior manner.

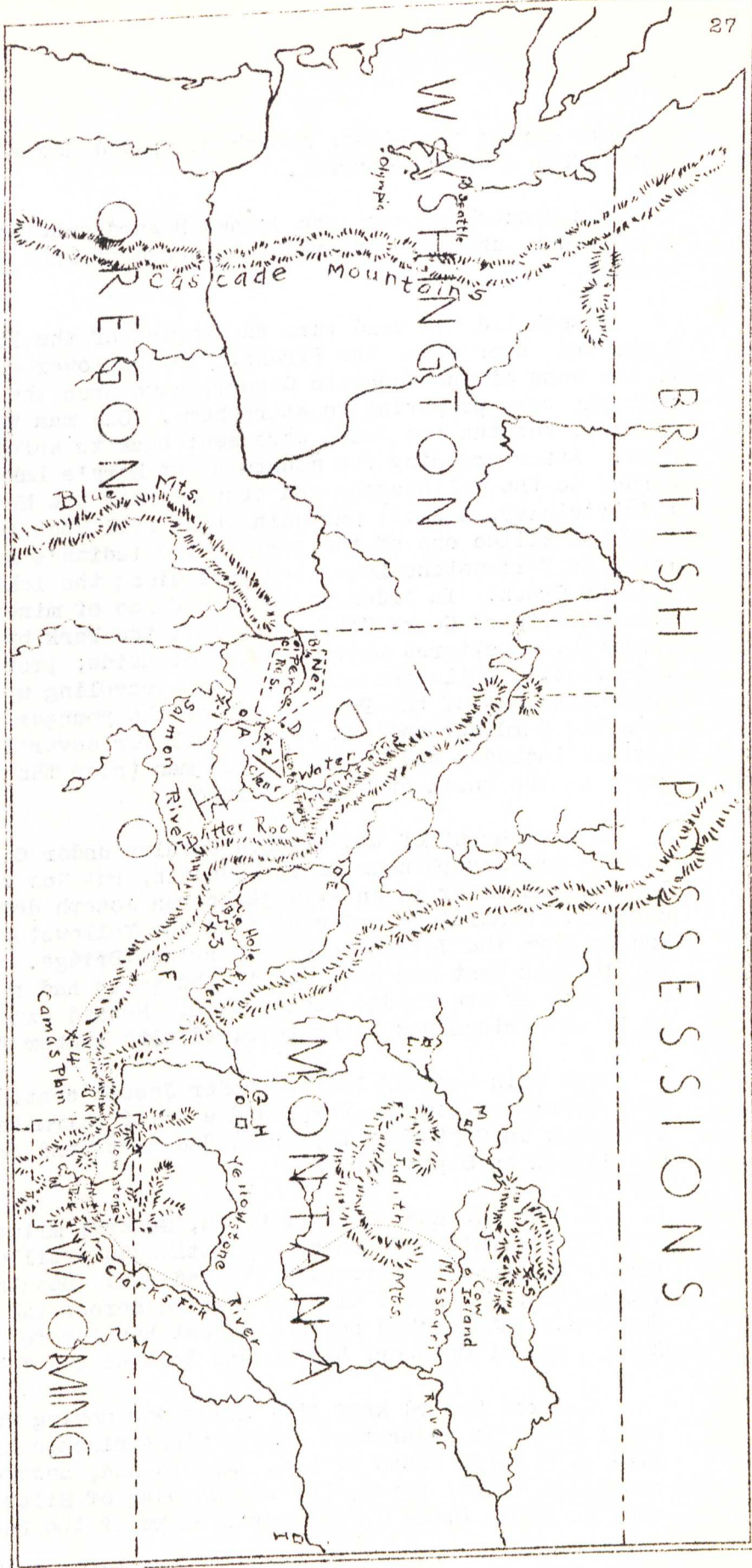
Fort Missoula had been informed of Joseph's move to the East and Captain Rawn moved to intercept him on the Lo-Lo trail in the Coeur d'Alenes. Joseph's request, upon arrival, that he be permitted to pass thru peacefully was denied and Rawn was tricked by the Wiley Indian, who effected a passage via a small gulch, holding off Rawn and his men with a few warriors. Discovering the trick, Rawn went in pursuit at once, but being greatly outnumbered soon withdrew to await reinforcements.

Joseph knew that General Howard was far behind him and traveling slowly, so the Indians moved leisurely, trading with the settlers to replenish their food supply and thus in apparent security and with no scouts out, Joseph went into camp on the south side of the Big Hole River on the 8th of August.

General Gibbon had reached Fort Missoula, and with reinforcements of Rawn's men and some volunteers, moved quickly to attack Joseph. Deploying his men during the night, Gibbon fell upon the camp at day-light, and within 20 minutes was in possession. The routed Indians quickly rallied, and the soldiers now fighting for their very lives, retreated to the bluffs above the river and prepared to stand a siege. The wagon train which had been left with a small guard of 20 men was attacked, the howitzer dismantled, and 2500 rounds of rifle ammunition seized, and one killed and 3 wounded. The loss in battle to the army was 3 officers killed and 4 wounded, 21 soldiers and 6 civilians dead, and 31 soldiers and 4 civilians wounded. The Indians lost Chief Looking Glass, and 89 killed, a number of them being women and children. The Indians withdrew during the night.

General Howard arrived with reinforcements and assumed command the next day, and Gibbon who was wounded retired with others wounded to the Fort. In an attempt to head-off the Indians, Howard went into camp in Camas Meadows (40 miles west of Henry's Lake in Freemont County, Idaho)

BRITISH POSSESSIONS



MAP TO ILLUSTRATE NEZ-PERCE WAR OF 1877
(Approximate route followed by Nez-Perces)

Locations:-

A--Mt. Idaho
B--Ft. Lapwai
C--Lewiston
D--Kamia
E--Ft. Missoula
F--Bannock City

Battlefields of:-

X-1 Whitebird Creek
X-2 Clear Water
X-3 Big Hole
X-4 Camas Plain
X-5 Bear Paw

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G--Bozeman
H--Fort Ellis
I--Fort Keogh
J--Bear Paw Mountains
K--Henry's Lake
L--Fort Shaw
M--Fort Benton

and here during the night, Joseph stampeded Howard's mule herd and escaped after a brief skirmish.

The Bannock scouts soon joined Howard under the leadership of Captain Fisher, and were ordered to proceed at once upon the trail of the Indians.

Joseph led his band thru the region of the Yellowstone National Park, and in crossing the Firehole in the lower geyser basin a little to the west of the Fountain Geyser, came upon the Cowan party of tourists who were preparing to start home. One man was killed, two others injured, but the two women were sent back to safety at Joseph's command. After crossing the mountains at Mary's Lake, the Indians descended to the Yellowstone and crossed near the Mud Geyser. While in this vicinity, a small marauding band fell upon another party of tourists and killed one of the party. The Indian's route continued up the river to Yellowstone Lake, eastward along the lake shore and then up Pelican Creek. In order to avoid a force of miners assembled near the present site of Cooke City, they left the Park by way of Miller Creek. (Shively, a captured white, acting as guide, probably appraised them of this fact.) While the main band was traveling up the Yellowstone and proceeding out of the Park, a few of the younger Indians swung north down the Gardiner and out of the Park for several miles. Their depredations included the murder of one man (near the present site of Mammoth) at the mouth of Clematis Gulch.

A detachment of the Seventh Cavalry under Colonel Sturgis attempted to head-off Joseph near Heart Mountain, but was eluded by the cunning Indian, and later in an attempt to run Joseph down, was further unsuccessful. General Howard went down the Yellowstone, over Mt. Washburn, and on down the Yellowstone to Barronet Bridge. The marauding band of the Indians that had gone off to the north had returned, crossed and burned a part of the bridge behind them. Howard experienced further delay while the bridge was being repaired with lumber from Barronet's house.

The main body of Indians under Joseph continued to the north and east after leaving the Park, had a brief skirmish with Sturgis at Canyon Creek on September 13, proceeded north and crossed the Missouri at Cow Island on September 23.

Far to the East at Fort Keogh, General Miles had been informed by wire of Joseph's movements, and with some artillery and a considerable force, hastened to intercept the Indians. Detaining the last boat of the season, Miles had his men ferried across the river on the 25th of September and marched north and west heading for the Bear Paw Mountains. On the 2nd of October, his scouts located the Indian camp.

General Howard knew that Miles was moving westward, so slowed down his pursuit in order that Joseph might slacken his pace, and Miles have time to move in ahead of him. Joseph had, however, pushed on and was now miles to the north, but not knowing of Miles approach, had gone into camp on Snake Creek on the north slope of the Bear Paw Mountains and

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within a short distance of the Canadian border so that his exhausted men and horses might rest.

The Indians feeling secure from Howard, failed to place scouts around their camp, and were partly surprised by the soldiers when they attacked in force. Despite the suddenness of the attack, the Indians fought valiantly and on even terms with the soldiers until the latter began using their artillery. After several parleys over a period of two days, in which the Indians attempted to gain permission to go on in to Canada, they were promised by Miles that they would be returned to the Nez Perce reservation if they surrendered. Believing the promise of the General, on the evening of October 4, Joseph sent the following message to General Howard (who had rushed ahead with a small detachment on the second to join Miles), and then surrendered:

"Tell General Howard that I know his heart. What he told me before-- I have it in my heart. I am tired of fighting. Our Chiefs are killed. Looking Glass is dead. Too-hul-hul-sote is dead. The old men are all dead. He who led the young men (Ollicut, Joseph's brother) is dead. It is cold. We have no blankets. The little children are freezing to death. My people--some of them--have run away to the hills and have no blankets, no food. No one knows where they are--perhaps freezing to death. I want to have time to look for my children and see how many of them I can find; maybe I shall find them among the dead. Hear me, my chiefs, my heart is sick and sad. From where the sun now stands, I will fight no more forever." (Fisher's, "The Nez Perce War.")

The following summary from "The Epic of the Nez Perces," by C.T. Brady, seems to be an excellent summation of this last of the Indian Wars:

"Joseph, whose force never amounted to three hundred fighting men, had engaged at different times some two thousand soldiers. Of these, one hundred and seventy-six had been killed and one hundred and forty wounded. During the long retreat and the hard fighting, Joseph had lost one hundred fifty-one killed and eighty eight wounded. He had fought eleven engagements, five being pitched battles of which he had won three, drawn one, and lost one. Some of the troops in pursuit of him had marched sixteen hundred miles. His own march had been at least two thousand miles. This constitutes a military exploit of the first magnitude and justly entitled the great Indian to take rank among the Great Captains."

After the surrender, Joseph and some of his followers were taken to Fort Leavenworth where they remained until July 1878, when they were taken to the Indian Territory. After seven burning years, and being ravaged by sickness and death, the remnant was established on the Colville Reservation in Washington. Chief Joseph died in 1904.

Bibliography of "The Nez Perce War"

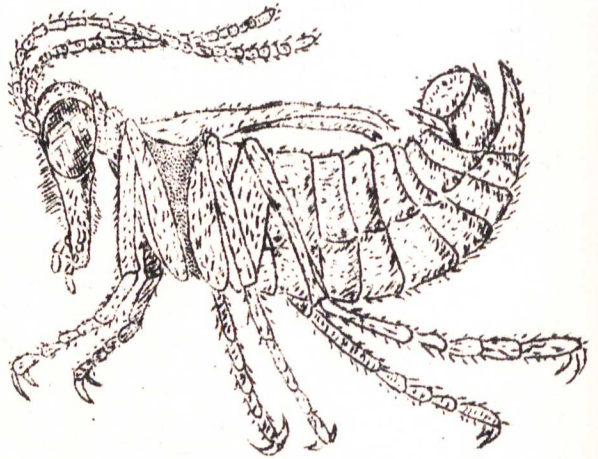
- "Chief Joseph; His Pursuit and Capture," by General Howard
 "A Century of Dishonor," by Helen Jackson
 "The Yellowstone National Park," by H. M. Chittenden
 "The Nez Perces Since Lewis and Clark," by McBeth
 "The Epic of the Nez Perces," by C. T. Brady
 "The Nez Perce War," by D. C. Fisher

A RARE INSECT

by

H. B. Mills, Naturalist Asst.

The entomological fauna of the snow always attracts interest. The most of us are familiar with the immense hordes of snow fleas which appear at times on the snow. The less common forms, however, usually escape the eye of the layman. There are many others that do normally appear on the snow. During a ski trip to Lake this spring, I was fortunate in discovering not only snow fleas, but nival crane flies in the woods, and emerging from the open waters of Alum Creek and near hot spots in the Hayden Valley, numbers of stone flies which ran rapidly about on the surface of the snow. It is interesting to note that on the return trip, after the fall of some wet snow, many of these stone flies were dead and partially buried in the new snow.



Boreus unicolor Hine (x 20)

Drawing by

Dr. Harlow B. Mills

While traveling on Specimen Ridge February 5, 1935, my attention was directed to an occasional scorpion fly walking about on the snow. When disturbed, these black little fellows would feign death, pulling their legs in toward the body and giving no evidence of life. Occasionally, they would spasmodically kick back, popping sometimes as far as six inches across the snow and resuming their death-like pose. These interesting and aberrant little insects were identified as belonging to the genus *Boreus*, and were sent to Dr. F. M. Carpenter of the Museum of Comparative Zoology, Cambridge, Massachusetts, for further determination. Dr. Carpenter reports that the species is *Boreus unicolor Hine*, a rare form, heretofore represented in collections by but a very few specimens.

We have been so busy this winter with such animals as the wapiti, deer, and bighorn sheep, that we have up to this time greatly neglected our small six-legged relatives--for they are our relatives--and the incidental collection of one species proved to be the collection of an insect for which many entomologists would give their right eye. But it is not necessary for them to maim themselves. All they need do to get this species is to obtain a permit to collect in the Park and a pair of skis and to come after them. They are fairly common in the early spring.

OUTLINE OF YELLOWSTONE HISTORY

by
Park Naturalist Bauer

1803. Louisiana Purchase included that portion of the present park which lay in the Missouri River drainage or on the Atlantic side of the continental divide. The portion on the Pacific side was at that time under Spanish rule. Later it was included in the Oregon territory but did not become a part of the United States until 1846.
1808. John Colter, the first known white man to set foot in this region, entered the park area from the south and left by way of Clark's Fork, but did not see the geysers.
1819. Some unknown trapper visited the region of the Grand Canyon of the Yellowstone and carved his initials, "J.O.R.", on a tree.
1826. Yellowstone Lake was visited by an unknown party of trappers. The following summer one of their number (not Jedediah Smith) wrote a letter to a friend about the area mentioning the hot springs and mud pots on the shore of the lake which he had seen the year before. This letter "From the West" was written July 8, 1827. It was published in the Philadelphia Gazette and later, on Oct. 6, 1827, copied in the Niles Register. This is the first printed account of the thermal activity in the region known.
1829. In September, Joe Meek, then a youngster of 19, became separated from a party of 40 or 50 trappers and wandered into the park area and saw the vapor from a thermal area. Meek was found after three days and accompanied the party, led by Thomas Fitzpatrick, up the East Fork of the Yellowstone (Lamar) river over the Absaroka range to the vicinity of present day Cody.
- Jedediah Smith and William Sublette were also in this party. They finally wintered on the headwaters of Powder River.
1830. In August, Thomas Fitzpatrick again entered the park region by way of the upper Lamar at the head of 200 well equipped trappers. James Bridger and Milton Sublette were company commanders and Joe Meek was also in the party. They moved down the Yellowstone River and camped for a time in the vicinity of present day Livingston.
- From this time on trappers worked in various parts of the Yellowstone country every summer.
1832. Johnson Gardner, an independent trapper, had established himself in Gardner's Hole at the mouth of Gardner's (Gardiner) River. This season he sold a large number of furs to the trading post located near the junction of Yellowstone River with the Missouri, known as Fort Union.
1834. Warren Angus Ferris, a clerk of the Northwest Fur Company, in company with several Flathead Indians made a special trip to the geyser country of which he had heard and wrote an account of Yellowstone wonders.

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1835. Osborne Russell visited the Yellowstone region with a group of 24 trappers led by James Bridger. They came from the southeast and entered the headwaters of the East Fork (Lamar) river. They crossed Yellowstone River a short distance above the Upper Fall and left the region by way of the Gallatin Valley.
1836. Osborne Russell with 18 men crossed Two Ocean Pass on August 9th. On August 16 he was joined on the southeast end of Yellowstone Lake by Mr. Bridger at the head of 40 men, who had also come across Two Ocean Pass. They proceeded together to the outlet of the lake. Later they crossed from Hayden Valley over to the head of Gibbon River, thence northwestward to the upper Gardiner and left the region by way of "Gardner's Hole", traveling down the Yellowstone River.
1837. Again this year Russell returned to the Yellowstone country to hunt and trap. L. B. Fontanelle was company commander and James Bridger was guide. No doubt other parties of which we have no record trapped in the region each season.
1850. James Bridger guided a party of 20 men, many of them well known trappers, guides, and scouts to the Yellowstone country for the sole purpose of hunting, fishing, and viewing the geysers. In this party were James Krusse, O. P. Wiggins, Kit Carson, and Anderson. This party gave the name Firehole to the river which flowed through the "Burnt Hole".
1859. The Reynolds Expedition, sent out by the U. S. Government, attempted to enter this region in the spring of 1860 but was blocked by snow.
1863. Capt. W. W. DeLacy, in command of an unsuccessful prospecting expedition, discovered Lewis and Shoshone Lakes and Shoshone and Lower Geyser Basins.
1869. The Folsom-Cook-Peterson Expedition traversed the region.
1870. The Washburn-Langford-Doane Expedition spent several weeks exploring the Yellowstone country. Through its efforts the area was later set aside as a park.
1871. The Hayden Survey party entered the region to make official explorations and surveys. This work was continued in 1872 and completed in 1878.
1872. President Grant signed the Act of Dedication on March 1, setting aside Yellowstone Park "for the benefit and enjoyment of the people", thereby establishing the first national park as such in the world.
1875. Party headed by Capt. William Ludlow made a reconnaissance from Carroll, Montana, to Yellowstone Park and return. Obtained accurate measurements of the Yellowstone Falls.
1877. Gen. O. O. Howard in command of the pursuit of Chief Joseph, Nez Perce Indian, passed through the park.
1878. Superintendent Norris constructed the famous Norris Road, a wagon road from Mammoth to the lower Basin.
1879. Headquarters building constructed on Capitol Hill; guide boards placed to show names of important phenomena and distances; first white men spent winter in region.

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- 1881. Photographer F. Jay Haynes first visited the park.
- 1883. President Chester A. Arthur visited park. First President to visit the wonderland. Mammoth Hotel partially completed; tent hotels conducted at Upper and Lower Geyser Basins and Canyon.
- 1884. Lower Basin Hotel erected.
- 1885. Two-story frame hotel erected in Upper Geyser Basin.
- 1886. Camp Sheridan, located on south side of Capitol Hill, established; one troop of cavalry stationed there for protection. Park placed under military regime.
- 1890. Last recorded eruption of Excelsior Geyser. Canyon Hotel erected.
- 1894. Congress passed protective act; United States commissioner appointed.
- 1902. Reestablishment of buffalo herd undertaken. Northern Pacific Railroad completed to Gardiner, Montana.
- 1903. Dedication of North Entrance Arch by President Roosevelt; Old Faithful Inn under construction; road from Cody, Wyo., to east entrance of park completed (construction commenced in 1890); construction of Chittenden Bridge.
- 1904. Old Faithful Inn opened; 13,727 visitors to park.
- 1905. Chittenden Road over Mount Washburn and Dunraven Pass finished, completing the Grand Loop.
- 1907. Oregon Short Line completed to West Yellowstone, Montana.
- 1912. Rail passengers first entered by east entrance.
- 1915. First private automobiles permitted in park; 51,895 visitors.
- 1918. Complete civilian control of Yellowstone Park under National Park Service rangers.
- 1920. Office of park naturalist created; first lecturer employed by the National Park Service.
- 1923. President and Mrs. Harding visited park. Howard Eaton Trail dedicated.
- 1927. President and Mrs. Coolidge visited the park. Opening of Gallatin Gateway for rail visitors.
- 1928. Donation of \$110,000 for educational work by Laura Spelman Rockefeller Foundation, and beginning of museum development under the American Association of Museums.
- 1929. Park enlarged by act of March 1, 1929.
- 1930. Park boundaries further extended by act of April 19.
- 1932. Proclamation of October 20 enlarged park by 7,600 acres, under authority of act of March 26, 1926.

LEAVES FROM OUR DIARIES

May 2: A Lewis Woodpecker (*Asyndesmus lewisi*) was seen in the lower Gardiner Canyon just above the North Gate. W. E. K.

May 6: Four nests of Canadian Geese (*Branta canadensis*) were located between Mammoth and Norris. The first nest was just being completed and contained no eggs; two others held four eggs each, and the fourth nest had a clutch of five eggs. One of the nests is on a small island entirely bare of any foliage whatever, but the mother goose when on the nest is quite inconspicuous and sits with her long neck down over the edge of the nest making it appear much as a dead limb with her head a black ringed knot. W.E.K.

May 8: An elk bull (*Cervus canadensis canadensis*) was observed with a new antler growth measuring about seven inches in length.

The Minute Man Geyser in the Norris Basin was observed to erupt six times at intervals of one minute and five seconds, to heights between fifty and sixty feet.

Congress Pool is quite clear, not as aggressive as usual, but is full almost to the brim. W.E.K.

May 19: Ranger Curtis Skinner reports: "A number of the hot springs and geysers in the vicinity of Old Faithful are more active in May than for a number of years, due probably to the cool weather and the consequent slow melting of snow which permitted most of the moisture to go directly into the soil and into the fissures which feed the geysers. Hot springs which show a greater activity and a greater flow of water are Twin Sisters Spring, Black Pearl Pool, Sapphire Pool, and many of the smaller springs. Old Faithful, Daisy, Riverside, Grand, The Grotto, Castle, and Sawmill geysers are apparently expelling more water than normally, but the height of play in some cases appears to be somewhat less. The Castle, Grand, and Sawmill are in eruption at more frequent intervals than last year, the latter being almost constantly active."

May 20: Fifteen Mountain Sheep Rams (*Ovis canadensis canadensis*) were observed on the slopes east of the Gardiner bridge on the Tower Falls road. Two of them were unusually large with magnificent horns. W.E.K.

May: The large new spring between Cupid's Cave Spring and Main Terrace has continued to grow in size until the overflow now reaches below Minerva Spring. Where it drops over the edge of Main Terrace a beautiful waterfall has developed. Temperature 54 degrees F. G.C.C.

Another new spring broke out about May 15 on the formation below Highland Terrace. The water is spurting up from 2 to 4 inches in height along an old crack. Travertine is being deposited over an area 25 feet in diameter. Temperatures of 52 and 54 degrees F. were recorded. G.C.C.