

DEPARTMENT OF THE INTERIOR
JOHN BARTON PAYNE, SECRETARY
NATIONAL PARK SERVICE
STEPHEN T. MATHER, DIRECTOR

RULES AND REGULATIONS

WIND CAVE

NATIONAL PARK

1920

Where it is—What it is—Its Many Galleries and Huge Chambers—Its Beautifully Decorated Walls and Ceilings—Frostwork of Exquisite Pattern—Mineral Cotton—Eccentricities of Variable Winds that Give it its Name—How to See the Cave—Important Game Preserve—Side Trips, etc.



WASHINGTON
GOVERNMENT PRINTING OFFICE
1920

THE NATIONAL PARKS AT A GLANCE.

[Number, 19; total area, 10,859 square miles.]

National parks in order of creation.	Location.	Area in square miles.	Distinctive characteristics.
Hot Springs..... 1832	Middle Arkansas.....	1½	46 hot springs possessing curative properties—Many hotels and boarding houses—20 bath-houses under public control.
Yellowstone..... 1872	Northwestern Wyo- ming.	3,348	More geysers than in all rest of world together—Boiling springs—Mud volcanoes—Petrified forests—Grand Canyon of the Yellowstone, remarkable for gorgeous coloring—Large lakes—Many large streams and waterfalls—Vast wilderness, greatest wild bird and animal preserve in world—Exceptional trout fishing.
Sequoia..... 1890	Middle eastern Cali- fornia.	252	The Big Tree National Park—12,000 sequoia trees over 100 feet in diameter, some 25 to 36 feet in diameter—Towering mountain ranges—Startling precipices—Cave of considerable size.
Yosemite..... 1890	Middle eastern Cali- fornia.	1,125	Valley of world-famed beauty—Lofty cliffs—Romantic vistas—Many waterfalls of extraordinary height—3 groves of big trees—High Sierra—Waterwheel falls—Good trout fishing.
General Grant.... 1890	Middle eastern Cali- fornia.	4	Created to preserve the celebrated General Grant Tree, 35 feet in diameter—6 miles from Sequoia National Park.
Mount Rainier... 1899	West central Wash- ington.	324	Largest accessible single peak glacier system—28 glaciers, some of large size—48 square miles of glacier, 50 to 500 feet thick—Wonderful subalpine wild flower fields.
Crater Lake..... 1902	Southwestern Oregon.	249	Lake of extraordinary blue in crater of extinct volcano—Sides 1,000 feet high—Interesting lava formations—Fine fishing.
Wind Cave..... 1903	South Dakota.....	17	Cavern having many miles of galleries and numerous chambers containing peculiar formations.
Platt..... 1904	Southern Oklahoma...	1½	Many sulphur and other springs possessing medicinal value.
Sullys Hill..... 1904	North Dakota.....	1½	Small park with woods, streams, and a lake—Is an important wild animal preserve.
Mesa Verde..... 1906	Southwestern Colo- rado.	77	Most notable and best preserved prehistoric cliff dwellings in United States, if not in the world.
Glacier..... 1910	Northwestern Mon- tana.	1,534	Rugged mountain region of unsurpassed Alpine character—250 glacier-fed lakes of romantic beauty—60 small glaciers—Precipices thousands of feet deep—Almost sensational scenery of marked individuality—Fine trout fishing.
Rocky Mountain. 1915	North middle Colo- rado.	397½	Heart of the Rockies—Snowy range, peaks 11,000 to 14,250 feet altitude—Remarkable records of glacial period.
Hawaii..... 1916	Hawaii.....	118	Three separate areas—Kilauea and Mauna Loa on Hawaii: Haleakala on Maui.
Lassen Volcanic.. 1916	Northern California...	124	Only active volcano in United States proper—Lassen Peak, 10,465 feet—Cinder Cone 6,870 feet—Hot Springs—Mud geysers.
Mount McKinley.. 1917	South central Alaska..	2,200	Highest mountain in North America—Rises higher above surrounding country than any other mountain in the world.
Grand Canyon.... 1919	North central Arizona.	958	The greatest example of erosion and the most sublime spectacle in the world.
Lafayette..... 1919	Maine coast.....	8	The group of granite mountains upon Mount Desert Island.
Zion..... 1919	Southwestern Utah...	120	Magnificent gorge (Zion Canyon), depth from 800 to 2,000 feet, with precipitous walls—Of great beauty and scenic interest.

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The National Parks Portfolio

By ROBERT STERLING YARD

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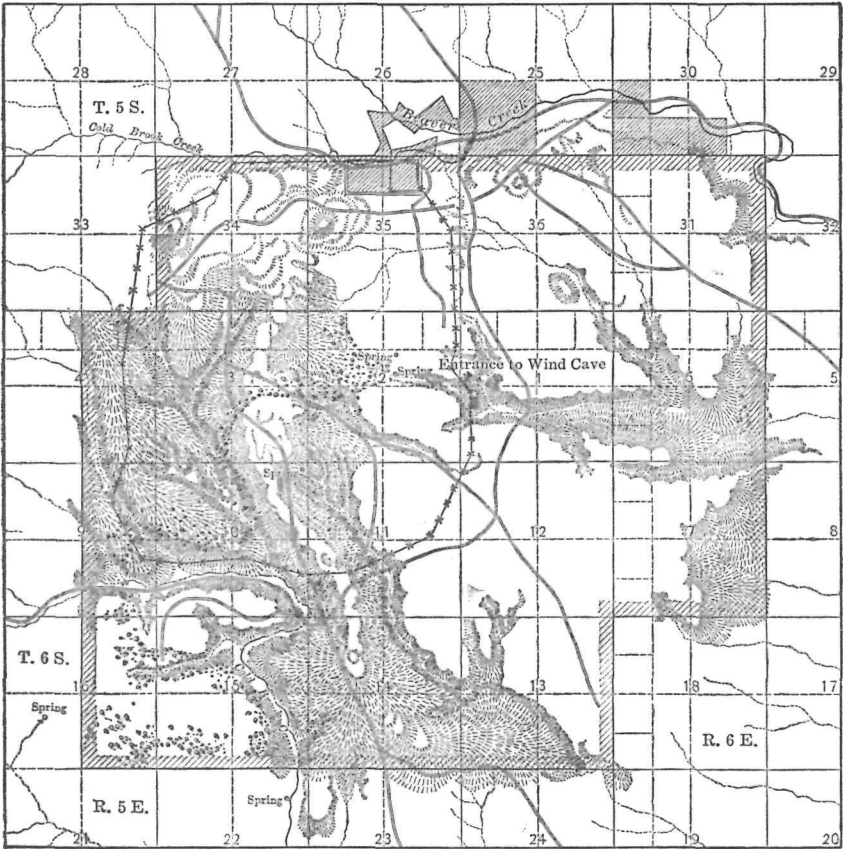
A presentation of the national parks and national monuments in picture. The selection is from the best work of many photographers, professional and amateur. It contains nine sections descriptive each of a national park, and one larger section devoted to other parks and monuments. Second edition, 1917, 260 pages, including 270 illustrations

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WIND CAVE NATIONAL PARK.

GENERAL DESCRIPTION.

The Black Hills of southwestern Dakota, scene of one of Custer's battles, famous for many years for Indian fights and frontier lawlessness, are chiefly celebrated in this generation for a limestone cave of



MAP OF WIND CAVE NATIONAL PARK.

large size and gorgeous decoration, the peaceful resort of thousands of interested visitors.

It is called Wind Cave from the current of air, often very swift, that blows intermittently in and out of its mouth, varying in speed and direction in response to changing conditions of atmospheric

pressure. In former days the variability of this wind was regarded locally as extremely mysterious and gave rise to superstitious dread. One of the several current stories concerning its discovery has it that a granger named John Wells, while deer stalking in 1881, was attracted by a loud, weird whistling which proved to come from a hole in the rock not more than 8 inches in diameter, which, enlarged afterwards by blasting, is the present entrance to the cave.

An interesting feature of Wind Cave is the fact that sufferers from asthma or hay fever get instant relief from either of these diseases while in the cave. Several theories are advanced as to the cause of this relief; one is that it is due to the entire absence of vegetation within the cave; another is that it is due to the remarkably even temperature, which fluctuates only about 5°, from 42° to 47°, during the year; and still another is that it is due to an unknown ingredient in the air in the cave. No matter what the cause hundreds of people afflicted with these diseases each year seek the relief afforded by a visit to Wind Cave.

Wind Cave, which is 12 miles north of Hot Springs, was made a National Park, with an area of 10,522 acres, January 9, 1903. The area containing it, which is drained by the South Fork of Beaver Creek, has an elevation in the canyon of 3,700 feet. East of it the land slopes down rapidly to a wide valley of red shale. The cave is in the layer of limestone known to geologists as the Pahasapa limestone, Pahasapa being an Indian name for the Black Hills. This formation is here about 400 feet thick. Below it is a bed of hard sandstone and above it is a thick cover of soft porous sandstone. The beds all dip to the east at a moderate angle.

The walls and ceilings of the various passages and chambers which constitute the cave are elaborately covered with the formations common to most caves, which here result in tracery and carvings of the most elaborate and surprising description.

"The pop-corn formation," writes a visitor, "looks, as its name implies, very similar to a lot of well-popped corn fastened to the walls and ceilings of the cave. In places the balls are smaller than peas; in others they are several times as large. The formation is usually pure white without the brilliancy that makes the frostwork dazzle the sight. Akin to the pop-corn work is the snowball. In various portions of the cave the walls and ceilings look as though boys had been snowballing the walls with snow just wet enough to stick and spatter.

"The frostwork forms the chief beauty of the cave. It is formed in the softest rock and in the upper parts of the cave; it is suspended or shoots up and out from the limestone in clusters of white tiny needles formed of infinitesimal crystals, reminding one of pine clusters. The coarsest threads of this formation are not larger than

needles, and they decrease in size till the formation resembles the finest cotton. There is some of it in the cave which the guides call mineral cotton that would deceive anyone if away from the cave. Some of it, called Noah's Beard, hanging beyond the Pearly Gates, is several feet long and white as snow. When the calcium light is thrown on the frostwork, it flashes and scintillates like diamonds."

The predominating interest in Wind Cave lies in the masses of calcite, aragonite, and quartz, and in the geodes, stalactites, and stalagmites and a peculiar box-work formation. There are several known varieties of calcite and many of these are found in Wind Cave.

At one point within the cave there are two large, exposed geodes side by side, practically touching one another. These geodes differ in structure and content and it is believed by some that the geodes were formed at different times, perhaps thousands of years apart.

The cave consists of a series of long, narrow passageways having many variations in height and width, and opening into irregular chambers at intervals.

There are three principal divisions. The first, into which the entrance descends, is a long, narrow tunnel leading approximately southeast, nearly parallel with the road to Hot Springs and only a short distance east of it. This extends about 1,900 feet to an elaborate chamber called the G. A. R. Hall, which is about 360 feet lower than the entrance and about 330 feet below the surface of the ground immediately above. A few feet beyond the G. A. R. Hall the trail ascends by stairways to upper level of the cave, and thence through various other chambers to the Garden of Eden, which is the end of this route. From a point called the crossroads on this division there is a branch passage leading off abruptly to the northeast to another great chamber called the Assembly Room, which is at about the same elevation as the Garden of Eden. Here it joins the third division, which follows a northwesterly course to the Pearly Gates, a course nearly parallel to the long-entrance passage.

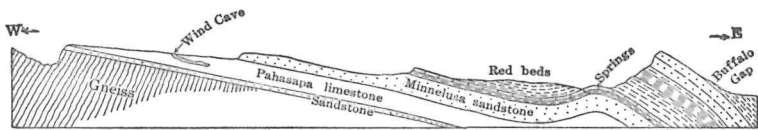
There are several branches, the largest leading upward into the Fair Grounds, a wide irregular chamber about 100 feet higher than adjoining portions of the cave. It is reached through a hole in the roof of a passageway from the Ticket Office.

This Fair Grounds chamber with its various galleries is said to be the largest natural underground chamber in the world. It is a large irregular T-shaped chamber covering an area of four or five acres of space, or rock, and ranges in height from 10 to 40 feet to the ceiling, and is the end of the medium length route now open to the public.

It is found that the main passageways and the numerous abrupt offsets northward closely follow the main lines of jointing of the limestones. The great sheets of rock constituting the earth's crust are broken by joint planes or cracks which usually extend in two or

more directions. They have resulted from earth movements. While in most cases these cracks are not open very wide, they permit the passage of water underground, and therefore in some cases are important sources of water supply. Limestone is slightly soluble in water containing carbonic acid gas and soil acids, and in time water moving through the joint planes in this rock gradually widens them into channels or caves of greater or less extent. Most great caverns are in limestone and due entirely to the solvent action of water along joint planes or other crevices.

Wind Cave once served as channels for subterranean waters which now follow other courses. The outlet probably is in the great springs at the upper end of Buffalo Gap where the land is about 300 feet lower than the lowest part of the cave yet explored. In this cave the water has dissolved out the long channels along joint planes and, in places where probably the rock was exceptionally soft or soluble, it has eaten out the rock for some distance on the sides.



SECTION ACROSS THE EAST SLOPE OF THE BLACK HILLS UPLIFT, THROUGH WIND CAVE LOOKING NORTH.

In Wind Cave there is a general down grade to the southeast, which continues to the crevice into which the cave narrows at its southern extremity. The elevation here is about 3,800 feet, or 240 feet below the entrance, and about 200 feet below the surface of the ground immediately above. Just beyond Turtle Pass there is a cross passage which turns abruptly to the northeast, closely following a joint plane. It finally offsets a few rods to the southeast to another main joint, along which the eastern part of the cave has been excavated. This is reached at the Assembly Room, and it leads with gradual ascent about 900 feet to a chamber just above Pearly Gates, where the altitude is 3,842 feet, or about 300 feet below the surface overhead.

Here the passage dwindles to a crevice. This was the place where most of the water entered which dissolved out this branch of the cavern. The outlet was in a small crevice at the south end of Masonic Temple, about 36 feet lower than Pearly Gates. The Fair Grounds, a higher branch chamber, was developed by water coming in from other sources and exerting its solvent action along a bedding plane about 100 feet higher than the main channel.

The cave illustrates not only the results of solvent action of water on limestone but also of redeposition of some calcium carbonate of which limestone consists. This redeposited material constitutes the stalactites and various deposits on the walls, including the beautiful

crystals of calcite which occur in superb groups and incrustations in places in the cave. It has been deposited by water dropping from the roof or trickling down the walls, mainly at a later time when the cavern ceased to be a water course, and infiltrating water evaporated, leaving its dissolved material behind. The box work which is a characteristic feature in Wind Cave was produced by water depositing calcium carbonate in minor joint cracks in limestone of such character that when the rock crumbles out thin rectangular walls of the new deposit remain.

The water which made this cavern came from the surface through cracks which now are mostly covered by earth washed into them, but some are open, notably the opening at the entrance and some others nearby. Through these there is the remarkable circulation of air which has given the cave its name. At most times the air current moves from lower to higher levels and blows out at the entrance openings. At other times the movement is in the contrary direction.

Innumerable crevices and chambers which are not readily accessible have been explored, and the possibilities of development and enlargement of new trails seem almost unlimited. The extent of Wind Cave can only be guessed at.

When there is rain in this region water flows down the valley past the cave entrance, but it does not leak into the cave in any great amount, probably because dirt has filled the cracks in the stream bed. Doubtless, however, some of the flood water, as well as a small regular flow, goes into other underground passages in the limestone and finally finds an outlet in the great springs at Buffalo Gap. Therefore cavern making is still progressing in the region, but it is at a lower level than Wind Cave and keeps the latter drained.

THE WIND CAVE NATIONAL GAME PRESERVE.

The game preserve which occupies the northwest corner of the park was established by Congress under the act of August 10, 1912 (37 Stat., 293), in order to provide a suitable location for a herd of buffalo generously offered to the Government by the American Bison Society. This preserve occupies about 4,160 acres, or somewhat more than one-third of the present area of the park. The tract was selected after a careful examination of all the Government reservations and available public lands in the State as the one best adapted for a game refuge and suitable for the preservation of the various species of big game native to the region. The location on the southern slope of the Black Hills was chosen primarily because of its moderate elevation, comparatively mild winters, and abundance of feed. The natural advantages of the locality are emphasized by the fact that years ago this was a famous wintering place of the buffalo near Buffalo Gap,

a few miles to the eastward. The tract is admirably adapted not only for buffalo, but for elk, mule and white-tailed deer, antelope, and possibly mountain sheep.

Owing to the presence of the cave, springs and surface waters are almost entirely lacking in the central part of the park. Permanent water in springs and small streams is found chiefly along the boundaries, especially near the north line. To overcome this disadvantage, due to scarcity of water, and to provide an adequate supply for the animals even in the driest seasons, control of the water rights along Cold Brook Creek was secured by the purchase of an 80-acre patented holding within the park, adjacent to the north boundary, and three tracts comprising, respectively, 60.11, 160, and 156.94 acres adjoining and exterior to the north boundary of the park; the combined area of the latter three increasing the total area of the park to 10,899.22 acres.

Under the appropriation provided by Congress, an inclosure was built under the direction of the Secretary of Agriculture in the northern part of the park and west of the main road which passes the entrance of the cave. The preserve is inclosed with a substantial woven-wire fence 8.67 miles in length and 88 inches in height, strong enough to hold buffalo and high enough to prevent the escape of deer and elk. The area within the fence includes some of the best grazing land in the higher part of the park, some of the open timber, and also some of the bottom lands along Cold Spring Creek, where the animals have access to an abundant supply of water. The stretches of grazing land in the open groves of yellow-pine forest form a picturesque feature of the higher ground in the park, while the timber and the small canyons afford shelter to the game during severe storms. The headquarters of the preserve and the residence of the warden are located on the main road near the northern entrance of the park and about a mile north of the cave.

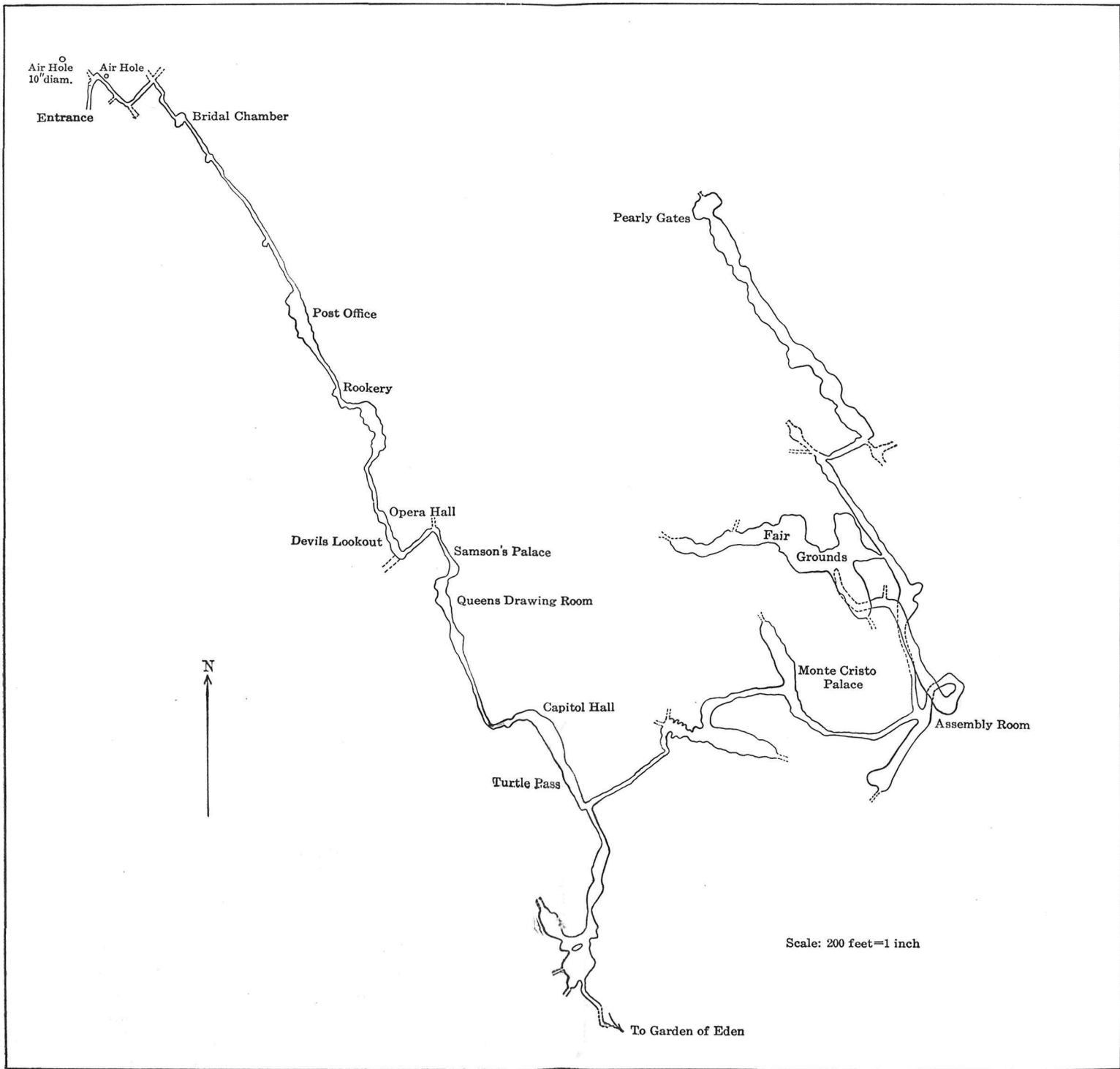
The preserve has been stocked with buffalo, elk, and deer. The nucleus herd of buffalo placed on the preserve by the American Bison Society was generously furnished by the Zoological Society of New York and comprised 7 bulls and 7 cows. These animals were separately crated and shipped in two steel express cars under the charge of three attendants from New York City to Hot Springs. After a 2,000-mile journey, which occupied four days, they arrived at their destination in safety on November 28, 1913, at 9.30 a. m. By noon the unloading was completed and the crates, lashed or chained on motor trucks and wagons, started on the last lap of the journey. Darkness came on before the park was reached, and it was 7 o'clock before the teams reached the place where the buffalo were to be liberated. A bonfire was built, and in the uncertain light thus furnished the crates were unloaded and the animals released from their

narrow quarters. An interesting account of the transfer of the animals may be found in the annual report of the Bison Society for 1914 (pp. 39-50). During the spring of 1914 there were 4 calves, but none in 1915; the following year there were 6, and in 1917 there were 7, making a total of 17 calves in the four years of the existence of the herd. The losses during this period included a bull and a calf in 1915 and one bull in 1917. In order to have the herd increase more rapidly and at the same time provide for an exhibition herd near the headquarters of the cave, 2 bulls and 4 cows were transferred from the Yellowstone National Park in June, 1916. On January 1, 1920, the buffalo numbered 55 with a nearly equal number of bulls and cows.

The nucleus herd of elk consisted of animals transferred from Wyoming and the Yellowstone National Park. In March, 1914, a shipment of 21 elk was made from Jackson Hole, Wyo., followed in February, 1916, by 25 more from the park, forwarded from Gardiner, Mont. In the latter year 23 calves were born, and in 1917, 11. The losses thus far have been only 7 animals. On January 1, 1920, the herd included approximately 105 head. The preserve is admirably adapted for elk, and the abundance of grazing and the comparatively mild winters make it possible to maintain a considerable herd with little or no expense for winter feeding.

The herd of antelope was the gift of the Boone and Crockett Club of New York, and consists of young animals captured near Brooks, in western Alberta, and transferred in two shipments. The first consignment of 13 head arrived in October, 1914, and the second, of 9 head, in the autumn of 1916. These animals have become acclimated rather slowly. Nine fawns were born in 1916 and several in 1917, but the losses included 4 in 1915, 4 in 1916, and 3 in 1917, so that the total was 15 on December 1, 1918. On January 1, 1920, the antelope numbered 18. The antelope, one of the most distinctive mammals of North America, is at the same time one of the most difficult to rear in captivity. Unless it can be preserved on Government reserves it seems doomed to early extinction, as its numbers have been decreasing rapidly in recent years. The only other Government reservations which have any antelope are the Montana National Bison Range and the Yellowstone National Park.

Deer were formerly common in this region, but at present there are only a few native mule deer within the limits of the park. The game preserve is well adapted for the mule deer and the white-tailed deer, and other species native to the West. Deer and possibly mountain sheep will no doubt be introduced in due time so that visitors will have an opportunity of seeing a representative collection of the characteristic big game of this region.



UNDERGROUND SURVEY OF CAVE IN WIND CAVE NATIONAL PARK, SOUTH DAKOTA.

RAILROAD INFORMATION.¹

The park may be reached by conveyance from Hot Springs, S. Dak., on the Chicago, Burlington & Quincy, and the Chicago & North Western Railroads, or by conveyance from Custer, S. Dak., on the Chicago, Burlington & Quincy Railroad.

Hot Springs is an over-night ride by railroad from Omaha, Denver, or Billings.

During the summer season round-trip excursion tickets are sold at reduced fares from the Middle West, East, and South to Hot Springs as a destination. Choice of routes in each direction is generally offered. Return routes via Denver are also available, enabling passengers to make circuit trips and plan visits to Wind Cave and Rocky Mountain National Parks.

Passengers wishing to visit Wind Cave National Park as a side trip from Edgemont or Buffalo Gap, S. Dak. (13 and 14 miles, respectively, from Hot Springs), in connection with journeys to other destinations, may stop over on summer excursion tickets. From many sections transcontinental passengers and passengers for Yellowstone and Glacier National Parks may purchase tickets good for passage through Edgemont.

The fare from Hot Springs to Wind Cave and return by automobile is \$2.50.

Mr. Burt Underhill, of Hot Springs, operates exclusive automobile service to the park.

For further information regarding railroad fares, service, etc., apply to railroad ticket agents, or C. A. Cairns, passenger traffic manager, Chicago & Northwestern Railroad, Chicago, Ill., or P. S. Eustis, passenger traffic manager, Chicago, Burlington & Quincy Railroad, Chicago, Ill.

ADMINISTRATION.

The representative of the National Park Service in charge of Wind Cave National Park is the superintendent, Mr. Roy Brazell. His address is Hot Springs, S. Dak.

The reservation is open the entire year, but the tourist season extends from June 1 to September 30. Visitors are permitted to enter the cave at the hours of 9 a. m. and 2 p. m. daily, the tour being made under the supervision of competent guides provided by the Government. For this guide service a fee of 25 cents is exacted from each person entering the cave.

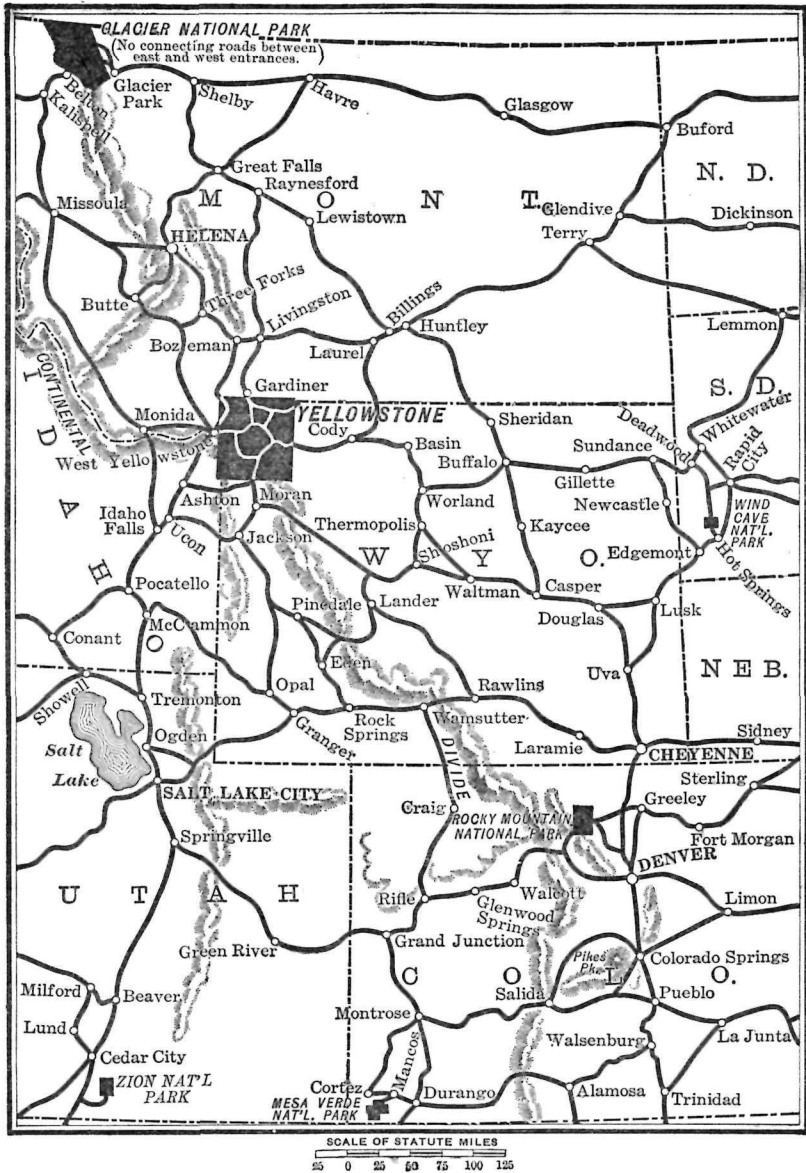
POST OFFICE.

The post office is Hot Springs, S. Dak.

¹ See map showing railroad connections for Wind Cave National Park, page 24.

**SIDE TRIP TO THE NATIONAL AND STATE RESERVATIONS
IN VICINITY OF WIND CAVE NATIONAL PARK.**

Visitors to the Wind Cave National Park traveling by their own conveyance, either by team or automobile, can profitably spend a few



MAP SHOWING POSITION OF WIND CAVE, YELLOWSTONE, GLACIER, ROCKY MOUNTAIN, AND ZION NATIONAL PARKS, WITH PRINCIPAL CONNECTING ROADS.

days in visiting some of the national and State reservations in the Black Hills region. In a trip of about 300 miles, five interesting

reservations, including a national monument; a fish hatchery, a bird refuge, a reclamation project, and state game preserve may be inspected.

Traveling north from the Wind Cave Park to Custer, the first point of interest is the Jewel Cave National Monument in the Black Hills National Forest. This cave is located 13 miles west of Custer and may be reached by a good automobile road from that point. An abundance of good spring water is found near the cave.

At Spearfish, about 100 miles from Custer, and about 40 miles from Deadwood, visitors interested in fish culture will find an important fish hatchery of the United States Bureau of Fisheries. From this point fish are distributed to many places in the Rocky Mountain region.

Continuing north from Deadwood about 20 miles is the town of Belle Fourche, and 8 miles northeast of this point is the reservoir of the same name which supplies the water for irrigating the lands for the Belle Fourche Reclamation Project. The lands immediately adjoining this reservoir which covers about 90,000 acres have been set aside as the Belle Fourche National Bird Reserve, one of the 70 bird reservations in charge of the United States Department of Agriculture and the only one in the State of South Dakota. Here in spring and autumn may be seen flocks of ducks and various other kinds of waterfowl which stop on their way north and south for a few days' rest on this refuge.

At Newell, about 20 miles east of Belle Fourche, is the headquarters of the reclamation project, where about 50,000 acres of land irrigated from the reservoir are now under cultivation.

Southeast of the Belle Fourche Project and situated between Hermosa and Custer is the State Game Preserve. This can be most conveniently reached by way of Hermosa, about 20 miles south of Rapid City, on the line of the Chicago & North Western Railroad. Here the State has inclosed 61,440 acres with a woven and barbed wire fence, 40 miles in length and 8 feet in height. Construction work on this fence began in July, 1913, and was completed in November, 1914. The section of the Black Hills in which the game preserve is located is extremely rugged and includes the Harney, French, and Squaw Creek ranges with several lofty peaks and deep canyons. Among the highest elevations are Harney Peak, 7,254 feet; Sheep Mountain, the highest point in the preserve, 6,200 feet; and Buckhorn Mountain, 6,000 feet. This region is the natural habitat of deer, elk buffalo, mountain sheep, bear, and many kinds of small game. The preserve has been already stocked with several species of big game. A nucleus herd of 36 buffalo was obtained from the Phillips herd at Pierre, S. Dak., and about 75 elk were shipped from the Yellowstone National Park. Deer and a small herd of antelope have also been

added. This preserve is only 15 miles in an air line north of the Wind Cave National Park, but, in following the road via Hermosa and Buffalo Gap to Hot Springs, the distance is about three times as far.

Those who make this tour will have an opportunity of comparing two of the recently established big-game preserves, where species indigenous to the Black Hills region may be found living under natural conditions.

RULES AND REGULATIONS.

GENERAL REGULATIONS.

(In effect March, 1, 1920.)

The following rules and regulations for the government of the Wind Cave National Park are hereby established and made public, pursuant to authority conferred by the acts of Congress approved January 9, 1903 (32 Stat., 765), and August 25, 1916 (39 Stat., 535).

1. *Preservation of natural features and curiosities.*—The destruction, injury, defacement, or disturbance in any way of the public buildings, signs, equipment or other property, or the trees, flowers, vegetation, rocks, minerals, animal or bird life, or other natural conditions and curiosities in the park is prohibited.

No person shall be permitted to enter the cave unless accompanied by the superintendent or other park employee, or by competent guides.

2. *Camping.*—No camp shall be made along roads except at designated localities. Blankets, clothing, hammocks, or any other article likely to frighten teams shall not be hung near the road.

Many successive parties camp on the same sites during the season; therefore camp grounds shall be thoroughly cleaned before they are abandoned. Tin cans, bottles, cast-off clothing, and all other débris shall be placed in garbage cans or pits provided for the purpose. When camps are made in unfrequented localities where pits or cans may not be provided, all refuse shall be burned or hidden where it will not be offensive to the eye.

Campers may use dead or fallen timber only, for fuel.

3. *Fires.*—Fires constitute one of the greatest perils to the park; they shall not be kindled near trees, dead wood, moss, dry leaves, forest mold or other vegetable refuse, but in some open space on rocks or earth. Should camp be made in a locality where no such open space exists or is provided, the dead wood, moss, dry leaves, etc., shall be scraped away to the rock or earth over an area considerably larger than that required for the fire.

Fires shall be lighted only when necessary and when no longer needed shall be completely extinguished, and all embers and bed smothered with earth or water so that there remains no possibility of reignition.

Especial care shall be taken that no lighted match, cigar, or cigarette is dropped in any grass, twigs, leaves, or tree mold.

4. *Hunting.*—The park is a sanctuary for wild life of every sort and hunting, killing, wounding, capturing or frightening any bird or wild animal in the park, except dangerous animals when it is necessary to prevent them from destroying life or inflicting injury is prohibited.

The outfits, including guns, traps, teams, horses, or means of transportation used by persons engaged in hunting, killing, trapping, ensnaring, or capturing birds or wild animals, or in possession of game killed on the park lands under circumstances other than prescribed above, shall be taken up by the superintendent and held subject to the order of the Director of the National Park Service, except in cases where it is shown by satisfactory evidence that the outfit is not the property of the person or persons violating this regulation, and the actual owner was not a party to such violation. Firearms are prohibited in the park except on written permission of the superintendent. Visitors entering or traveling through the park to places beyond shall, at entrance, report and surrender all firearms, traps, nets, seines, or explosives in their possession to the first park officer, and in proper cases may obtain his written leave to carry them through the park sealed.

The Government assumes no responsibilities for loss or damage to any firearms, traps, nets, seines, or other property so surrendered to any park officer nor are park officers authorized to accept the responsibility of custody of any property for the convenience of visitors.

5. *Fishing.*—Fishing with nets, seines, traps, or by the use of drugs or explosives, or in any other way than with hook and line, or for merchandise or profit, is prohibited. Fishing in particular water may be suspended; or the number of fish that may be taken by one person in any one day from the various streams or lakes may be regulated by the superintendent. All fish hooked less than 6 inches long shall be carefully handled with moist hands and returned at once to the water if not seriously injured. Fish retained shall be killed. Twenty fish shall constitute the limit for a day's catch.

6. *Private operations.*—No person, firm or corporation shall reside permanently, engage in any business, operate a moving-picture camera, or erect buildings in the park without permission in writing from the Director of the National Park Service, Washington, D. C. Applications for such permission may be addressed to the Director or to the superintendent of the park.

7. *Gambling.*—Gambling in any form, or the operation of gambling devices, whether for merchandise or otherwise, is prohibited.

8. *Advertisements.*—Private notices or advertisements shall not be posted or displayed within the park, excepting such as the park

superintendent deems necessary for the convenience and guidance of the public.

9. *Mining claims.*—The location of mining claims is prohibited within the park.

10. *Grazing.*—The running at large, herding, or grazing of live stock of any kind on the Government lands in the park, as well as the driving of live stock over same, is prohibited, except where authority therefor has been granted by the superintendent. Live stock found improperly on the park lands may be impounded and held until claimed by the owner and the trespass adjusted.

11. *Authorized operators.*—All persons, firms, or corporations holding franchises in the park shall keep the grounds used by them properly policed and shall maintain the premises in a sanitary condition to the satisfaction of the superintendent. No operator shall retain in his employment a person whose presence in the park may be deemed by the superintendent subversive of good order and management of the park.

All operators shall require each of their employees to wear a metal badge with a number thereon or other mark of identification, the name and the number corresponding therewith or the identification mark being registered in the superintendent's office. These badges must be worn in plain sight on the hat or cap.

12. *Dogs and cats.*—Cats are not permitted in the park, and dogs only to those persons passing through the park to the territory beyond, in which instances they must be kept tied while crossing the park.

13. *Dead animals.*—All domestic or grazed animals that may die in the park at any tourist camp, or along any of the public thoroughfares, shall be buried immediately by the owner or person having charge of such animals, at least 2 feet beneath the ground and in no case less than one-fourth mile from any camp or thoroughfare.

14. *Travel.*—(a) On sidehill grades throughout the park motor-driven vehicles shall take the outer side of the road when meeting or passing vehicles of any kind drawn by animals; likewise, freight, baggage, and heavy camping outfits shall take the outer side of the road on sidehill grades when meeting or passing passenger vehicles drawn by animals.

(b) Wagons used in hauling heavy freight over the park roads shall have tires not less than 4 inches in width.

(c) All vehicles shall be equipped with lights for night travel. At least one light shall be carried on the left front side of horse-drawn vehicles in a position such as to be visible from both front and rear.

15. *Miscellaneous.*—(a) Campers and others shall not wash clothing or cooking utensils in the waters of the park or in any way pol-

lute them; or bathe in any of the streams near the regularly traveled thoroughfares in the park without suitable bathing clothes.

(b) Stock shall not be tied so as to permit their entering any of the streams of the park. All animals shall be kept a sufficient distance from camping grounds not to litter the ground and make unfit for use the area which may be used later as tent sites.

(c) Campers and all others, save those holding licenses from the Director of the National Park Service, are prohibited from hiring their horses, trappings, or vehicles to tourists or visitors in the park. No pack trains shall be allowed in the park unless in charge of a duly registered guide.

(d) All complaints by tourists and others as to service, etc., rendered in the park should be made to the superintendent, in writing, before the complainant leaves the park. Oral complaints will be heard daily during office hours.

16. *Fines and penalties.*—Persons who render themselves obnoxious by disorderly conduct or bad behavior shall be subjected to the punishment hereinafter prescribed for violation of the foregoing regulations, or they may be summarily removed from the park by the superintendent and not allowed to return without permission in writing from the Director of the National Park Service or the superintendent of the park.

Any person who violates any of the foregoing regulations shall be deemed guilty of a misdemeanor and shall be fined not more than \$1,000 or imprisoned not more than 12 months, or both.

REGULATIONS OF MARCH 30, 1912, GOVERNING THE IMPOUNDING AND DISPOSITION OF LOOSE LIVE STOCK.

Horses, cattle, or other domestic live stock running at large or being herded or grazed on Government lands in the Wind Cave National Park without authority therefor will be taken up and impounded by the superintendent, who will at once give notice thereof to the owner, if known. If the owner is not known, notice of such impounding, giving a description of the animal or animals, with the brands thereon, will be posted in six public places inside the park and in two public places outside the park. Any owner of an animal thus impounded may, at any time before the sale thereof, reclaim the same upon proving ownership and paying the cost of notice and all expenses incident to the taking up and detention of such animal, including the cost of feeding and caring for the same. If any animal thus impounded shall not be reclaimed within 30 days from notice to the owner, or from the date of posting notices, it shall be sold at public auction at such time and place as may be fixed by the superintendent after 10 days' notice, to be given by posting notices in six public places in the park and two public places outside the park, and by mailing to the owner, if known, a copy thereof.

All money received from the sale of such animals and remaining after the payment of all expenses incident to the taking up, impounding, and selling thereof, shall be carefully retained by the superintendent in a separate fund for a period of six months, during which time the net proceeds from the sale of any animal may be claimed by and paid to the owner upon the presentation of satisfactory proof of ownership, and if not so claimed within six months from the date of sale such proceeds shall be turned into the Wind Cave National Park fund.

The superintendent shall keep a record in which shall be set down a description of all animals impounded, giving the brands found on them, the date and locality of the taking up, the date of all notices and manner in which they were given, the date of sale, the name and address of the purchaser, the amount for which each animal was sold and the cost incurred in connection therewith, and the disposition of the proceeds.

The superintendent will, in each instance, make every reasonable effort to ascertain the owner of animals impounded and to give actual notice thereof to such owner.

LITERATURE.

GOVERNMENT PUBLICATIONS.

Government publications on Wind Cave National Park may be obtained as indicated below. Separate communications should be addressed to the officers mentioned.

DISTRIBUTED FREE BY THE NATIONAL PARK SERVICE.

The following publications may be obtained free on written application to the Director of the National Park Service, or by personal application to the office of the superintendent of the park.

Map of National Parks and Monuments.

Shows location of all the national parks and monuments, administered by the National Park Service and all railroad routes to the reservations.

SOLD BY THE SUPERINTENDENT OF DOCUMENTS.

The following publication may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., at the prices indicated. Remittances should be made by money order or in cash.

The National Parks Portfolio. By Robert Sterling Yard. 1917. 260 pages, including 270 illustrations. Pamphlet edition, loose in flexible cover, 35 cents; book edition, containing same material securely bound in cloth, 55 cents.

Contains nine sections, each descriptive of a national park, and one larger section devoted to other parks and monuments.

BIBLIOGRAPHY.

- MILLS, ENOS A. *Your National Parks*, 1917. 532 pages, illustrated. Wind Cave National Park on pages 242-244; 508.
- YARD, ROBERT STERLING. *The Book of the National Parks*, 1917. Illustrated. Wind Cave National Park on page 415.

OTHER LITERATURE.

- AGRICULTURE, SECRETARY OF [letter to president of the American Bison Society, under date of Mar. 12, 1912, acknowledging offer of the society to place a herd of buffalo in the Wind Cave Park if a suitable inclosure could be provided for them]. Fifth Ann. Rept. Am. Bison Soc., p. 31, 1912.
Letter from Hon. James Wilson to Prof. Franklin W. Hooper.
- [letter to president of the American Bison Society, under date of Dec. 30, 1913, acknowledging receipt of herd of 14 buffalo presented by the society, and containing a statement of the number of buffalo in each of the Government herds.] Seventh Ann. Rept. Am. Bison Soc., pp. 51-52, 1914.
Letter from Hon. D. F. Houston to Prof. Franklin W. Hooper.
- ANONYMOUS. *Wind Cave. Current Literature*, vol. 27, pp. 133-134, Feb. 1900.
- *New Mammoth Cave in South Dakota. Ibid.*, vol. 30, p. 687, June, 1901.
- *In a South Dakota Cave. Ibid.*, vol. 31, p. 452, Oct. 1901.
- CONGRESS [Report on] *Wind Cave National Park. 57th Cong., 1st sess. H. Rept. No. 2676, June 25, 1902. (See also H. Rept. No. 2606, June 20, 1902.)*
Report of the House Committee on the Public Lands on the bill to set apart certain lands of South Dakota as the Wind Cave National Park, accompanied by extracts from the Report of the Geological Survey and a letter from the Commissioner of the General Land Office.
- [Report on] *Wind Cave National Park. 57th Cong., 1st sess., S. Rept. 1944, pp. 1-6, June 17, 1902.*
Report of the Senate Committee on Public Lands on the bill to set apart certain lands in South Dakota as the Wind Cave National Park, accompanied by letters from the Commissioner of the General Land Office and extracts from the report of the U. S. Geological Survey.
- DILLE, F. M., *Latest News from the Wind Cave Herd. Seventh Ann. Rept. Am. Bison Soc., 1914, p. 56.*
Statement of the favorable condition of the herd during their first winter in the Park.
- *Report on Wind Cave National Park. Tenth Ann. Rept. Am. Bison Soc., 1915-1916, pp. 27-28.*
Gives the status of the herd to May, 1915.
- HOOPER, Prof. FRANKLIN W. [extracts from the Annual Report of President of American Bison Society regarding establishment of Wind Cave National Game Preserve]. Seventh Ann. Rept. Am. Bison Soc., 1914, pp. 10-13.
A brief summary of the work of the society in establishing the preserve and transferring the buffalo.
- HORN, E. C., *Mazes and Marvels of Wind Cave, fifth edition, Anoka, Minn., pp. 1-44, 1901.*
A privately printed, popular guide to the cave.
- HOVEY, E. O., *The Wind Cave of South Dakota. Sci. Am. Suppl., vol. 49, pp. 20458-20459, 4 figs., June 16, 1900.*
Brief history and general description of the cave. States that the cavern is said to have been originally discovered in 1877 by an outlaw named Lame Johnnie and rediscovered by a cowboy in 1884. (The date usually given for the discovery of the cave is 1881.)

- LORING J. ALDEN**, Report on Certain Lands in South Dakota Suitable for a Buffalo and Game Reserve. Fifth Ann. Rept. Am. Bison Soc., 1912, Appendix, pp. 1-31.
Report on the results of an examination of the Wind Cave National Park made for the American Bison Society, together with recommendations for the establishment of a game preserve at this point.
- MITCHELL, H. R.**, Report of the Establishment of the National Herd in the Wind Cave National Game Preserve. Seventh Ann. Rept. Am. Bison Soc., 1914.
pp. 39-50.
Detailed account of the shipment of 14 buffalo from New York to the Wind Cave National Park.
- PALMER, T. S.**, Progress on Wind Cave National Preserve. Sixth Ann. Rept. Am. Bison Soc., 1913, p. 44.
Statement of progress in acquisition of private lands adjoining the park to May, 1913.
- Our National Herds of Buffalo. Tenth Ann. Rept. Am. Bison Soc., 1915-1916,
p. 49-50.
Contains a brief summary of the history of the Wind Cave Park Herd.
- PARKS, J. F.**, The South Dakota State Game Preserve. Am. Field, vol. 81, pp. 577-579, June 20, 1914.
Description of the game preserve and an account of how to reach it via Hot Springs and the Wind Cave Park.

OTHER NATIONAL PARKS.

Rules and Regulations similar to this, containing information regarding the national parks listed below may be obtained free of charge by writing to the Director of the National Park Service, Washington, D. C.

Yellowstone National Park.	The Hot Springs of Arkansas.
Mount Rainier National Park.	Glacier National Park.
Crater Lake National Park.	Yosemite National Park.
Mesa Verde National Park.	Rocky Mountain National Park.
Sequoia and General Grant National Parks.	Grand Canyon National Park.

Also,

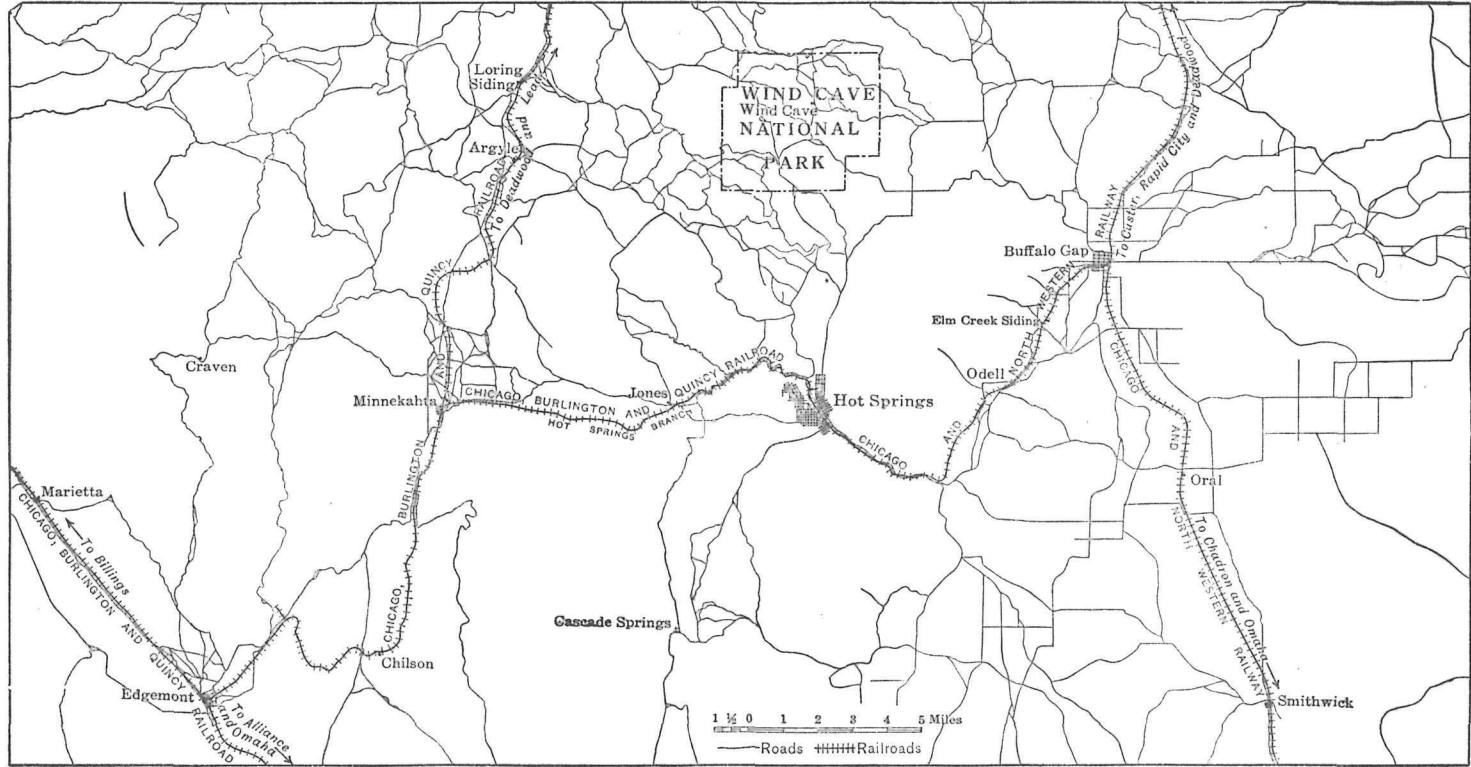
Glimpses of our National Parks. 48 pages.

Contains descriptions of the most important features of the principal national parks.

NATIONAL MONUMENTS.

The following publication relating to the national monuments may be obtained free of charge by writing to the Director of the National Park Service, Washington, D. C.:

Casa Grande National Monument.



MAP SHOWING RAILROAD CONNECTIONS FOR WIND CAVE NATIONAL PARK.