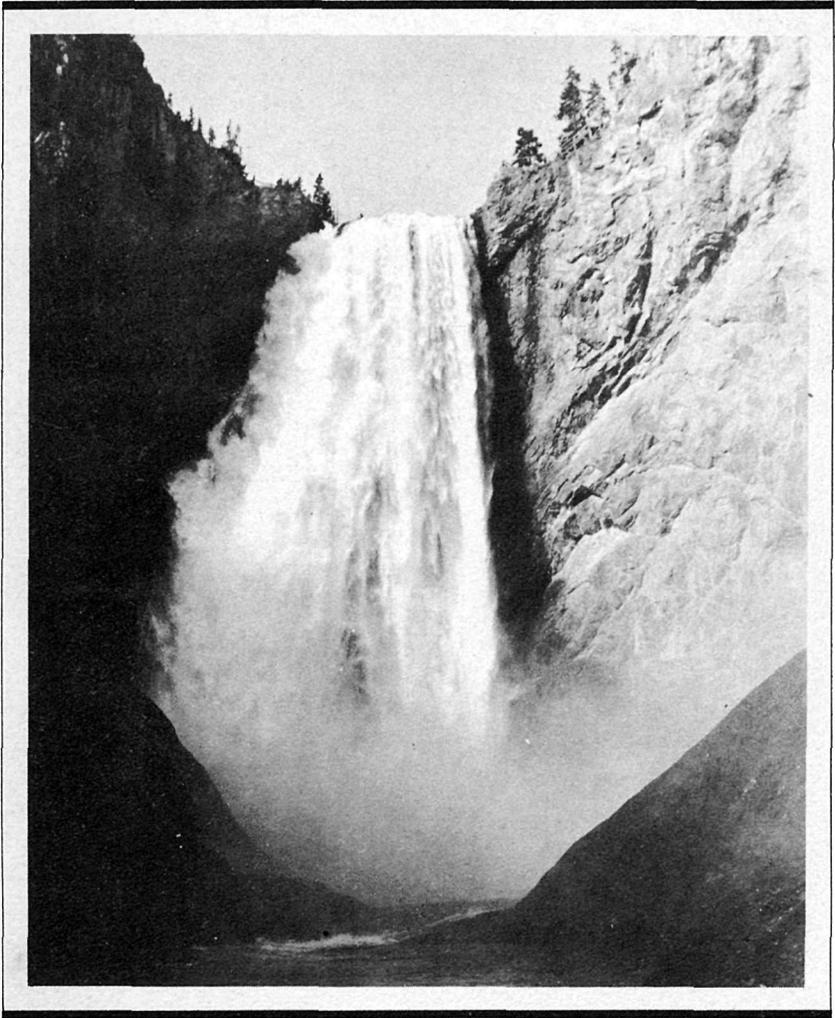


YELLOWSTONE NATIONAL PARK

★ WYOMING ★



*UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE*

UNITED STATES DEPARTMENT OF THE INTERIOR

HAROLD L. ICKES, Secretary

NATIONAL PARK SERVICE

ARNO B. CAMMERER, Director

YELLOWSTONE

NATIONAL PARK

WYOMING



SEASON JUNE 20 TO SEPTEMBER 12

UNITED STATES
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RULES AND REGULATIONS

The park regulations are approved by the Secretary of the Interior and are designed for the protection of the natural features and scenery, as well as for the comfort and convenience of visitors. The following synopsis is for the general guidance of visitors. Complete regulations may be seen at the superintendent's office and ranger stations.

Preservation of Natural Features and Curiosities.—It is forbidden to injure or write upon the formations, throw objects into the springs or steam vents, or to disturb or carry off any of the mineral deposits, specimens, natural curiosities, etc., within the park. Destruction, injury, or disturbance of the trees, flowers, birds, or animals is prohibited.

Camps.—Permanent camping sites are available in all sections; please help us, yourself, and others by keeping these camp grounds clean! Burn combustible rubbish, and place all other garbage and refuse in available garbage cans. All water in designated camp grounds is good water! Wood for fuel should be taken from dead or fallen trees.

Fires.—The park's greatest peril. Do not kindle them near trees, dead wood, moss, dry leaves, etc., but in some open space on rocks or earth. They should be extinguished, and all embers and bed smothered with earth or water. Don't take chances—make sure your fire is out!

Bears.—It is unlawful and extremely dangerous to molest, tease, or touch bears. Feeding of bears in camp grounds and populated areas is prohibited. If you feed or photograph them, you do so at your own risk and peril. It is best to suspend food supplies in a box between two trees so as to keep them out of reach of bears.

Dogs and Cats.—Dogs and cats are permitted to be brought into the park but must be kept on leashes or in crates at all times.

Government Responsibility.—The Government is in no way responsible for any kind of accident.

Firearms.—Firearms are permitted but must be sealed upon entry.

Fishing.—No license is required. Ten fish per person fishing constitutes the limit for a day's catch, except in certain posted waters.

Cameras.—The use of still- and motion-picture cameras is encouraged.

Gambling.—Gambling in any form is prohibited.

Saddle Horse, Pack Trains, Etc.—Saddle horse, pack trains, and horse-drawn vehicles have right-of-way over motor-propelled vehicles at all times. All vehicles must be equipped for night travel.

Lost and Found Articles.—Lost and found articles should be reported to the nearest ranger station.

Park Rangers.—Ranger stations are located at all main points of interest, and rangers are stationed throughout the entire park to serve you.

Automobiles.—Drive carefully at all times; obey all park traffic rules. Secure automobile permit; fee \$3.

ROGER W. TOLL, *Superintendent.*

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YELLOWSTONE HISTORY

1803. Louisiana Purchase which included a portion of the present park.
1808. John Colter, the first known white man to set foot in this region, entered the park, but did not see the geysers.
1827. Jedediah Smith, a trapper, visited the Yellowstone and wrote in a letter about what he saw.
1830. James (Jim) Bridger, a trader and trapper, was in the area now a part of the park.
1834. Warren Angus Ferris, fur trader, wrote the first known account of Yellowstone wonders.
1859. The Raynolds Expedition attempted to enter this region in the winter of 1859-60 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 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, Mont., 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 the region.
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.

Don't hurry through the park—enjoy it leisurely.

The Haynes Guide Book of the Yellowstone supplements this circular. It is edited and approved by the National Park Service, and is on sale at all points in the park.

- 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.
- 1890. Erection of Fort Yellowstone commenced; completed in 1892.
- 1894. Congress passed protective act; United States commissioner appointed.
- 1902. Reestablishment of buffalo herd undertaken. Northern Pacific Railroad completed to Gardiner, Mont.
- 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, Mont.
- 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.

YELLOWSTONE NATIONAL PARK

THE Yellowstone, probably the best known of our national parks, was created by the act of March 1, 1872. It was originally rectangular in shape, 62 miles long and 54 miles wide, but the act of March 1, 1929, revising its boundaries, gave it an area of 3,426 square miles, or 2,192,640 acres. On October 20, 1932, President Hoover signed a proclamation adding approximately 7,600 acres along the north line, near Gardiner, Mont., which now gives the park an area of about 3,438 square miles or approximately 2,200,240 acres. It is under the control and supervision of the National Park Service of the Department of the Interior.

This park is located in northwestern Wyoming, encroaching slightly upon Montana and Idaho. It is our largest national park. The central portion is essentially a broad, elevated, volcanic plateau, between 7,000 and 8,500 feet above sea level, and with an average elevation of about 8,000 feet. Surrounding it on the south, east, north, and northwest are mountain ranges with culminating peaks and ridges, rising from 2,000 to 4,000 feet above the general level of the enclosed tableland.

Its geysers are celebrated the world over, because, for size, power, and variety of action, as well as number, the region has no competitor. New Zealand, which ranks second, and Iceland, where the word "geyser" originated, possess the only other geyser basins of prominence, but both together do not offer the visitor what he may see in 2 or 3 days in Yellowstone. Indeed, the spectacle is one of extraordinary novelty. There are few spots in the world where one is so strongly possessed by emotions of wonder and mystery. The visitor is powerfully impressed by a sense of nearness to nature's secret laboratories. Practically the entire region is volcanic. Not only the surrounding mountains but the great interior plain are made of material once ejected, as ash and lava, from depths far below the surface. Positive evidence of Yellowstone's volcanic origin is apparent to all in the black glass of Obsidian Cliff, the whorled and contorted breccias along the road near the top of Mount Washburn, and the brilliantly colored decomposed lava walls of the Grand Canyon. For a long time the chief public interest in Yellowstone centered around its spouting geysers and similar uncanny wonders of a dying volcanic region. Now that good roads and trails have made this great wilderness accessible, its beautiful forests, trout-filled lakes and streams, and its wild animal population attract as many visitors as the volcanic wonders.

THE GEYSERS

There are about 3,000 geysers and hot springs in the park. Most of them are located in the six principal geyser basins, the Norris, Lower, Midway, Upper, Heart Lake, and Shoshone Basins, all lying in the west and south central parts of the park. The geysers exhibit a large variety of character and action. Some, like Old Faithful, Daisy, and Riverside, spout at quite regular intervals. Others are irregular. Some burst upward with immense power. Others shoot streams at angles or bubble and foam in action.

Geysers occur only at places where the high temperatures of the depths of the earth approach close to the surface. Much of the heat and an appreciable amount of gas and steam are added from considerable depths. Water from the surface trickling through cracks in the rocks, or water from subterranean seeps collecting in the geyser's plumbing down in the region of intense heat, becomes itself intensely heated and forms steam, which expands and forces upward the cooler water that lies above it.

It is then that the water at the surface of the geyser begins to bubble and gives off clouds of vapor, a sign that the geyser is about to play.

The tube or plumbing of the geyser must be crooked or constricted sufficiently to prevent easy circulation of the water. With continued heat being applied from below, the water in the bottom of the geyser's tube expands so that the less heated column above can no longer weigh it down, then water bubbles over and relieves the pressure of the superheated water below, which suddenly flashes into steam, pushing the entire mass upward in an eruption. Then the water and the vapor rise many feet into the air and continue to play until practically all of the geyser is cleared. The water, cooled and falling back to the ground, runs off or with other water, seeps into the ground to gather as before in the geyser's depth, in a greater or less time becomes heated to the explosion point, and the geyser erupts again.

Naturally, each geyser has a different plumbing, and it follows that it has a different behavior. In the geyser basins the material making up the walls of the cracks and tubes of the geysers is of silica, and strong enough to withstand the explosive action of the steam. A less strong material, such as travertine, will not withstand this explosive action, and, hence, will not produce geysers.

One may readily make a geyser in the laboratory with a test tube, a little water, and a Bunsen burner. A geyser model may be seen at Old Faithful Museum. The water at the base of the tube in this geyser is heated by an electric element, and the geyser plays at short, regular intervals. After an eruption the water drains back into the bulb by another tube, where it remains until it becomes sufficiently hot to repeat the performance.



Old Faithful.

OTHER HOT-WATER PHENOMENA

Nearly the entire Yellowstone region is remarkable for its hot-water phenomena. The more prominent geysers are confined to three basins lying near each other in the west central part of the park, but other hot-water manifestations occur at more widely separated points. Marvelously colored hot springs, mud volcanoes, and other strange phenomena are frequent. In certain areas hot water has brought to the surface quantities of white mineral deposits which build high terraces of beautifully incrustated basins, often engulfing trees of considerable size. The hot water flows over the edges of these fretted basins.

Microscopic plants called algae grow on the edges and sides of these basins, decorating them with hues of red, pink, tan, brown, and bluish gray, which glow brilliantly. Other plants, microscopic in size, known as "diatoms", occur singly or in colonies clinging to the sides or to the algae themselves. At many other points lesser hot springs occur, introducing strange, almost uncanny, elements into wooded and otherwise quite normal landscapes.

A tour of these hot-water formations and spouting geysers is an experience never to be forgotten. Some of the geysers play at quite regular intervals. For many years the celebrated Old Faithful has played with average regularity every 65 minutes. Some of the largest geysers play at irregular intervals of days, weeks, or months. Some very small ones play every few minutes. Many bubbling hot springs, which throw water 2 or 3 feet into the air once or twice a minute, are really small geysers.

The hot-spring terraces are also an awe-inspiring spectacle. Well-marked trails wind their way everywhere among the steaming pools. **Visitors should keep on the solid trails, as in many places the crust is thin and walking on it is extremely dangerous.** In certain lights the surface of these pools appears vividly colored. The deeper hot pools are often intensely blue. The incrustations are in many instances beautifully crystallized. Clumps of grass, and even flowers, which have been submerged in the charged waters, become exquisitely plated as if with frosted silver.

YELLOWSTONE LAKE

Yellowstone Lake is itself a scenic attraction of the first order. It covers 138 square miles and is the largest lake in North America at so great an altitude (7,731 feet). Its greatest depth is over 300 feet, and it has a shore line of approximately 100 miles. At West Thumb are paintpots and colored hot pools of great beauty. A side trip of 1½ miles from Bridge Bay leads

to a natural bridge formed of lava. The United States fish hatchery is located along the main road on the north side of the lake not far from Lake Ranger Station.

At the outlet of the lake is located the famous Fishing Bridge. Since the lake abounds in native or cutthroat trout (*Salmo lewisi*), many fish are caught here and in the other waters of the park each season. East of the Fishing Bridge about ¼ mile, and on the lake shore, is a beautiful museum featuring the biology and geology of the lake region.

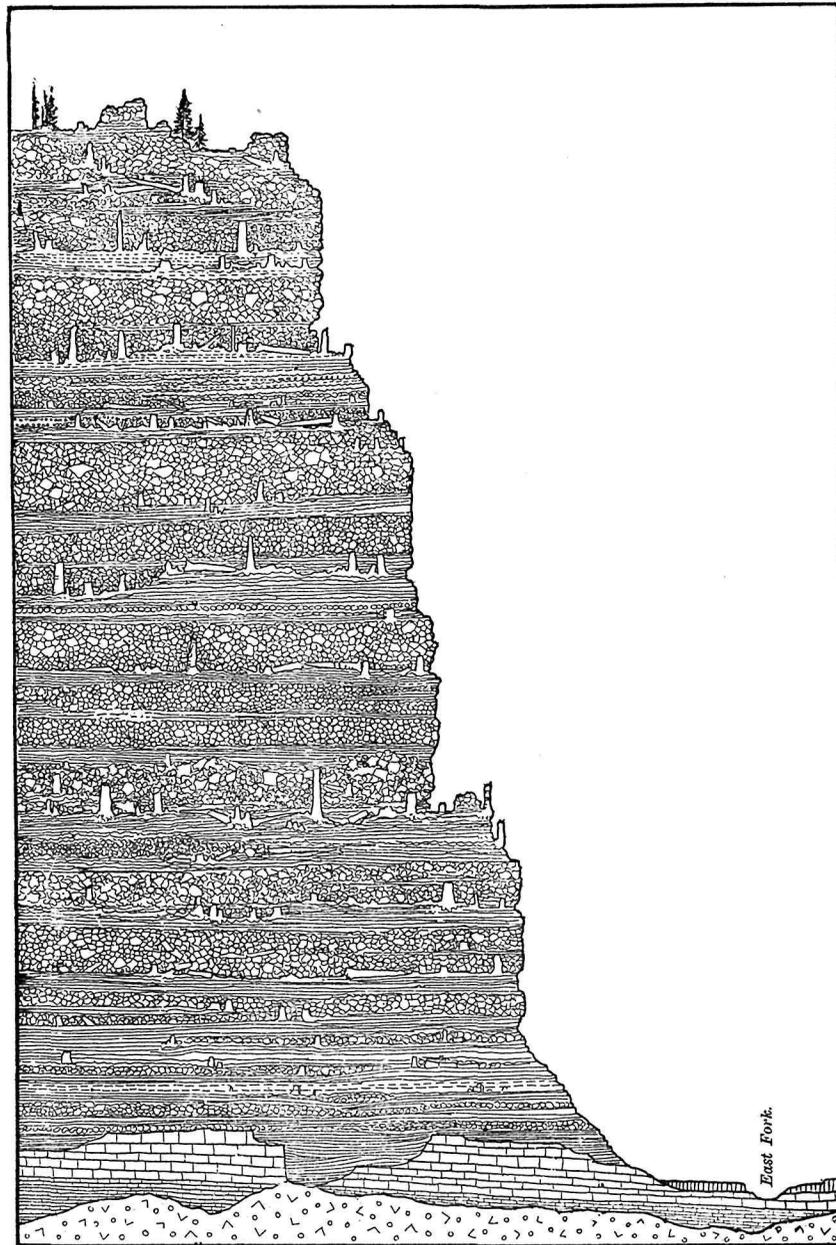
GRAND CANYON OF THE YELLOWSTONE

But the geysers and hot-water formations are by no means the only wonders in the Yellowstone. Indeed, the entire park is a wonderland. The Grand Canyon of the Yellowstone affords a spectacle worthy of a national park were there no geysers. But the grand canyons, of which there are several in our wonderful western country, are not to be confused. Of these, by far the largest and most impressive is the Grand Canyon of the Colorado River in Arizona. That is the one always meant when people speak of visiting "The Grand Canyon" without designating a location. It is the giant of canyons.

The Grand Canyon of the Yellowstone is altogether different. Great though its size, it is much the smaller of the two. What makes it a scenic feature of the first order is its really marvelous coloring. It is the cameo of canyons.

Standing upon Inspiration Point, which pushes out almost to the center of the canyon, one seems to look almost vertically down upon the foaming Yellowstone River. To the southwest a waterfall, twice the height of Niagara, rushes seemingly out of the pine-clad hills and plunges downward, to be lost from view behind a projecting parapet of the canyon wall. From that point to where one stands a glorious panorama widens out. The steep slopes, dropping on either side a thousand feet and more from the pine-topped levels above, are inconceivably carved and fretted by the frost and the erosion of the ages. Sometimes they lie in straight lines at easy angles, from which jut high rocky prominences. Sometimes they lie in huge hollows carved from the side walls. Here and there jagged rocky needles rise perpendicularly for hundreds of feet like groups of gothic spires.

The dominant color of the canyon, especially when viewed on a sunshiny day, is yellow or even glaringly white in places, although a great variety of colors can be seen on closer inspection. In the morning or evening or on a cloudy day the colors may be seen in more striking contrast, and the pro-



Showing succession of buried forests through 2,000 feet of beds of Specimen Ridge. After Holmes.

fusion of tints presents an incomparable picture framed in the green of the surrounding forest. It is a spectacle which one looks upon in silence.

There are several spots from which fine partial views may be had, but no person can say he has really seen the canyon who has not stood upon Inspiration Point, on the north rim, and upon Artist Point, across the gorge.

DUNRAVEN PASS AND TOWER FALLS

From the canyon the visitor follows the road northward to Tower Falls on his way to Mammoth Hot Springs and views some of the most inspiring scenery in America. The crossing of Dunraven Pass or the ascent of Mount Washburn are events which will linger long in vivid memory.

A few miles farther north, at Tower Falls, where the road again approaches the canyon of the Yellowstone River, scenery which has few equals is encountered. The river's gorge at this point, the falls of Tower Creek, and the palisades of basaltic rock far above the foaming Yellowstone are picturesque to a high degree.

FOSSIL FORESTS

The fossil forests are located over extensive areas in the northern part of the park. The two most prominent areas are in the newly acquired region on the northwest, known as the "Gallatin Petrified Forests", and in the northeast, known as the "Yellowstone-Lamar River Petrified Forests."

These areas are not as impressive as the term "forests" might imply. They are not readily accessible to the visitor, with the exception of one small area in the vicinity of the petrified tree, on a branch road, six-tenths of a mile from the main road between Tower Junction and Mammoth Hot Springs.

The petrified trees prove to be different species from those growing in the park today. They included broad-leaved species, such as laurel, sycamore, and oak, as well as pines and sequoias, showing that a much warmer climate existed at the time of their growth.

There is evidence that volcanoes came into existence, hurling out masses of eruptive fragments accompanied by great clouds of volcanic dust. This dust settled down upon the standing trees until they were buried. Water seeped through this dust and into the buried trees, carrying with it silica from the volcanic ash. The woody structure of the trees was dissolved and the silica was deposited in its place. The petrified tree which we now see contains none of the original wood of the tree, but is merely a reproduction in rock of the original form of the tree, in many cases cell for cell.

In some places trained observers can distinguish a succession of forests, 12 in number, one above the other, representing the repetition of this process 12 times—with intervening periods of volcanic quiescence during which forests grew up, only to be covered and in time petrified. This process must have taken thousands upon thousands of years.

SYLVAN PASS AND RED CANYON OF THE SHOSHONE

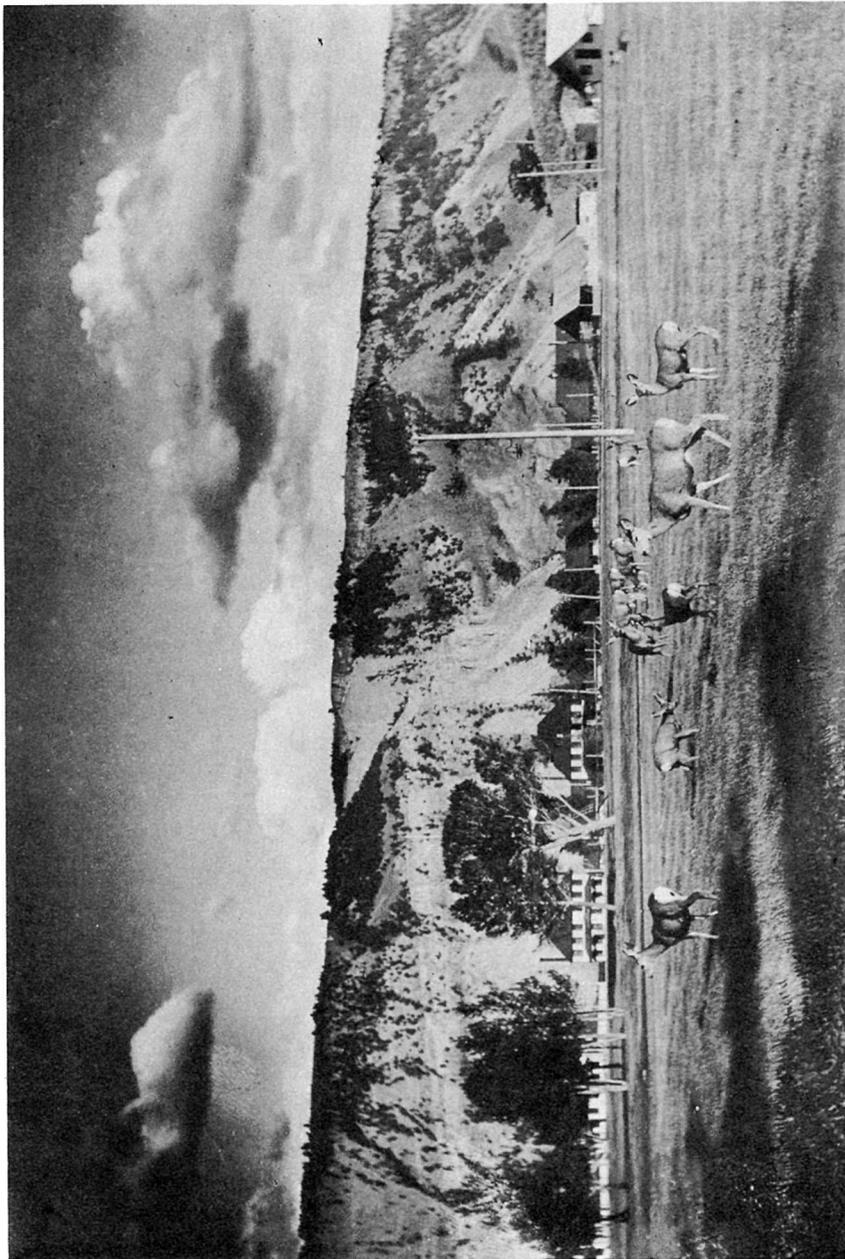
The road over Sylvan Pass is one of the scenic features of Yellowstone Park. East of the park boundary the road passes through a red-walled canyon so vividly colored and so remarkably carved by the frosts and the erosion of ages that its passage imprints itself indelibly upon memory. It is no wonder that a hundred curious names have been fastened upon these fantastic rock shapes silhouetted against the sky.

And miles farther on, where the united forks of the Shoshone won a precipitous way through enormous walls of rock, the Shoshone Dam, one of the highest in the United States, holds back for irrigation a large and deep lake of water and creates, through partnership of man and nature, a spectacle of grandeur perhaps unequaled of its kind. The road, which shelves and tunnels down the canyon, forcing a division of space with the imprisoned river, is one of the sensational drives of the West.

GREAT WILDLIFE REFUGE

The Yellowstone National Park is one of the largest and most successful wildlife refuges in the world. For this reason it is also an excellent and accessible field for nature study.

Its 3,438 square miles of mountains and valleys remain nearly as nature made them. The more than 300 miles of roads and the hotels, lodges, and auto camps are as nothing in this immense wilderness. No tree has been cut except when absolutely necessary for road, trail, or camp. No herds of domestic animals invade its valleys. Visitors for the most part keep to the beaten road, and the wild animals have learned in the years that they mean them no harm. To be sure they are not always seen by the people in automobiles which move from point to point daily during the season; but the quiet watcher on the trails may see deer and bear and elk and antelope to his heart's content, and he may even see mountain sheep, moose, and bison by journeying on foot or by horseback into their distant retreats. In the fall and spring, when the crowds are absent, wild deer gather in great numbers at the hotel clearings to crop the grass. One of the diversions at the road builders' camp in the wilderness is cultivating the acquaintance of the animals.



The park is the home of hundreds of deer.

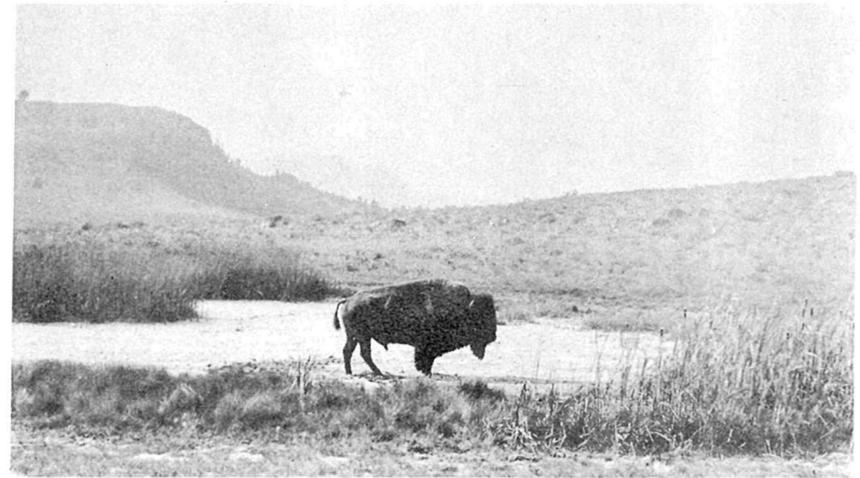
Thus one of the most interesting lessons from the Yellowstone is that wild animals are fearful and dangerous only when treated as game or as enemies. Even the big grizzlies, which are generally believed to be ferocious, are proved by experience in national parks to be inoffensive if not molested. When attacked, however, they become fierce antagonists indeed.

It is not only extremely dangerous but contrary to the park regulations to feed, molest, touch, or tease the bears.

The brown, cinnamon, and black bears, which are color phases of the one species—the blondes and brunettes of the same family so to speak—are numerous in the park.

While apparently friendly, it should be remembered that these bears, too, are wild animals and should be treated as such.

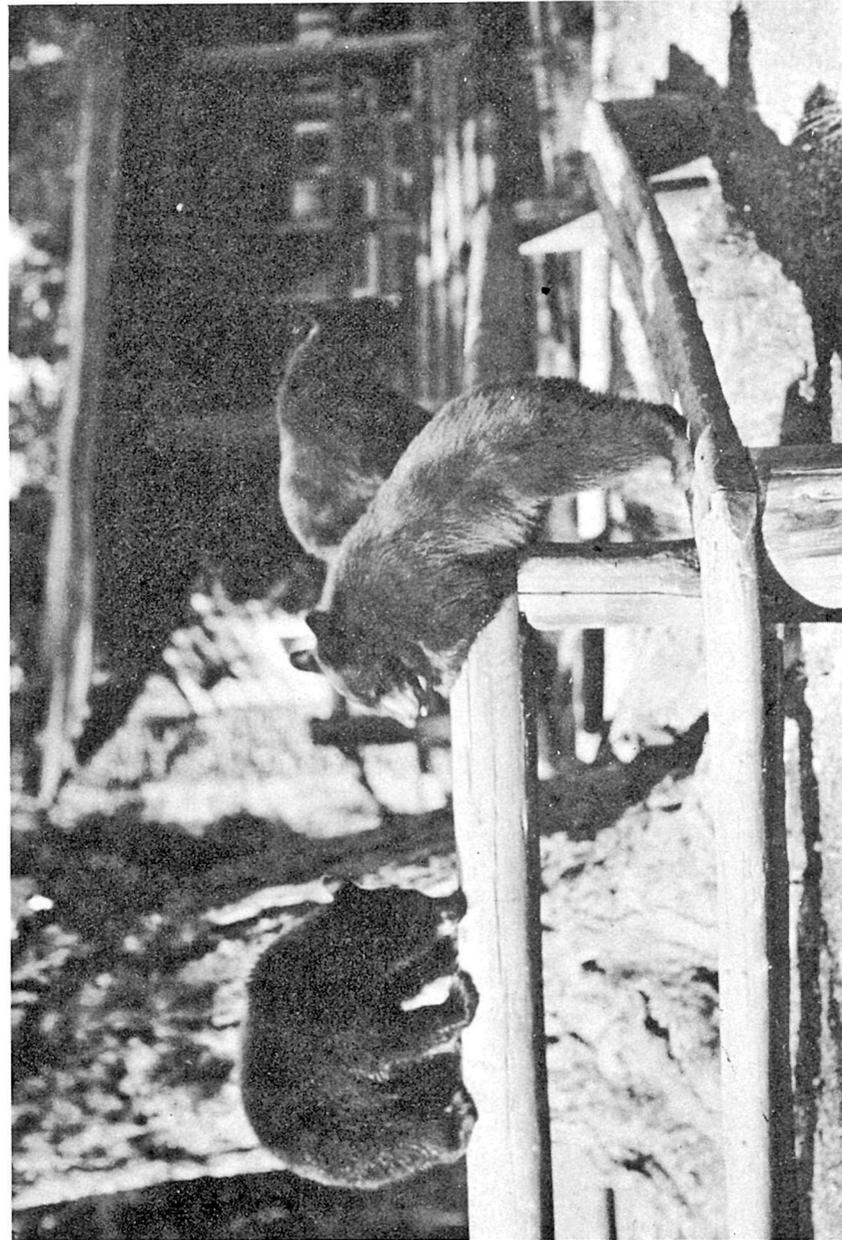
This wild-animal paradise contains several thousand elk, a few hundred moose, many deer and antelope, numerous bands of mountain sheep, and a herd of approximately a thousand buffalo.



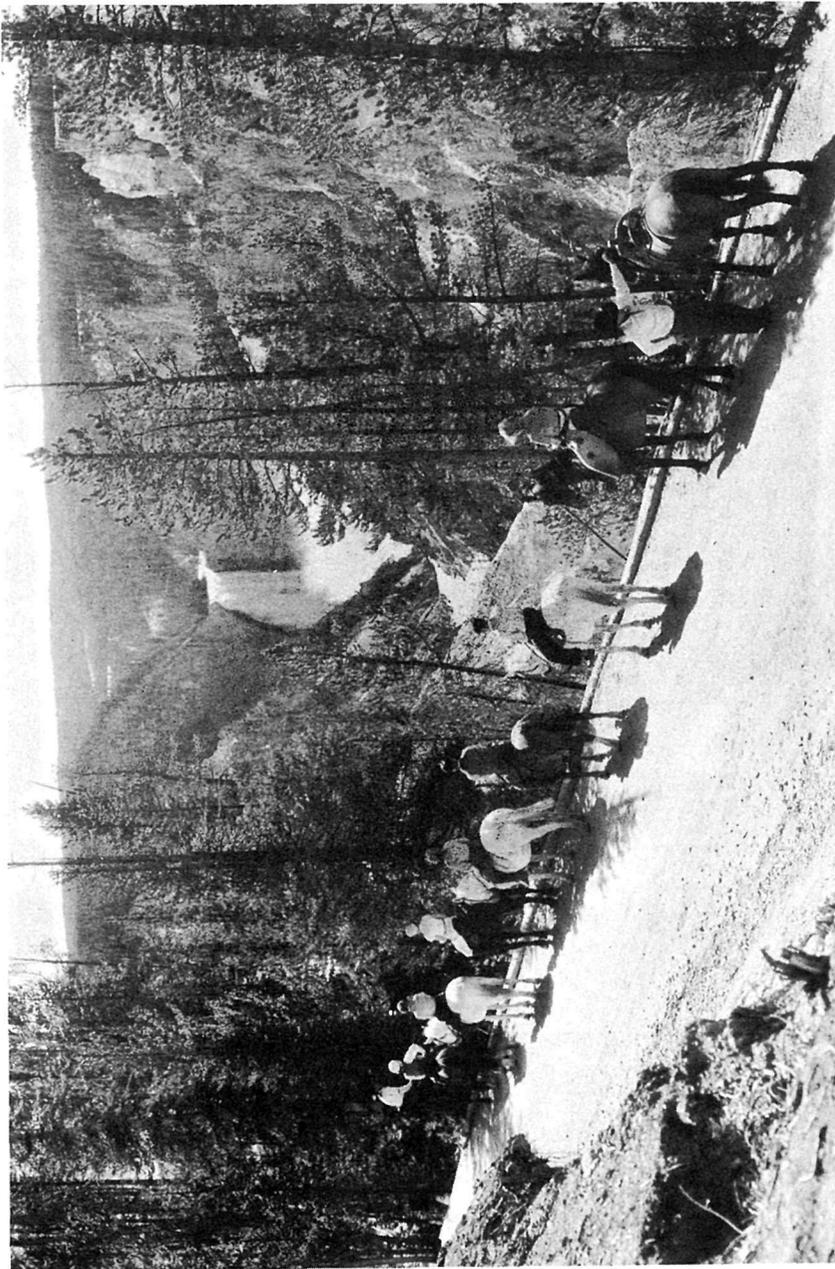
One of the thousand buffalo which inhabit the park.

It is an excellent bird sanctuary also, where more than 200 species live natural, undisturbed lives. Eagles may be seen among the crags. Wild geese and ducks are found in profusion. Many large white swans and pelicans add to the picturesqueness of the Yellowstone Lake.

Bears are seen daily in summer at the feeding grounds at Canyon and Old Faithful and occasionally along the roads. Moose are seen quite often, especially in the evenings. Mountain sheep are seen sometimes on Mount



Young black bears make examination of Camp Roosevelt.



The Grand Canyon of the Yellowstone.

Washburn. Elk remain in the mountains above 8,000 feet and can usually be seen on hiking or horseback trips. Deer are frequently along roads and trails and antelope may nearly always be found near the north entrance. Beaver may be seen in the evenings along the ranger nature trail at Mammoth Hot Springs and at other sections in the park.

In winter, elk, mule deer, antelope, and mountain sheep may be viewed at close range along the north line of the park and a lover of wild animals may be well repaid for taking a trip to Gardiner and Mammoth Hot Springs to see them. Many persons find the animals more interesting at this season than in summer.

TREES

In Yellowstone Park, as everywhere in the West, the trees are nearly all “evergreens”, or members of the pine family. In most parts of the East the forests are composed of broad-leaved deciduous trees.

Lodgepole pine (*Pinus contorta*), sometimes known as “jack pine.” The most common tree of the park, abundant at low and middle altitudes and extending nearly up to timberline; probably three-fourths of the forest of the park is composed of this tree. The pines are distinguished from other evergreen trees by having their long slender leaves in bundles of two or more instead of being attached singly to the branches. In the lodgepole pine there are two leaves in each bundle.

Limber pine (*Pinus flexilis*), in the West often known as “white pine”. Occasional at low and middle altitudes, chiefly on dry, rocky ridges, the trees usually scattered among those of other kinds. Leaves five in each bundle; cones 3 to 6 inches long, green when young, golden brown and opening when mature; bark dark brown, rough.

White-bark pine (*Pinus albicaulis*), found only about timberline. Leaves five in each bundle; cones 1 to 3 inches long, brown-purple when young, remaining closed when mature; bark thin, whitish, scaly. Medium size tree except on adverse slopes.

Firs. The firs have flat, blunt-tipped, or notched leaves 1 to 2 inches long. The cones are borne at the top of the tree, and they stand erect on the branches like candles on a Christmas tree; when ripe they fall apart. The bark of the firs is smooth and pale, and scattered over it are numerous blisters filled with liquid resin.

Alpine fir (*Abies lasiocarpa*), common about timberline and also at middle altitudes. Leaves rounded at the tip, not notched; those of the lower branches appearing two-ranked because of the twisted petioles. About timberline usually stunted and often lying flat on the ground; at lower altitudes a fine, large tree.

Douglas fir (*Pseudotsuga mucronata*), sometimes known as "red fir." Common at middle altitudes. Leaves blunt-tipped, about an inch long, flat and soft; bark dark and rough; cones scattered all over the tree, drooping from the branches, not falling apart when mature, with long, three-lobed bracts which project beyond the scales of the cone. Easily recognized by protruding bracts of the cones, a character found in none of our other ever-green trees. A large tree, the most important source of lumber in the West.

The spruces look much like the firs, but they have rigid sharp-pointed four-sided leaves (about 1 inch long) and thin, scaly, dark bark. The cones are borne near the top of the tree, and they droop from the branches; they do not fall apart when ripe.

Englemann spruce (*Picea engelmannii*), the most common spruce, growing with lodgepole pine and Douglas fir, at middle altitudes. Twigs smooth, not hairy; cones 1½ to 2 inches long.

Rocky Mountain juniper or cedar (*Juniperus scopulorum*), common at low and middle elevations, on rocky slopes. Closely resembling the common red cedar of the East; leaves very small and scalelike, attached by 2's or 3's and closely appressed to the twigs; fruit blue and berrylike; bark brown, easily peeled off in long shreds. The creeping juniper (*Juniperus sibirica*), which is common at middle altitudes, is closely related. It is only a low shrub with awl-like leaves half an inch long or shorter which spread from the twigs.

Aspen (*Populus tremuloides*), sometimes known as quaking aspen or quaking asp. The only common broadleaf tree; frequent on moist slopes at lower altitudes. A small, slender tree; bark smooth, whitish; leaves rounded, finely toothed. The leaves are on such slender stalks that they are kept in motion by the least breath of wind.

Narrowleaf cottonwood (*Populus angustifolia*), occasional along streams at low altitudes. A large tree with rough, pale bark; leaves resembling those of a willow, narrow, sharp pointed. The small seed pods contain numerous seeds, each of which bears a tuft of white hairs or "cotton."

Red birch (*Betula frontinalis*), usually a shrub but sometimes a small tree, growing along streams. Bark smooth, brown; twigs sticky; leaves broad, sharp pointed, coarsely toothed; flowers in catkins; fruit a small cone, which falls apart easily. Alders also grow along streams, but they are shrubs, never attaining the dimensions of trees. They look much like birches, but can be distinguished by the fact that their fruit cones are hard and woody, and do not fall apart like those of a birch.

Alder (*Alnus tenuifolia*), similar to birch; also found along streams; usually shrubby at high elevations; leaves more rounded; bark brownish-red to ashy gray; cones hard and woody, persisting during winter.

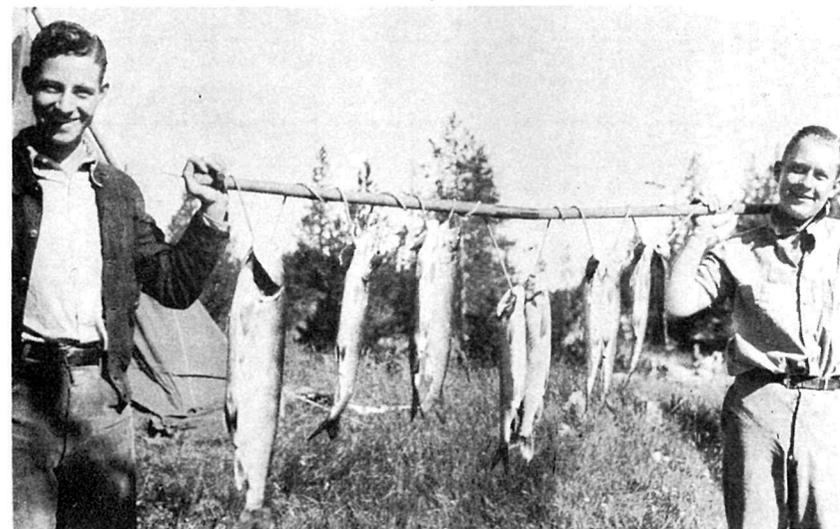
FISHING

To thoroughly enjoy the fishing of the Yellowstone National Park, waters as remote as possible should always be sought. Most of the streams and lakes in the park from timberline down to the lowest altitudes contain trout of one or more species, and a few contain whitefish and grayling. But the more accessible waters are fished so steadily by visitors that the trout become educated and wary. Back in the depths of the mountain fastnesses are fish that are much less disturbed and that can be caught more readily.

Fishing tackle may be purchased at the general store, near the hotel at Mammoth, and at the general stores at Old Faithful, Thumb, Lake, Fishing Bridge, Canyon Junction, and Tower Falls. It may be rented from the porters at the Old Faithful Inn, and Grand Canyon Hotel, and from the Yellowstone Park Boat Co. at the Lake, Bridge Bay, and Fishing Bridge. At the various lodges of the Yellowstone Park Lodge & Camps Co. fishing tackle may be rented or purchased as desired.

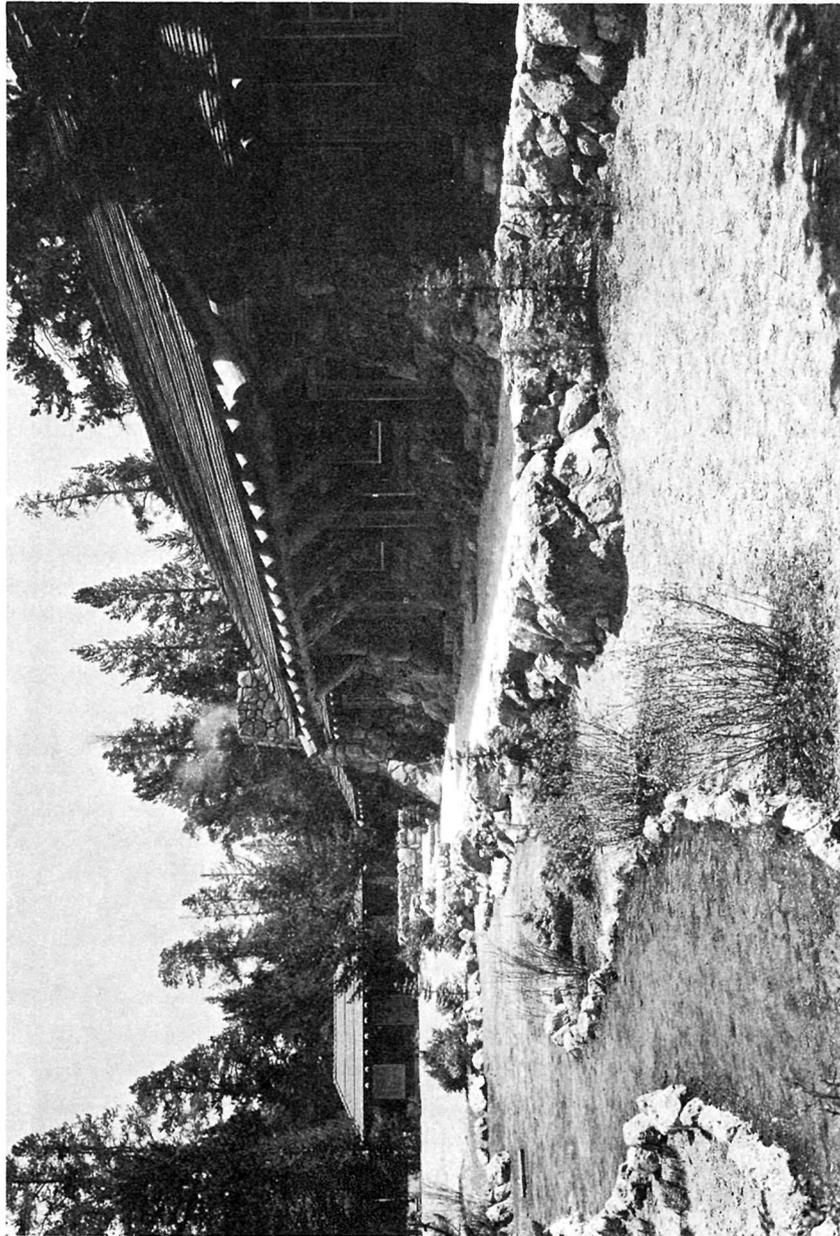
NO FISHING LICENSE REQUIRED

The native fish of the park represent only a few species which have been supplemented by a number of others planted by the Government in barren



Two young visitors pleased with their day's catch. Nuss photograph.

waters. The species that now abound in the park comprise some of the best game fish. Persons planning to fish should provide themselves with the



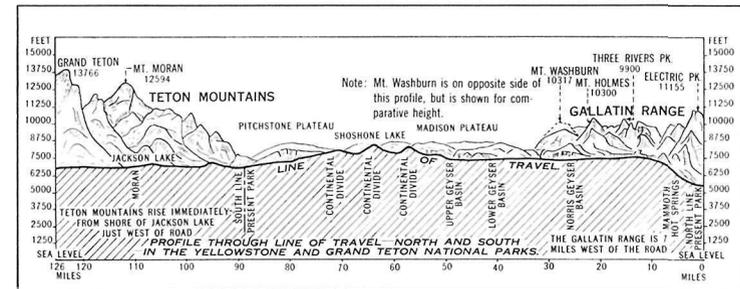
Fishing Bridge Museum.

pamphlet entitled “Fishes of the Yellowstone National Park”, by Hugh M. Smith and William C. Kendall, of the United States Bureau of Fisheries. This pamphlet contains a description of the park waters, a figure of each kind of fish in the park, together with notes on size, distribution, habits, game qualities, etc. It is a public document and is sold for 5 cents a copy. It may be purchased from the Superintendent of Documents, Government Printing Office, Washington, D. C., and in Yellowstone National Park at the Information Office, Mammoth Hot Springs, or the Old Faithful and Fishing Bridge Museums, but the latter offices cannot fill mail orders.

GRAND TETON NATIONAL PARK

The Grand Teton National Park in Wyoming, created February 26, 1929, lies a few miles south of Yellowstone National Park. The magnificent Teton Mountains border Jackson Lake on its west side, rising rapidly in a series of remarkably toothed and jagged peaks until they reach a sublime climax, 30 miles south of the park, in the Grand Teton, which rises cathedral-like to an altitude of 13,766 feet.

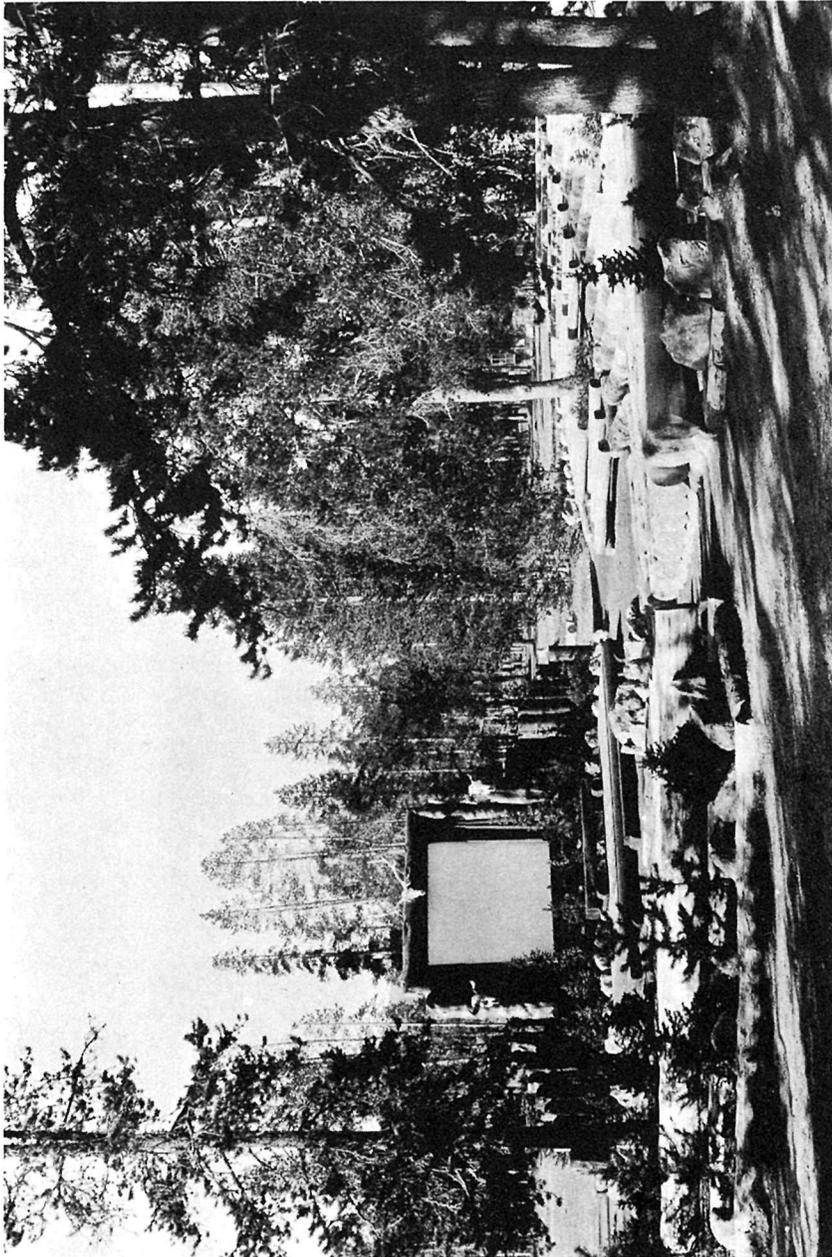
This whole amazing outcropping of gigantic granite peaks is in many respects the most imposing, as certainly it is the most extraordinary, massing



Geologic section of the Yellowstone-Grand Teton region.

of mountain spires in America. It rises more than 7,000 feet vertically from the lake and plain. Seen from the road at Moran, where the Snake River escapes from the reclamation dam which pens flood waters within Jackson Lake for the benefit of farms in arid western lands, these mountains seem actually to border the lake’s west shore. It is hard to realize that these stupendous creations of the Master Architect, bearing upon their shoulders many glistening glaciers, are 9 miles away.

The superlative mountain scenery of the Grand Teton region is entirely different from the scenery and extraordinary features of Yellowstone Na-



Campfire circle at Old Faithful Museum.

tional Park, and visitors to Yellowstone should include in their tour, if possible, a visit to the Grand Teton National Park. From the Thumb, on Yellowstone Lake, the distance to Moran, on Jackson Lake, is only 47 miles; and an additional drive of 16 miles brings one to the shore of String Lake, lying between Jenny Lake and Leigh Lake. From each of these lakes, as well as from points on the road leading to them, views of the Teton Mountains may be obtained that amply repay the short journey. Automobile stages run regularly between Yellowstone Park and Moran.

ADMINISTRATION

Headquarters of Yellowstone National Park are at Mammoth Hot Springs, 5 miles from the north gateway. Here are the executive offices of the park administration and of the public utilities that operate in the park under Government regulation and supervision.

The officer of the National Park Service in immediate charge of the park is the superintendent, Roger W. Toll. His office is in the general headquarters building and his address is Yellowstone Park, Wyo. All comments regarding service in the park should be addressed to the superintendent. Offenders charged with violation of the rules and regulations are tried at headquarters by the United States commissioner, Judge J. W. Meldrum.

The park is protected by a permanent ranger force composed of men who are skilled in forest-fire fighting and in the detection of offenses in violation of the rules and regulations governing the park. This ranger force is augmented in the summer season by temporary rangers who are assigned to protect the natural features of the park from depredations by thoughtless and careless visitors. This temporary force as well as the regular ranger service is charged with the duty of giving information to visitors and rendering other assistance to the touring public.

NATURALIST SERVICE

Ranger naturalists conduct parties at Mammoth, Norris Geyser Basin, Madison Junction, Old Faithful, West Thumb, Yellowstone Lake, Fishing Bridge, and Canyon. Many lectures are given in the evenings, and the service is rendered by the National Park Service ranger naturalists without charge or obligation of any kind.

The National Park Service has established official information bureaus in museums at Mammoth, Norris, Old Faithful, and Fishing Bridge. This is a free service for all visitors. Circulars of general information, regarding Yellowstone and the other national parks, and automobile maps of the Yellowstone National Park are on hand for free distribution. Pamphlets

on geysers, geological history, fossil forests, and fish of the Yellowstone, topographic maps, and other publications pertaining to the park are on sale at nominal charges at all museums except Norris and Madison Junction.

The Mammoth Museum is devoted to a general survey of the natural and human history of the park. Old Faithful Museum, between the inn and the auto camp, is devoted largely to geyser activity and its products. The Norris Geyser Basin Museum is remarkable for its simple and easy manner of telling the story of volcanism in the park, as well as of the thermal features of that area. Madison Junction Museum is devoted to historical events of the park, while Fishing Bridge Museum deals primarily with the biologic life of the park and the history and geology of Yellowstone Lake. A field exhibit near Obsidian Cliff explains that great mountain of volcanic glass, and other roadside exhibits, explaining local features of interest to the visitor, are also located near Silver Gate, Swan Lake, Willow Park, Nymph Lake, Tuff Cliff, and Firehole Canyon.

THE PARK SEASON

The main season extends from June 20 to September 12, during which time the park utilities are operated. Between the time the roads are cleared of snow (which is usually about June 1), and June 20, and between September 12 and October 15 limited accommodations of an informal character are available at certain places in the park for motorists. Camp grounds may be used and the general stores, gasoline filling stations, and picture shops are open at several points. September 9 is the last day on which the 3½-day motor-bus tour may be started.

RAILROAD INFORMATION

The Northern Pacific Railroad reaches the park on the north, at Gardiner, Mont., and also from Bozeman, reaching the park via the Gallatin Gateway; the Chicago, Milwaukee, St. Paul & Pacific Railroad also serves the Gallatin Gateway entrance; the Union Pacific system reaches it on the west, at West Yellowstone, Mont., and on the south from Victor, Idaho; the Chicago, Burlington & Quincy Railroad reaches Cody, Wyo., from which the eastern entrance to the park is reached by the auto-stage drive of 53 miles; and the Chicago & North Western Railway has its terminal at Lander, Wyo., 179 miles from the south entrance.

During the park season round-trip excursion tickets at reduced fares are sold at practically all stations in the United States and Canada to Gardiner, Bozeman, West Yellowstone, Victor, Gallatin Gateway, Cody, and Lander, as destinations. From the Middle West, East, and South, such

round-trip excursion tickets may be routed so that one may enter the park through any of these seven gateways, and leave from the same gateway or any one of the other six.

From many sections trips may be planned to include visits to two or more of the following national parks and monuments in the Rocky Mountain region: Yellowstone, Grand Teton, Glacier, Rocky Mountain, Mesa Verde, Zion, and Bryce National Parks and the Craters of the Moon, Devils Tower, and monuments of the Southwest.

Passengers wishing to visit Yellowstone National Park as a side trip in connection with journeys to other destinations will find stop-over privileges available and may make side trips to the park from Livingston, Billings, Bozeman, and Gallatin Gateway, Mont.; Pocatello, Idaho; Ogden and Salt Lake City, Utah; or Frannie, Wyo.; all of which are stop-over points on both one-way and round-trip tickets, or from Butte, Mont., which is a stop-over point on round-trip tickets.

Coupons covering auto-stage transportation and accommodations at the park hotels or lodges for a "sight-seeing" tour of the park of about 4 days' duration may be included in railroad tickets at proper additional charges which are the same as those in effect at the park.

The National Park Service, however, recommends to the traveling public that stop-overs of as long duration as practicable be planned at points within the park; that Yellowstone National Park be regarded not alone as a region which may be glimpsed on a hurried trip of a few days but also as a vacation playground of boundless opportunities for rest and recreation.

Storage charges for baggage will be waived by the interested railroads at Livingston, Gardiner, West Yellowstone, Pocatello, Idaho Falls, Ogden, Salt Lake City, Lander, Cody, Frannie, Bozeman, Gallatin Gateway, Billings, or at Butte (by C., M., St. P. & P. R. R.), for actual length of time consumed by passengers in making the park trip. Baggage may be checked to stations via which passengers enter the park, i. e., Gardiner, Bozeman, West Yellowstone, Victor, Gallatin Gateway, Lander, or Cody.

For further information regarding railroad fares, service, etc., apply to local ticket agents of any railroad, general passenger agents of western lines, and tourist agencies.

AIRPLANE INFORMATION

Northwest Air Lines in its Seattle to Chicago service has stops at Butte and Billings. United Air Lines has a connection at Salt Lake City with the Alfred Frank Air Line to Butte. The Wyoming Air Service connects Cheyenne and Billings via Casper and Sheridan.

MEDICAL SERVICE

The medical service of Yellowstone National Park has headquarters at Mammoth Hot Springs where physicians and a surgeon of long experience are constantly available. A well-equipped hospital with trained nurses and other skilled personnel is a part of this service. A fine ambulance is kept in readiness for instant service.

Physicians of the medical service staff will promptly attend patients at any place in the park upon call. Trained nurses are also stationed in each hotel and lodge, and these establishments are provided with adequately equipped dispensaries.

In case of accident or illness requiring the service of a physician or nurse, proceed at once to the nearest hotel, lodge, or ranger station, where medical service can be summoned by telephone.

Rates for medical and hospital service are the same as prevailing rates in cities near the park.

TELEGRAMS

Telegrams may be sent from hotels or lodges to any part of the world. Park visitors should use "Yellowstone Park, Wyo.," as their telegraphic address and should inquire for messages at the telegraph office in the Mammoth Hotel, Mammoth Hot Springs. Lists of undelivered telegrams are posted daily at hotels, lodges, loop ranger stations, stores, and information offices. These lists are posted for your benefit and convenience. Inspect them daily. There may be a telegram for you.

TELEPHONE SERVICE

Telephone service is available to any part of the world to which Bell System lines connect. Calls placed to Yellowstone Park, Wyo., for persons within the park will reach them if they are at any of the hotels, lodges, or principal auto camps.

POST OFFICE

The main post office in the park is called Yellowstone Park, Wyo., and is located at Mammoth Hot Springs. Railroad visitors are advised to have their mail addressed care of the "Yellowstone Park Hotel Co." or the "Yellowstone Park Lodge & Camps Co.," depending upon whether the trip is to be made via hotels or lodges. All mail so addressed is first received at the Mammoth offices of the hotels and lodges and distributed from these points. If no particular hotel or lodge is designated in the address the mail

is held at the Mammoth offices of the hotels or lodges pending directions to forward. General-delivery mail must be called for at the post office at Mammoth Hot Springs, but can on request be forwarded to hotels, lodges, or by daily carrier to postal stations on the loop. Automobile visitors should have their mail addressed with their name, "care of General Delivery, Yellowstone Park, Wyo.," and should call for same at the post office on their arrival at Mammoth Hot Springs. Post offices near the park entrances are all located outside, and their location with regard to trip as planned should be studied before having mail forwarded to them.

In addition to the Yellowstone post office there are five postal stations in the park, at Old Faithful, Lake, Fishing Bridge, Canyon, and Tower Falls. Daily service is maintained from June 20 to September 19 by motor route between the main office and the stations.

HIGHWAYS TO YELLOWSTONE

Yellowstone National Park may be reached from all major points, including other national parks and monuments, via improved United States highways. American Automobile Association offices throughout the country are prepared to furnish reliable information as well as maps showing routes to and from the park.

Inquiry should be made at various cities concerning road conditions.

Yellowstone National Park may be reached from the following highways:

Gardiner, Mont. (north entrance): U. S. Highways 10 and 87 W.; U. S. Highways 2 and 87 W.; U. S. Highways 10 and 12; U. S. Highways 16 and 10.

Cody, Wyo. (east entrance): U. S. Highways 16 and 20; U. S. Highway 20; U. S. Highway 10 to Billings, 310 south to Cody.

Snake River (south entrance): U. S. Highway 87 W. (over Togwotee Pass); U. S. Highway 187 (via Hoback Canyon); U. S. Highways 191 and 22 (via Swan Valley and Teton Pass); U. S. Highways 191 and 33 (Sugar City and Teton Pass).

West Yellowstone, Mont. (West entrance): U. S. Highway 10 to Bozeman and south through Gallatin Gateway; U. S. Highway 91 or 10 to Butte, thence southwest via Virginia City and Ennis or Harrison and Ennis; U. S. Highway 191 from Pocatello.

Cooke, Mont. (northeast entrance): U. S. Highway 10 to Laurel, and southwest via Red Lodge; U. S. Highways 420 and 310 from Cody.

AUTOMOBILE SUPPLIES

The Yellowstone Park Transportation Co. and the general stores throughout the park are authorized to sell gasoline and oil, and the transportation company and filling stations carry a stock of automobile accessories, tires, etc. The transportation company also maintains garages and repair shops at Mammoth Hot Springs, Old Faithful, Fishing Bridge Auto Camp, and Grand Canyon.

FUEL

Wood yards are operated on the "Cash and Carry" basis by the Yellowstone Park Fuel Co. in all large automobile camps, at which bundles of sawed and split wood of convenient size are obtainable at prices approved by the Department of the Interior.

PARK MILEPOST SYSTEM

The milepost signs in Yellowstone National Park are diamond-shaped steel signs with raised letters, which are in every case initials of a junction point on the loop-road system or a park gateway. As a measure of economy these signs have not always been placed exactly 1 mile apart. Fractions of miles have been dropped in order that two mileage signs might always be placed on one steel post. For instance, between Gardiner and Mammoth Hot Springs, a speedometer indicates that the distance is slightly over 5 miles, yet the mileage signs state the distance as 5 miles.

The following is a key to the milepost initials:

N. E. North entrance at Gardiner, Mont.

W. E. West entrance at West Yellowstone, Mont.

E. E. East entrance, 53 miles west of Cody, Wyo.

S. E. South entrance, 24 miles north of Moran, Wyo.

M. S. Mammoth Hot Springs, where the north-approach road joins the loop system.

N. J. Norris Junction, near Norris Geyser Basin, where a road leads directly across the park to the Grand Canyon of the Yellowstone.

M. J. Madison Junction where the west-approach road joins the loop system.

O. F. Old Faithful, at the head of Upper Geyser Basin.

W. T. West Thumb of Yellowstone Lake, where the south-approach road joins the loop system.

L. J. Lake Junction, where the east or Cody approach road joins the loop system.

C. J. Canyon Junction, where a road leads directly across the park from the Grand Canyon of the Yellowstone to Norris Geyser Basin.

T. J. Tower Junction, where the road to the Buffalo Ranch and Cooke, Mont., leaves the loop system.

C. S. Cooke Station, 4 miles southwest of Cooke, Mont., where the northeast approach road from Red Lodge joins the park highway system.

Mt. W. Stands for the Mount Washburn road.

There is a ranger station at each of the above entrances and near the junction points.

The main road system of Yellowstone Park is roughly in the form of a figure 8. This system is called the "Grand Loop" Highway. There are approximately 145 miles of improved highways in the main system.

The approach roads are the feeders to the loop system and they lead from all park gateways to junction points as above indicated. The aggregate length of the approach roads in the park is 99 miles.

Other roads in the park have a combined length of 66 miles.

Outside of the park boundaries, by special authority of Congress, the National Park Service maintains 24 miles of the east-approach road in the Shoshone National Forest and 25 miles of the south-approach road in the Teton National Forest.

PARK PHOTOGRAPHS

Haynes Picture Shops (Inc.), address, Yellowstone Park, Wyo., in summer, and 341 Selby Avenue, St. Paul, Minn., at any season, maintains picture shops at Mammoth Hot Springs, Old Faithful, Thumb, Fishing Bridge, Grand Canyon, and Tower Falls, and stands in various hotels and lodges for sale of photographs in all sizes and styles, as well as hand-painted enlargements, lantern slides, moving pictures, souvenir post cards, photographic supplies and guidebooks. Laboratories in the park are maintained for developing, printing, and enlarging photographs.

STORES AND NEWS STANDS

At Mammoth Hot Springs a general store is operated by Pryor and Trischman, who also maintain a store where food supplies can be obtained by campers in the free auto camp.

The Park Curio Shop, Mammoth Hot Springs, operates a combined curio shop, coffee shop, and soda fountain, and at the free auto camp a combined lunch room and cafeteria.

At Old Faithful, Mr. C. A. Hamilton operates two general stores, one near the hotel and the other in the public auto camp.

At West Thumb and Lake (between Lake Hotel and Lake Lodge) general stores are also operated, with store at Fishing Bridge free auto camp.



There are 15 large camp sites and many smaller ones.



Yellowstone Lake near Fishing Bridge Museum.

At the Grand Canyon of the Yellowstone, near Canyon Junction, Pryor and Trischman conduct the general store that serves the Canyon district.

At Tower Falls a general store and lunch room is maintained by Mr. J. E. Haynes.

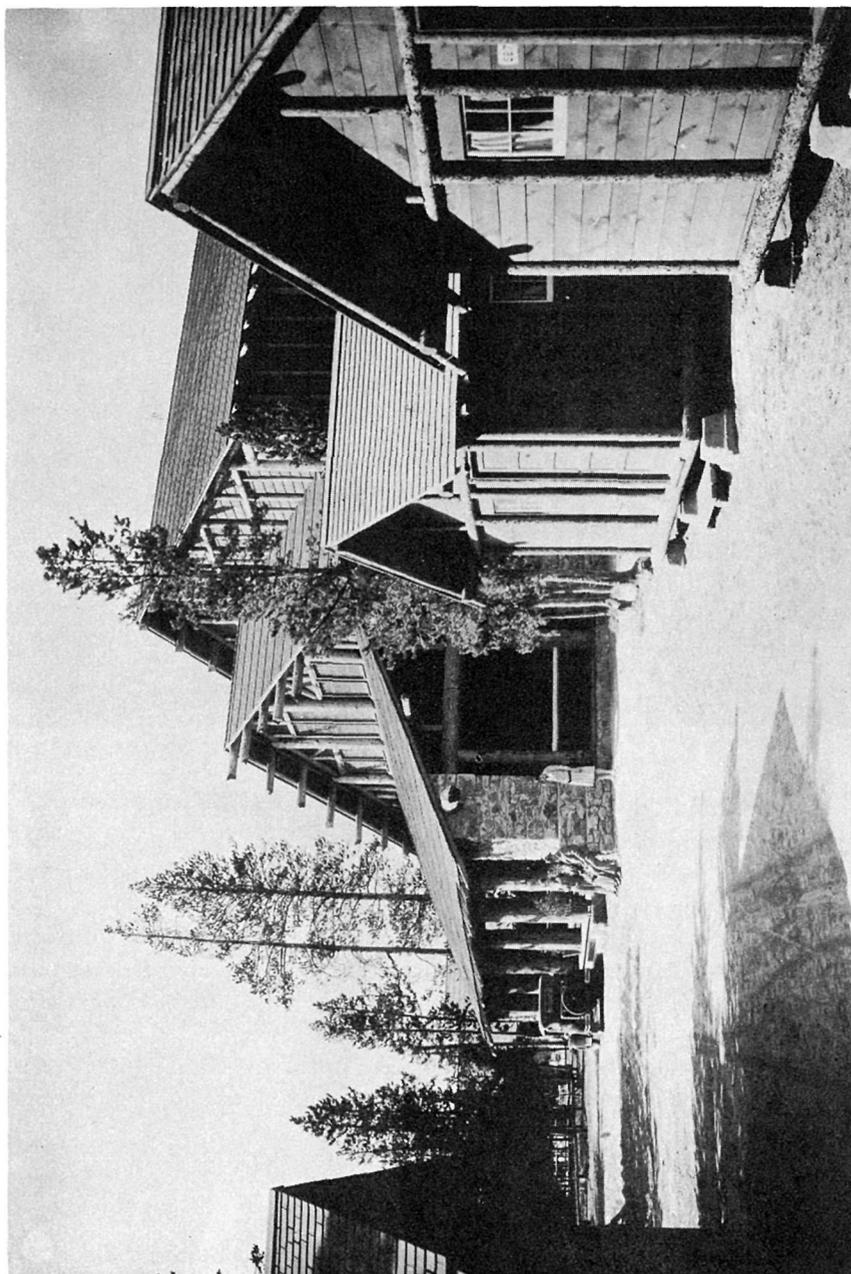
In all of the general stores, in addition to complete lines of groceries, clothing, and campers' supplies are carried curios, souvenirs, tobacco, smokers' supplies, etc. Stores are open before and after park season to serve motorists, weather permitting.

In all the hotels and lodges there are news stands at which curios, souvenirs, newspapers, magazines, tobacco, smokers' supplies, etc., are also available.

ACCOMMODATIONS AND EXPENSES

HOTELS

The Old Faithful Inn and Canyon Hotel, operated by the Yellowstone Park Hotel Co., will be open during the 1935 season from June 20 to



Old Faithful Lodge.

September 12, the hotels at Mammoth and Lake remaining closed as in 1933 and 1934. These are first-class hotels with the charm of a wilderness setting, and the rates are comparable with those that prevail in metropolitan hotels of the same type, though all supplies have to be hauled great distances. The rates range from \$2.75 per day without meals for one person in a room without bath to \$10 per day for a room with bath for one person, meals included. Meals only: Breakfast, \$1.25; lunch and dinner, \$1.50 each. Telephone and telegraph service is available in each hotel.

LODGES

Lodges are maintained at Mammoth Hot Springs, Old Faithful, Yellowstone Lake, and Canyon, by the Yellowstone Park Lodge & Camps Co. Including meals (American plan), the rate is \$4.50 a day, with children under 2 free and up to 8 years old, half rates. Also operated on European plan.

CABINS AND TENTS

These are available at rates ranging from \$1 a night for one person to \$2.50 for four persons. They are equipped with the necessary furniture, and if one does not have all his camping equipment, linen and cooking utensils may be rented. There are cafeterias at Mammoth Hot Springs, Old Faithful, Fishing Bridge, West Thumb, and Canyon automobile camps; cabin accommodations and meals at Camp Roosevelt.

TRANSPORTATION

The Yellowstone Park Transportation Co. maintains bus and special car service for transportation to and from all park entrances, park tours, side trips, and Grand Teton National Park, south of Yellowstone. Inquire at any concentration point in the park for rates and schedules.

BOATS

Speed boats, launches, rowboats, and fishing tackle may be rented from the Yellowstone Park Boat Co. Launches, including the use of fishing tackle, cost \$3.50 an hour. Half-hour speed-boat trips on Yellowstone Lake will be made for \$1 a person. You can rent a rod, reel, and landing net for 50 cents a day.

SADDLE HORSES AND GUIDES

There is no better way to see the park than on horseback over some of the 900 miles of trails. There are an unlimited number of special trips scheduled, such as to Cascade Lake from the Canyon Hotel and to Lone Star

Geyser from Old Faithful Inn, for prices as low as \$2.50. Horses may be rented at \$0.75 an hour; \$2.50 for a half day; and \$3.50 for a full day of 8 hours. Guide service is available for \$1 an hour; \$3 a half day; and \$5 for a full day.

PUBLIC CAMP GROUNDS

There are about 15 improved camp grounds supplied with water, sanitary facilities, and cooking grates. There are also between 25 and 30 smaller sites, scattered throughout the park, which are especially attractive to persons wishing to get away from the main points of concentration. Wood yards are operated on the cash-and-carry basis where firewood may be obtained at reasonable prices.

SWIMMING POOLS

Swimming pools, using natural hot water from the hot springs and geysers, are located at Mammoth Hot Springs and Old Faithful.

ALL-EXPENSE TOURS

In connection with railway tickets to Gardiner, Bozeman, Gallatin Gateway, and West Yellowstone, Mont., and Cody, Wyo., standard 3½-day tours of Yellowstone Park are sold at all railroad ticket offices in the United States, where full information may be obtained. The cost of these tours, including hotel accommodations and bus transportation in the park, is \$45. The rate for lodge accommodations and bus transportation is \$38.

YELLOWSTONE TRAILS

An extensive system of trails is available for the saddle-horse lover desiring to visit the more remote and wilder sections of the park. Away from the beaten paths the watcher on the trail is amply rewarded in the study of wild animals in their native retreats during summer months. It is here that nature, except for trails, remains undisturbed; where scenic beauty is so vividly impressed; where spots that appeal may be studied to your heart's content, uninterrupted by any schedule of transportation.

HOWARD EATON TRAIL

The Howard Eaton Trail is a linking-up of a former series of short trails. It will be noted that the above listing discloses the main points of interest in the order viewed by automobile travel, starting from and ending at Mammoth Hot Springs. The Howard Eaton Trail follows closely the "loop" road, touching those points of interest visited by vehicle travel, yet the trail is sufficiently distant from the road at most points to avoid contact,

except at key points of interest, with travelers on the "loop" highway. The traveler by trail may start from any other station listed, reversing the route or otherwise arranging the trip to meet his requirements.

	<i>Miles</i>
Mammoth Hot Springs to Norris Junction	20
Norris Junction to Fountain	18
Fountain to Old Faithful	11
Old Faithful to West Thumb	20
West Thumb to Lake	16
Lake to Canyon	16
Canyon to Tower Junction	20
Canyon to Norris Junction	14
Tower Junction to Mammoth Hot Springs	18
 Total mileage of Howard Eaton Trail	 153

The Canyon-to-Norris or Norris-to-Canyon crosscut enables the hurried traveler to split the entire route into sections to be traveled as time affords. Certain branch trails may also be taken where they link with the Howard Eaton Trail, as the following trail schedule indicates:

SCHEDULE OF TRAILS

FROM MAMMOTH HOT SPRINGS

	<i>Miles</i>
To summit of Mount Everts and return	10
Around Bunsen Peak to foot of Osprey Falls and return	12
To summit of Mount Sepulcher and return	14
To Gardiner, Mont., via old road, and return	10
To Sportsman Lake, via Electric Peak	14
From Sportsman Lake to Gallatin Ranger Station	11
To Gallatin Ranger Station, through Snow Pass and Fawn Pass	30
To Gallatin Ranger Station, via Golden Gate and Bighorn Pass Trail	35
To Riverside Ranger Station, via Golden Gate, on Riverside Trail	33
From Riverside Ranger Station to Fountain Ranger Station, on Madison Plateau Trail	15

FROM OLD FAITHFUL

To Biscuit Basin	2.5
From Biscuit Basin to Fountain, on Little Firehole Trail	16
From Fountain to Riverside, on Madison Plateau Trail	15
To West Boundary, on Summit Lake Trail	16
To Lone Star Geyser	3.5
From Lone Star Geyser to Shoshone Lake Outlet, Shoshone Trail	15
From Shoshone Lake to Lewis Lake, on Sheridan Trail	5
To Lewis Lake, via Norris Pass, DeLacy Creek, and Shoshone Lake	24
From Lewis Lake to Heart Lake, on Sheridan Trail	7
To Bechler River Ranger Station, via Lone Star Geyser and Bechler Canyon	35
To Mallard Lake, over Mallard Lake Trail, and return	8

FROM LAKE		<i>Miles</i>
To Soda Butte, via Cold Creek and Lamar River Junction	53	
From Cold Creek and Lamar River Junction to East Boundary	13	
From Cold Creek and Lamar River Junction to East Boundary, via Miller Creek	22	
From Cold Creek and Lamar River Junction to Frost Lake	7	
FROM CANYON		
To Fountain, via Mary Lake, on Mary Mountain Trail	25	
To foot of Lower Falls, on Uncle Toms Trail from Canyon Lodge	5	
To Seven Mile Fishing Hole	7	
To Artist Point from Canyon Lodge	1	
To Inspiration Point from Canyon Hotel	2	
To Grebe Lake, on Grebe Lake Trail	6	
To summit of Mount Washburn	9	
To Sulphur Mountain	5	
To Tower Falls, via Cascade Lake, on Storm Peak Trail	25	
To Cascade Lake, on Cascade Lake Trail	4	
To Silver Cord Cascade	4	
To Devils Ink Pot	4	
FROM TOWER FALLS		
To Canyon, via Cascade Lake, on Storm Peak Trail	25	
To Specimen Ridge	7	
From Specimen Ridge to Soda Butte, via Amethyst Mountain	12	
To North Boundary, via Hellroaring Creek, Hellroaring Trail	12	
To East Boundary, via Junction of Soda Butte Creek and Lamar River and Miller Creek	42	
To East Boundary, via Lamar River and Cold Creek Junction	54	
To Frost Lake, via Lamar River and Cold Creek Junction	49	
FROM FOUNTAIN		
To Riverside Ranger Station, on Madison Plateau Trail	15	
To Biscuit Basin, on Little Firehole Trail	16	
From Biscuit Basin to Old Faithful	2.5	
To Canyon, via Mary Lake, on Mary Mountain Trail	25	
FROM WEST THUMB		
To Lake (see Howard Eaton Trail)	20	
To Heart Lake, by road and trail	15	
From Heart Lake to Mount Sheridan	3	
To Lewis Lake	9	
To Shoshone Lake, via road and trail	14	
To Snake River	22	
FROM NORRIS		
To Lake of Woods, on Lake of Woods Trail	8	

FROM SODA BUTTE		<i>Miles</i>
To Lake, via Lamar River and Cold Creek Junction	53	
From Lamar River and Cold Creek Junction to East Boundary	16	
To East Boundary, via Miller Creek	32	
From Lamar River and Cold Creek Junction to Frost Lake	7	
To Specimen Ridge, via Amethyst Mountain	12	
From Specimen Ridge to Tower Junction	7	
To Cache Creek, via Amphitheater Creek	11	
FROM GARDINER		
To Blacktail Deer Creek, on Turkeypen Trail	7	
From Blacktail Deer Creek to Hellroaring, on Hellroaring Trail	12	
From Hellroaring to Slough Creek, on Hellroaring Trail	12	
From Blacktail Deer Creek to Hellroaring, on Hellroaring Trail	12	
To Crevice Ranger Station, on Crevice Trail	7	
To Knowles Cabin, on Knowles Trail	8	
To Mammoth Hot Springs, on old road	5	
FROM GALLATIN		
To Mammoth Hot Springs, through Snow Pass and Fawn Pass	30	
To Sportsman Lake, via Sportsman Lake Trail	11	
From Sportsman Lake to Mammoth Hot Springs, via Electric Peak	14	
To Mammoth Hot Springs, via Golden Gate, on Bighorn Pass Trail	35	
To Bechler River Station, via Riverside, on West Boundary Trail	60	
FROM RIVERSIDE		
To Fountain on Madison Plateau Trail	15	
From Fountain to Biscuit Basin, on Little Firehole Trail	16	
From Biscuit Basin to Old Faithful	2.5	
To Mammoth Hot Springs, via Golden Gate, on Riverside Trail	33	
FROM UPPER YELLOWSTONE		
To Snake River Station, via Big Game Ridge	25	
To Lake, on Upper Yellowstone Trail	50	

PUBLICATIONS

FOR SALE IN THE PARK

- ANIMAL LIFE OF YELLOWSTONE PARK. By Vernon Bailey. 241 pages.
 THE YELLOWSTONE NATIONAL PARK. By H. M. Chittenden. 286 pages. Historical and descriptive.
 CUBBY IN WONDERLAND. A book primarily for children by Frances Joyce Farnsworth. 140 pages.
 TRAPPER JIM'S FABLES OF SHEEPEATER INDIANS IN YELLOWSTONE. By La Verne H. Fitzgerald.
 THE TREES AND SHRUBS OF YELLOWSTONE NATIONAL PARK. By P. H. Hawkins. 125 pages.
 GUIDE TO THE YELLOWSTONE NATIONAL PARK. By J. E. Haynes. 159 pages.
 MAW'S VACATION IN THE YELLOWSTONE. By Emerson Hough. 70 pages.
 DISCOVERY OF THE YELLOWSTONE, 1870. By N. P. Langford. 188 pages.
 POEMS OF NATURE AND WILD LIFE. By E. J. Sawyer. 74 pages.
 BIRDS OF THE YELLOWSTONE. By M. P. Skinner.
 THE YELLOWSTONE NATURE BOOK. By M. P. Skinner. 299 pages.
 BEARS OF THE YELLOWSTONE. By M. P. Skinner. 151 pages.
 THE AMERICAN ANTELOPE. By M. P. Skinner. 27 pages.
 TREES AND FLOWERS OF YELLOWSTONE NATIONAL PARK. By Frank E. A. Thone. 92 pages.
 OUR WILDERNESS NEIGHBORS. By Dorr G. Yeager. 160 pages.
 OH, RANGER! By H. M. Albright and F. J. Taylor. 272 pages.

GOVERNMENT PUBLICATIONS

- MOTORISTS' GUIDE. Distributed in the park only. Free.
 FISHES OF YELLOWSTONE NATIONAL PARK. By Hugh M. Smith and W. C. Kendall. 30 pages, illustrated. Superintendent of Documents, Washington, D. C. 5 cents.
 GEOLOGICAL HISTORY OF YELLOWSTONE NATIONAL PARK. By Arnold Hague. 24 pages, illustrated. Superintendent of Documents, Washington, D. C. 10 cents.
 GEYSERS OF YELLOWSTONE NATIONAL PARK. By Walter Harvey Weed. 32 pages, illustrated. Superintendent of Documents, Washington, D. C. 10 cents.
 FOSSIL FOREST OF YELLOWSTONE NATIONAL PARK. By F. H. Knowlton. 32 pages, illustrated. Superintendent of Documents, Washington, D. C. 15 cents.
 RECREATIONAL MAP. Federal reservations throughout the United States with recreational opportunities. Brief descriptions of principal ones. National Park Service, Washington, D. C. Free.
 GLIMPSES OF OUR NATIONAL PARKS. Illustrated, 92 pages. National Park Service, Washington, D. C. Free.
 NATIONAL PARKS PORTFOLIO. By Robert Sterling Yard. Cloth bound. More than 300 carefully chosen illustrations. Superintendent of Documents, Washington, D. C. \$1.
 FAUNA OF THE NATIONAL PARKS. By G. M. Wright, J. S. Dixon, and B. H. Thompson. 157 pages, illustrated. Survey of wildlife conditions in the national parks. Superintendent of Documents, Washington, D. C. 20 cents.
 MAP OF YELLOWSTONE NATIONAL PARK. 38¼ by 39¼ inches, scale 2 miles to the inch. U. S. Geological Survey, Washington, D. C. 25 cents.

REFERENCES

- ALBRIGHT, H. M., and TAYLOR, F. J. "Oh, Ranger!" A book about the National Parks.
 ALTER, J. CECIL. James Bridger. A biography.
 ——— Through the Heart of the Scenic West. 220 pages, illustrated. 1927. Shepard Book Co., Salt Lake City, Utah.
 BURROUGHS, JOHN. Camping and Tramping with Roosevelt. 111 pp., illustrated. Houghton Mifflin Co., Boston and New York.
 CHANEY, JACK. Foolish Questions, Yellowstone National Park. Published by Haynes Picture Shops (Inc.), St. Paul, Minn. Fourth edition, 1929. 94 pp., illustrated.
 DUNRAVEN, EARL OF. The Great Divide: Travels in the Upper Yellowstone in Summer of 1874. 1876. 377 pp., illustrated. Reprinted in 1917 under title of Hunting in the Yellowstone, edited by Horace Kephart, 333 pp.
 EVARTS, HAL G. Passing of the Old West. 1921. Relates to wildlife of the park.
 FARIS, JOHN T. Roaming the Rockies. Farrar & Rinehart. 333 pp., illustrated, 1930.
 FARQUHAR, FRANCIS P. Reading Up on the Yellowstone. Free pamphlet published and distributed by Haynes Picture Shops (Inc.), St. Paul, Minn.
 FORDYCE, DR. C. P. Trail Craft, 1922. 202 pp. Published by Stewart Kidd Co., Cincinnati.
 FREEMAN, LEWIS R. Down the Yellowstone. 1922. 282 pp., illustrated. Published by Dodd, Mead & Co.
 FROTHINGHAM, ROBERT. Trails Through the Golden West. Robert M. McBride and Company, New York.
 HOLMES, BURTON. Travelogues, vol. 6: The Yellowstone National Park; the Grand Canyon of Arizona; Moki Land. 1908. 336 pp., illustrated.
 JACKSON, WM. H., and HOWARD R. DRIGGS. The Pioneer Photographer. 1929. 314 pp., illustrated. The World Book Co., Yonkers-on-Hudson, N. Y.
 JEFFERS, LE ROY. Call of the Mountains. 1922. 282 pp., illustrated. Published by Dodd, Mead & Co., New York.
 KANE, J. F. Picturesque America, Its Parks and Playgrounds. 1925. 521 pp., illustrated. Published by Frederick Gumbrecht.
 KELLEY, EDMOND, and CHICK. Three Scout Naturalists in the National Parks. Brewer, Warren & Putnam, 1931. \$1.75.
 KIPLING, RUDYARD. American notes. Issued in several editions. One chapter contains an account of a trip through the Yellowstone Park in 1889.
 MILLS, ENOS A. Your National Parks. 532 pp., illustrated. Houghton Mifflin Co. 1917.
 MUIR, JOHN. Our National Parks. 1909. 382 pp., illustrated.
 QUICK, HERBERT. Yellowstone Nights. 1911. 345 pp.
 ROLFE, MARY A. Our National Parks. Book two, 1928. 329 pp., illustrated. Benj. H. Sanborn & Co., Chicago, New York, and Boston.
 RYDBERG, PER AXEL. Catalogue of the flora of Montana and the Yellowstone National Park. Memoirs of the New York Botanical Garden, vol. 1, 1900. 492 pp., map.
 SETON, ERNEST THOMPSON. Life Histories of Northern Animals. 1909. Two quarto volumes, 1,267 pp., with 68 maps and 560 drawings. Deals largely with Yellowstone mammals.
 SKINNER, M. P. The American Antelope. 1923. 27 pp., illustrated. Price, 25 cents.
 SMITH, WALLACE. On the Trail in Yellowstone. 1924. 105 pp., illustrated. G. P. Putnam's Sons.
 WARREN, EDWARD R. The Beaver in Yellowstone Park. Notes on the Beaver in Estes Park, Colo. Roosevelt Wild Animal Annals. Syracuse University, October 1926.
 WRIGHT, WILLIAM H. The Grizzly Bear. Scribner's. 1909. 274 pp., illustrated.
 ——— The Black Bear. Scribner's. 1910. 127 pp., illustrated.
 YARD, ROBERT STERLING. The Top of the Continent. 1917. 244 pp., illustrated.
 ——— The Book of National Parks. Scribner's. 1926. 444 pp., 74 illustrations, 14 maps and diagrams.

SURFACE TEMPERATURES OF HOT SPRINGS, GEYSERS, AND FUMAROLES

[Based upon observations made by the Geophysical Laboratory of the Carnegie Institution of Washington, D. C.]

All given temperatures are at best only approximate, as they vary considerably from time to time. At 6,000 feet pure water boils at 200.3° F. or 93.5° C.; at 6,800 feet at 198.4° F., 92.5° C.; and at 8,000 feet at 195.8° F., 91.0° C.

Name	Temperatures		Remarks
	Centi-grade	Fahren-heit	
Boiling River	48.5	119.3	North of Mammoth on river bank.
Mammoth Hot Springs:			
Angel Terrace	74.0	165.5	Most delicate formation.
Cleopatra Terrace	68.0	154.4	Coloring due to algae.
Hymen Terrace	73.0	163.6	Irregular in activity.
Jupiter Terrace	73.0	163.6	Largest hot spring terrace in world.
Mound Terrace	71.0	159.8	High, prominent formation.
Norris Geyser Basin:			
Black Growler Steam Vent.	140.0	284.0	Hottest vent in the park.
Cinder Pool	92.0	197.6	Peculiar "cinders" float on surface.
Echinus Geyser	91.0	195.8	Beautiful spiny sinter.
New Crater Geyser	93.0	199.4	Ruddy, mineral-colored formation.
Beryl Spring (Gibbon Canyon).	92.0	197.6	Violently agitated spring.
Lower Geyser Basin:			
Clepsydra Geyser	92.0	197.6	Name means a water clock.
Fountain Paint Pot	93.5	200.3	Bubbling, colored clay.
Great Fountain Geyser	96.0	204.8	Beautiful and quite regular.
Biscuit Basin:			
Jewel Geyser	95.0	203.0	Just before an eruption.
Do	92.0	197.6	Just after an eruption.
Sapphire Pool	93.0	199.4	Intermittently erupting pool.
Upper Geyser Basin:			
Beach Spring	89.3	192.7	Notable geyserite formations.
Beehive Geyser	95.0	203.0	Beautifully slender geyser.
Chinaman Spring	93.5	200.3	A small spring near Old Faithful.
Giantess Geyser	94.2	201.6	Dangerous area.
Lion Geyser	93.8	200.6	Active once or more each day.
Lioness Geyser	94.8	202.64	Very seldom in eruption.
Morning Glory Pool	77.0	170.6	One of the most famous pools.
Sponge Geyser	95.0	203.0	Coloring due to iron.
Teakettle Spring	94.0	201.2	Violently bubbling.
Tortoise Shell Spring	95.0	203.0	Bubbler beside Castle Geyser.
Black Sand Basin:			
Black Sand Pool	93.0	199.4	Deep blue color.
Cliff Geyser	91.1	195.98	Infrequently erupts.
Comet Geyser	94.8	202.64	Connection with Daisy Geyser.
Daisy Geyser	94.0	200.1	Just before eruption.
Do	91.0	195.8	Just after eruption.
Emerald Pool	69.3	156.74	Most beautiful green pool.
Punch Bowl Spring	94.5	202.1	A crested, bubbling spring
Yellowstone River Road:			
Dragons Mouth	75.0	167.0	Gushing, muddy water.
Mud Volcano	84.0	183.2	Violently boiling mud.

PROMINENT GEYSERS AND SPRINGS

LOWER GEYSER BASIN (INCLUDING MIDWAY GEYSER BASIN)

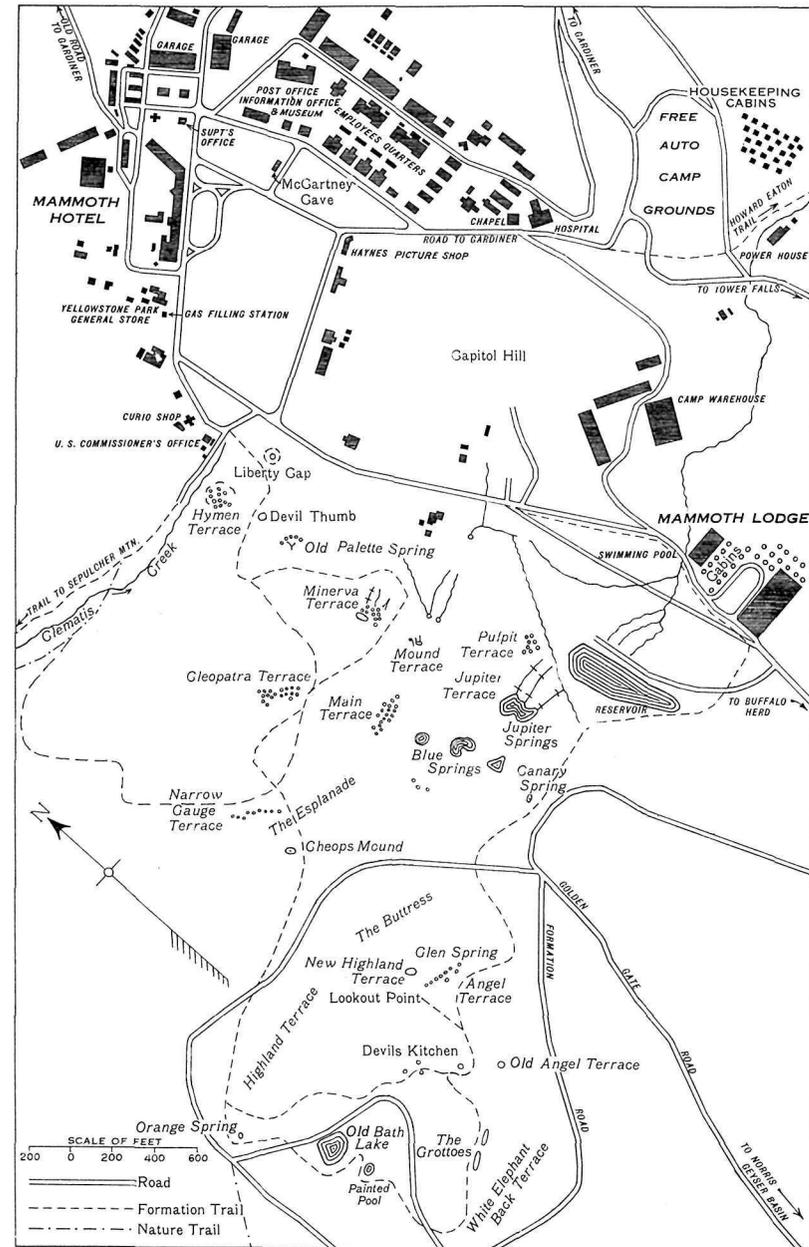
Name	Average height of eruption	Average duration of eruption	Average interval between eruptions	Remarks	Heat of water
					°F.
Black Warrior Springs.				Near Steady Geyser.	
Clepsydra Geyser.	10-40	Few seconds.	3 min.	Named for water clock.	197.6
Excelsior Geyser Crater.	200-300	About ½ hr.	Irregular	Ceased playing in 1890.	193.3
Fountain Geyser.	75	10 min.	do.	Seldom in eruption.	
Fountain Paint Pot.				Basin of boiling clay.	200.3
Firehole Lake.				Underwater "flames"	
Grand Prismatic Spring.				Size about 200 by 400 feet; remarkable coloring.	149.8
Great Fountain Geyser.	75-150	45 to 60 min.	8 to 12 hrs.	Spouts 4 to 5 times during 1 eruption.	204.8
Imperial Geyser.	100-125	4 to 5 hrs.	12 to 15 hrs.	Now inactive.	
Steady Geyser.	20-40	Steady	None	Plays continuously.	
Turquoise Pool.				About 100 feet in diameter.	
White Dome.	30	3 to 8 min.	30 to 60 min.	Unique cone.	

NORRIS GEYSER BASIN

Constant Geyser.	15-35	5 to 15 sec.	5 min.	Irregular	188.1
Coral Geyser				Irregular	
Ebony Geyser	50	3½ min.	do.	Corallike sinter.	
Echinus Geyser	30	3 min.	do.	Vigorous and unique.	
Fan Geyser	25	5 min.	do.	Spiny sinter.	195.8
Hurricane Vent.				Follows ledge.	
Ledge Geyser	75	Irregular	Irregular	Whirling steam vent.	
Minute Man Geyser.	8-30	1 to 4 min.	do.	Plays from 3 vents.	
New Crater Geyser.	6-25	do.	2 to 5 min.	Quiet for long periods.	
Pearl Geyser				Beautiful ruddy sinter.	199.4
Valentine Geyser.	60-75	1 to 3 hrs.	do.	Glistening sinter.	171.5
Vixen Geyser			do.	In craterlike pit.	199.4
Whirligig Geyser.	10-15	Irregular	do.	Vigorous.	195.8
				Near Constant Geyser.	189.9

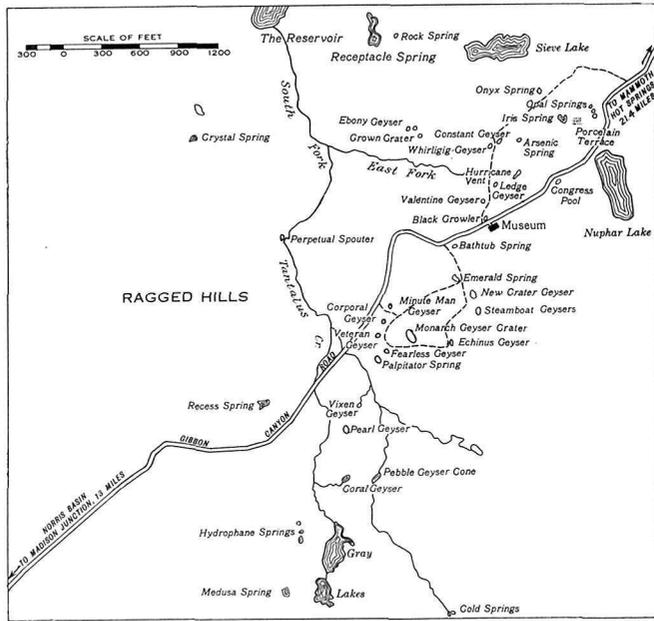
UPPER GEYSER BASIN (OLD FAITHFUL)

Name	Average height of eruption	Average duration of eruption	Average interval between eruptions	Remarks	Heat of water
	<i>Feet</i>				<i>°F.</i>
Artemisia Geyser.	50	10 to 15 min.	24 to 30 hrs.	Irregular	203.0
Beehive Geyser .	200	6 to 8 min. . .	Irregular	Interestingly shaped cone.	199.4
Black Sand pool				Deep-blue pool.	199.4
Castle Geyser . .	50-75	30 min.	Irregular	Daily	200.3
Chinaman Spring.				Active bubbler.	200.3
Cliff Geyser . . .	40-50	Irregular	Irregular	Seldom in eruption.	196.0
Crested Pool . . .				Deep beautifully colored pool.	191.0
Cub, Big	60	8 min.	Irregular		201.0
Cub, Little	3-10	17 min.	1 to 2 hrs.		201.0
Daisy Geyser . . .	70	3 min.	80 to 105 min.		200.1
Emerald Pool . . .				Beautiful green pool.	156.7
Giant Geyser . . .	200-250	60 min.	Irregular	Irregular	202.7
Giantess Geyser .	150-200	12 to 36 hrs. . .	do	Once or twice a year	201.6
Grand Geyser . . .	200	15 to 30 min. . .	16 to 20 hrs.	Spectacular eruption	203.0
Grotto Geyser . .	20-30	Varies	2 to 5 hrs.	Distinctive cone.	201.0
Jewel Geyser . . .	5-20	1 min.	5 min.	Beaded formation	203.0
Lion Geyser	50-60	2 to 4 min. . . .	Irregular	2 to 17 times a day	200.6
Lioness Geyser . .	80-100	10 min.	do	Played once in 1910, once in 1912, once early in 1914, and once in 1920.	202.6
Morning Glory Pool.				Beautiful blue pool	170.6
Oblong Geyser . .	20-40	7 min.	7 irregular	About once a day	201.8
Old Faithful . . .	120-170	4 min.	35 to 80 min.	Usual interval 65 minutes.	200.1
Punch Bowl Spring.				Crested spring near road.	202.1
Riverside Geyser.	80-100	15 min.	7 to 8 hrs.	Very regular; plays over the river.	201.2
Sapphire Pool . .	6-15	3 min.	20 min.	Beautiful deep-blue pool.	199.4
Sawmill Geyser . .	20-35	1 to 3 hrs. . . .	Irregular	Usually 5 to 8 times a day.	192.1
Splendid Geyser.	200	10 min.	do	Played 1931; last previous eruption 1892.	200.48
Sponge Geyser . .		1 min.	2 to 3 min.	A small but perfect geyser.	203.0
Sunset Lake . . .				A beautiful hot lake.	201.2
Teakettle Spring				A vigorously boiling pool.	201.2
Turban Geyser . .	20-40	10 min. to 3 hrs.	Irregular	Turbanlike pieces of sinter in the crater	201.2

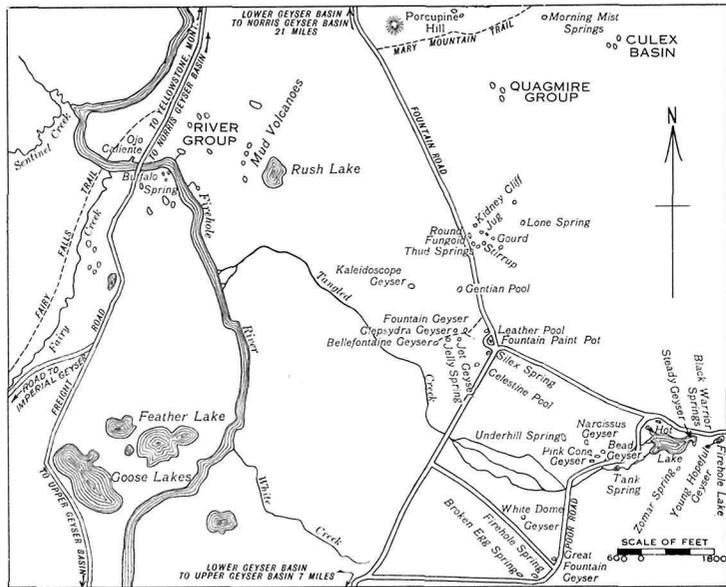


Mammoth Hot Springs.

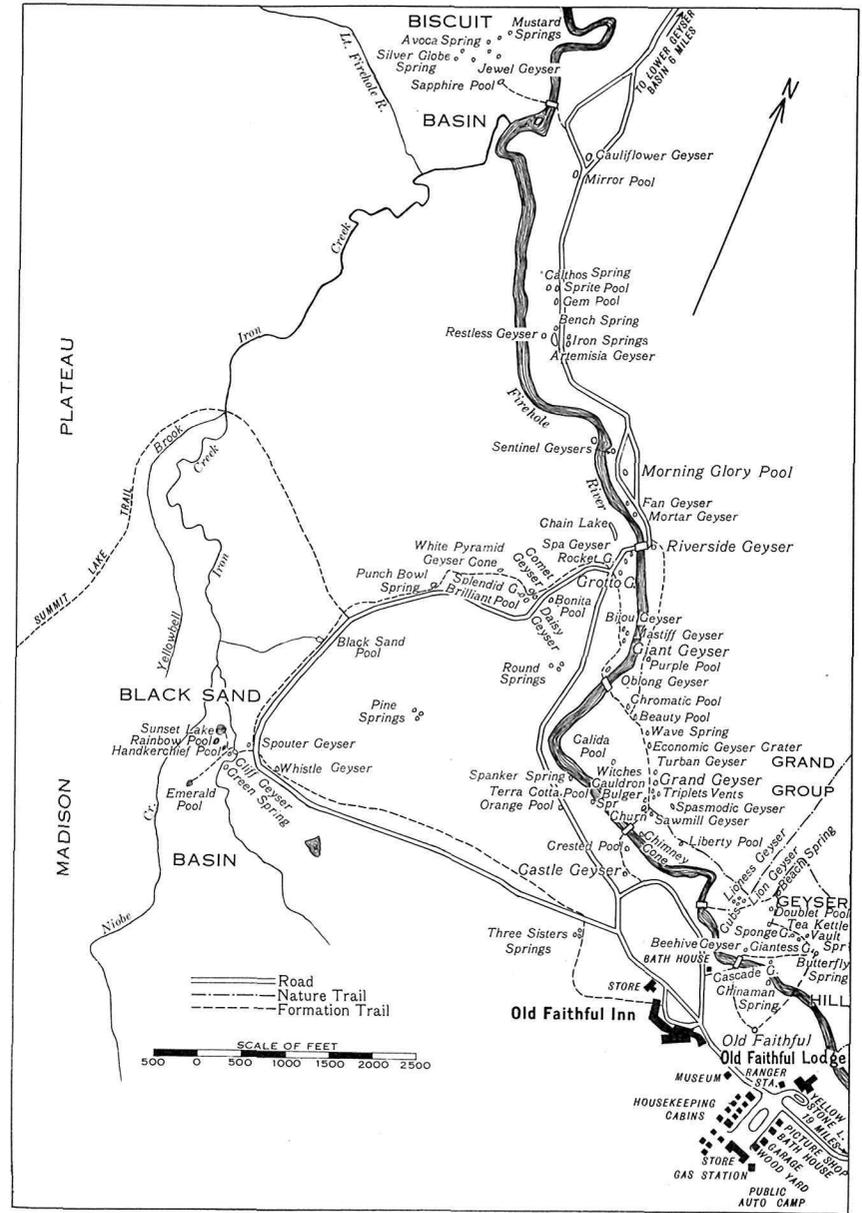
Yellowstone National Park—Wyoming



Norris Geyser Basin.



Lower Geyser Basin.



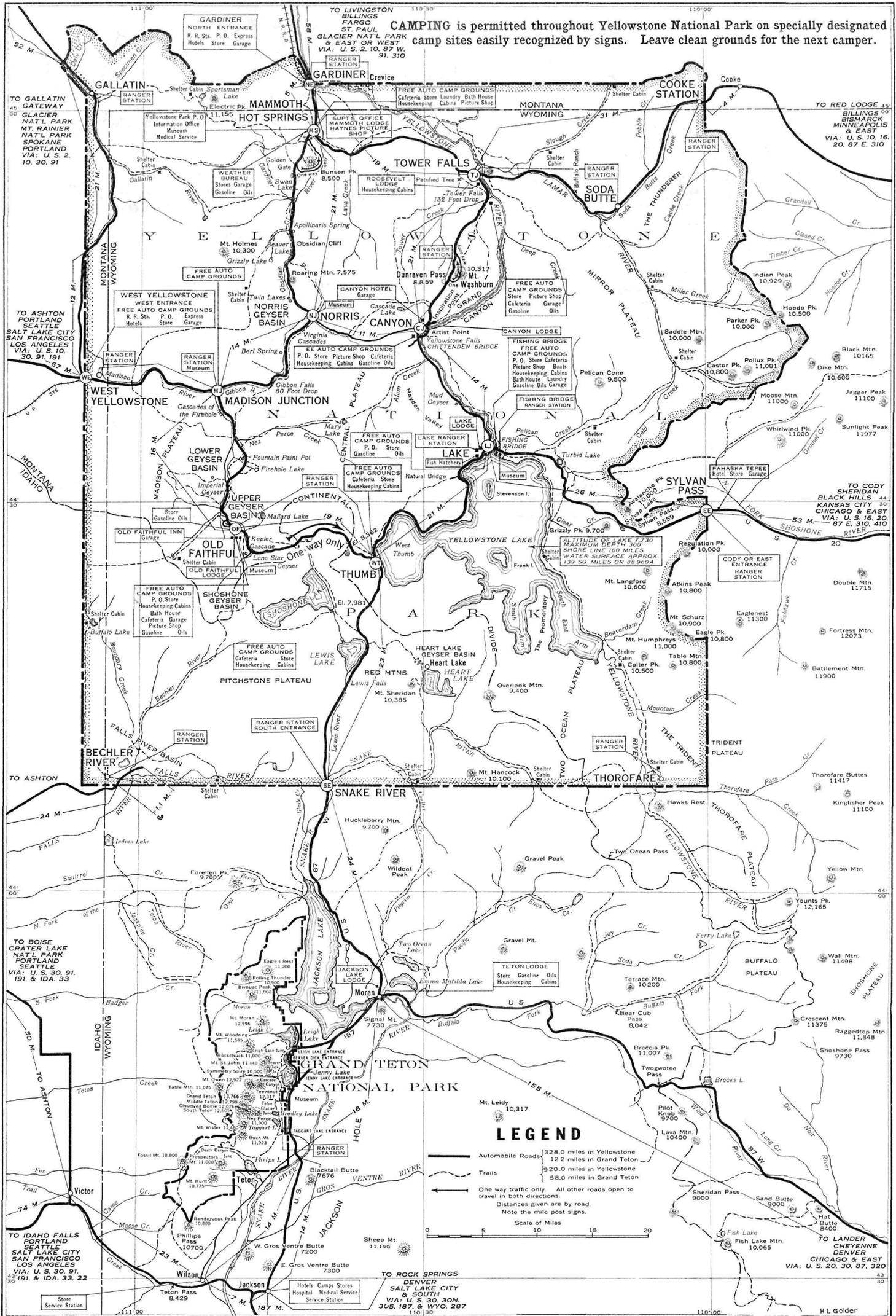
Upper Geyser Basin.

OTHER NATIONAL PARKS

Circulars of General Information for the national parks listed below may be obtained free of charge by writing to the Director of the National Park Service, Washington, D. C.

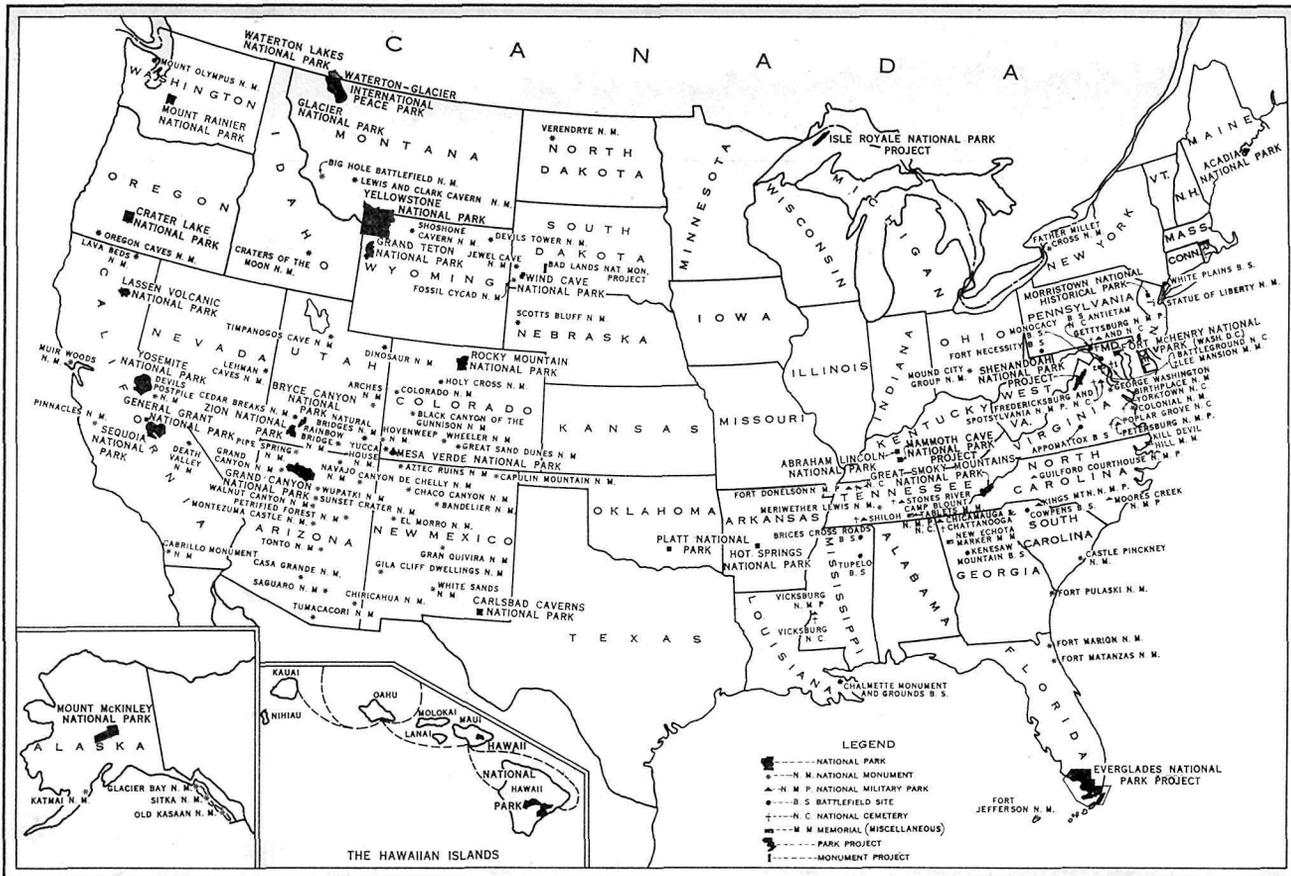
Acadia National Park, Maine
Carlsbad Caverns National Park, N. Mex.
Crater Lake National Park, Oreg.
General Grant National Park, Calif.
Glacier National Park, Mont.
Grand Canyon National Park, Ariz.
Grand Teton National Park, Wyo.
Great Smoky Mountains National Park, N. C.-Tenn.
Hawaii National Park, Hawaii
Hot Springs National Park, Ark.
Lassen Volcanic National Park, Calif.
Mesa Verde National Park, Colo.
Mount McKinley National Park, Alaska
Mount Rainier National Park, Wash.
Platt National Park, Okla.
Rocky Mountain National Park, Colo.
Sequoia National Park, Calif.
Wind Cave National Park, S. Dak.
Yosemite National Park, Calif.
Zion and Bryce Canyon National Parks, Utah

CAMPING is permitted throughout Yellowstone National Park on specially designated camp sites easily recognized by signs. Leave clean grounds for the next camper.



GUIDE MAP OF YELLOWSTONE AND GRAND TETON NATIONAL PARKS

H.L. Golder



LOCATIONS OF 24 NATIONAL PARKS, 1 NATIONAL HISTORICAL PARK, 11 NATIONAL MILITARY PARKS, 66 NATIONAL MONUMENTS, 10 BATTLEFIELD SITES, 11 NATIONAL CEMETERIES, AND 4 MISCELLANEOUS MEMORIALS ADMINISTERED BY THE NATIONAL PARK SERVICE.

