



GRAND CANYON

NATIONAL PARK

Arizona

Grand Canyon

NATIONAL PARK

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INTRODUCTION

The Grand Canyon did not come into existence all at one time. There was no cataclysmic earthquake to form this great chasm. It was the slow, steady cutting of the Colorado River into the gradually rising crust of the earth that gave us this gorge—1 mile deep and averaging about 10 miles from rim to rim. Persistent wearing away of the land by summer rains and winter snows helped to give width to this tremendous canyon.

As you stand gazing into the canyon, trying to force yourself to comprehend the processes that created it, you will be aware of the silence and the lack of any movement. Its vastness swallows sound; and any motion against this giant-sized backdrop, except that of cloud shadows, passes unnoticed.

The National Park System, of which this park is a unit, is dedicated to conserving the scenic, scientific, and historic heritage of the United States for the benefit and enjoyment of its people.

Entering the park on the east from the Painted Desert, the river follows a winding course for 105 miles through Grand Canyon National Park. The park is about 50 air miles long from east to west and about 25 miles wide from north to south. Its total area is about 1,100 square miles.

The park's most important dimension, however, is its great range of altitude. This range makes it possible for the thermometer at Phantom Ranch, at the bottom of the canyon, to register 50° F. while a snowstorm is raging on the rims. It also accounts for the great variation in plant and animal life found between the bottom of the canyon and its rims, reflecting a gradual progression from a climate like that of a Mexican desert to a climate like that of southern Canada.

This is the reason that you will be missing so much of the canyon if you confine your sightseeing and exploring to the rims. Even though you have only a day or two, plan to take one of the shorter mule trips or a brief hike into the canyon on the Bright Angel or Kaibab Trails. Looking into the canyon is one kind of thrill; looking out of it is an entirely different experience!

There are qualities inherent in any National Park that make it unique and provide the reason for setting it apart. Grand Canyon has more than its share. Its record of man's prehistory and history are of unusual interest; and nowhere else is the record of the earth's history more spectacularly revealed.

Consider yourself fortunate, indeed, if you chance to be at the canyon rim on a brilliant moonlight night. Mountains, mesas, buttes, and pinnacles will no longer appear as the familiar landmarks you know by day—they will seem to belong on another planet.

And if a summer thunderstorm should waken you during the night, do not hesitate to go and view this inspiring and beautiful spectacle. A cloud bank completely covering the canyon from rim to rim is perhaps the rarest wonder of all, and a sight the visitor seldom sees. However, a picture of this unusual weather condition is shown at one of the campfire talks for the pleasure of those who do not have the good fortune to see it.

THE SOUTH RIM

Getting to Know the South Rim

The West Rim Drive leads 8 miles from the village to Hermit's Rest, passing excellent lookouts on the way. You will find it a good trip any time of the day, but it is particularly enjoyable at dusk, for the sunsets from Hopi Point are famous. You can look east and see most of the canyon formations bathed in rosy and golden light, and, far below to the west, you can see the river.

Driving from Grand Canyon Village eastward, you will be going toward Desert View. You may want to visit the watchtower that perches on the rim there.

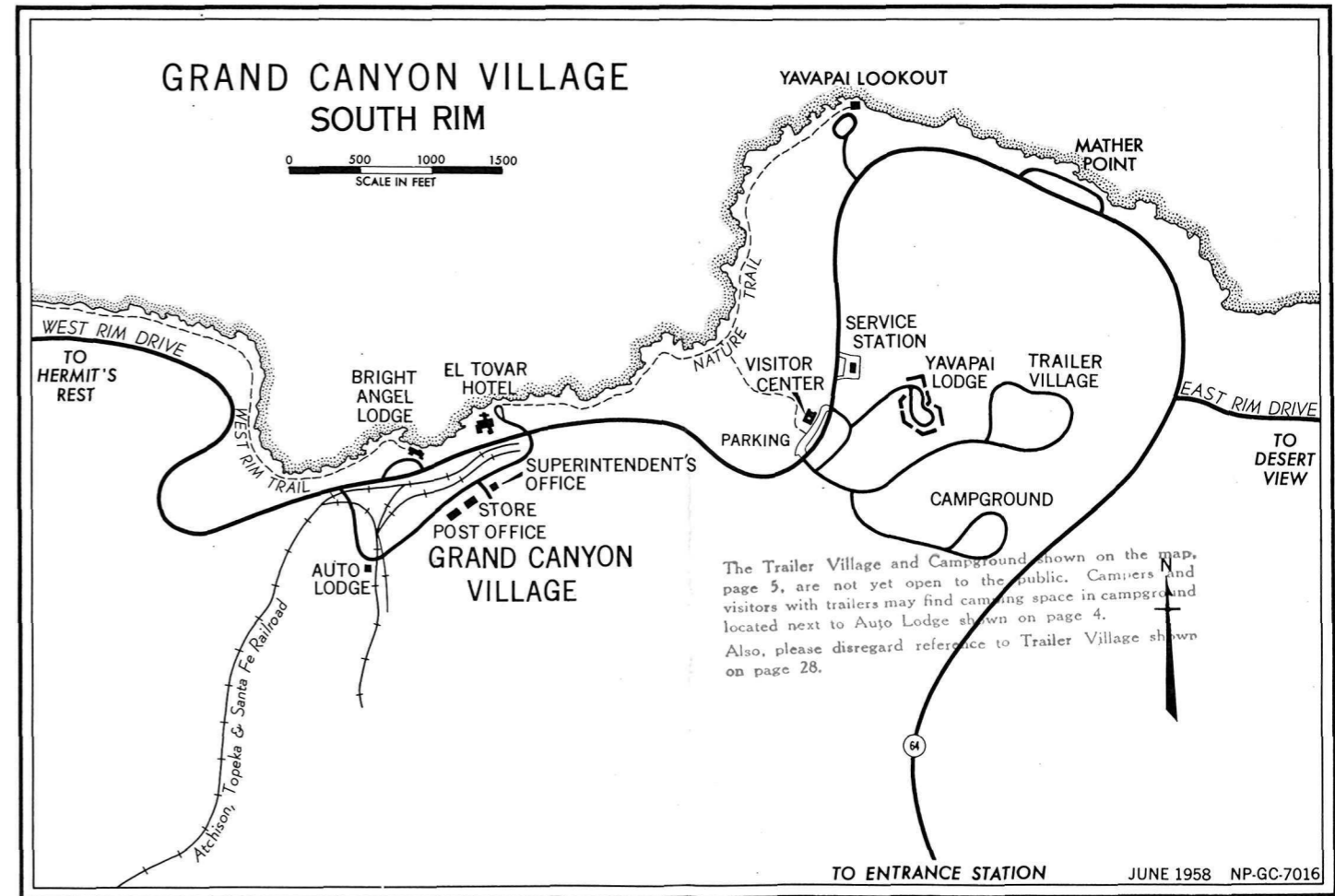
On the way to Desert View, stop at Lipan Point, which many people think offers the most exciting view of all. The river winds far below you (from many points on the rim it is not visible), and, on the southern horizon, behind you, the San Francisco Peaks reach high into the sky. Note the interpretive device that identifies the major landmarks of the canyon and the rims.

The visitor center, Yavapai Lookout, and the Tusayan Museum are on the East Rim Drive and you will want to allow time to visit them.

Bus tours make the West Rim Drive in the morning, the East Rim Drive in the afternoon.

The West Rim Trail, which follows the edge of the canyon for a mile from the corral to Powell Memorial, near Hopi Point, is an easy and interesting jaunt.

The East Rim Nature Trail, 1½ miles from the hotel, leads to the visitor center and Yavapai Lookout. Try to arrange your arrival at the lookout in time for one of the interpretive talks there. If you do, you will view the canyon with much more understanding.



Horseback trips take you through the pine forests, emerging now and then for outstanding views of the canyon. The trips are available only during the summer.

The Naturalist Program

The visitor center is less than 1 mile east of the village. Take time to stop here early in your stay. It houses fascinating exhibits that tell the story of the canyon in dioramas, photographs, and exhibits. Its four sections—geology, animal life, Indians, and discovery—describe in simple and enjoyable fashion how the canyon came to be, what forms of life have inhabited it, and how it has been explored. And if you still have questions after you have seen all there is to see, a park ranger will be glad to answer them for you.

Yavapai Lookout, a mile east of the visitor center, features geological exhibits and talks by park rangers. Powerful binoculars are trained on various points of the canyon, so that you can identify places of interest below.

Tusayan Museum near Lipan Point, contains exhibits which

tell you about the early human history of the canyon area and the Tusayan pueblo ruins.

Illustrated talks are given every summer evening at the village campground by a park ranger. Subjects are varied from day to day; they deal with human history and the explorers, natural history, geology, and the seasons. Photographers, amateur and professional, often get picture ideas from the excellent slides shown there.

Exploring the Canyon

There are two ways to get into the canyon and to the river—by mule or on foot. However, only seasoned hikers, in good physical condition, should attempt the trip to the river and back on foot.

BY MULEBACK. Perhaps the best way to see the river and get a view of the canyon from below is to take one of the three different mule trips.

The *Plateau Point Trip* (about 6 hours) takes you onto the Tonto Plateau, about 3,200 feet below the rim. At the point of the plateau, you will get a fine view of the river in the depths of the inner canyon.

The *River Trip*, 2 or 3 hours longer than the Plateau Point Trip, takes you to the river's edge.

The *Phantom Ranch Trip* is a 2-day adventure and is one of the major attractions of a visit to Grand Canyon. You reach Phantom Ranch by way of the inner gorge and an hour's ride along the river. Then you cross the suspension bridge, and about a mile farther on is the ranch. You arrive before evening, and there is a tree-shaded swimming pool and a good meal awaiting you. After breakfast the next morning, you start the return trip, which follows a different but equally colorful route. It is somewhat faster than the trip down, and you will arrive on the South Rim at Yaki Point in time for lunch.

A word of reassurance about those mules! Before they are allowed to carry people, they are trained on the canyon trails for 2 or 3 years as pack animals. Then they undergo an intensive period of apprenticeship before they become part of a regular mule train. The mule wrangler who leads your party carefully considers each member before he assigns him a mule, and he places the animal in the string with great care. People weighing over 200 pounds and children under 12 years old are not permitted to make the mule trips.

ON FOOT. Unless you are very certain of your stamina, do not try to hike to the river. A canyon trip is the reverse of mountain climbing—the uphill grind comes at the end, not at the beginning when you are fresh, and the climb out means an ascent of 5,000 feet. Even if you are an experienced hiker, allow yourself plenty of time and carry adequate water.

Bright Angel Trail follows a twisting 8-mile course from the South Rim to the river. The trip to and from Indian Gardens, 4½ miles each way, is a good day's hike for the sturdiest. If you go the 3½ miles farther to the river, plan to stay overnight at Phantom Ranch. You may stay at the campground there, and you may take your meals at the ranch if you make advance reservations.

South Kaibab Trail leads to the river from the rim at Yaki Point, a distance of 7 miles. The hike to Cedar Ridge, 2 miles down the trail, is a good half-day outing. The South Kaibab Trail, steeper than Bright Angel Trail, is recommended for the downward trip, rather than for the return trip. There is no water on this trail. Whatever your route, be generous with your schedule for return, allowing ample time to reach the rim before dark.

North Kaibab Trail, which joins the South Kaibab Trail at the river, completes the cross-canyon link to the North Rim. Because there are numerous crossings of Bright Angel Creek and no bridges in some places, you must be cautious when the water is high. If you are in doubt, *do not try to cross*. There are four campgrounds on this trail between Phantom Ranch and the North Rim.

Emergency service (guide and mule sent down from either rim) is \$35 for a ride out from Phantom Ranch, \$45 after dark; and \$20 to \$32, depending on location, from other parts of the trail. Being a "drag-out" is costly!

Trail telephones, which are for emergency use only, are located on the Bright Angel and Kaibab Trails.

Water is available on the Bright Angel Trail at two points between the South Rim and Indian Gardens during the summer. From there to the river, the hottest part of the trip, none is available, so be sure to *carry a canteen*.

Canyon temperatures may rise as high as 120° F. in the summer. Heat exhaustion is common.

Trail short-cutting and rock-rolling are strictly forbidden. They may cause landslides, endangering others on the trail as well as yourself.

In case of accident, notify the Chief Ranger's Office, telephone 69.

FROM THE AIR. Grand Canyon Airlines will fly you from the South Rim to the North Rim and back, during the summer, for a memorable look at the canyon. In no other way will you get so impressive and extensive a view of the river. Arrangements can be made at the airport south of the park on State Route 64.

Taking Pictures

Just about any time is good for taking pictures except from 10 a. m. until 2 p. m. when the light is flat—then you will need shadows or clouds to give definition to canyon formations. The period from midafternoon until sunset is best for color

photography because the canyon colors then are most vivid. Early morning is good after the sun is high enough to strike into the canyon; the air then is clear and there is little dust.

Use filters for both black-and-white and color film, especially if the air is hazy. For panoramic views, stop down your lens and shoot more slowly—nothing is moving out there! Summer brings fine thunderheads for dramatic pictures and sparkling air for good visibility as soon as the storms have ended.

Both Kolb and Lookout Studios will help you with photographic problems; either will process your film.

Visiting the Havasupai

Perhaps the nearest thing to Shangri-La on this continent is Havasu Canyon, part of which is in the Havasupai Indian Reservation, deep in the westernmost end of the park. Any visitor with 3 days to spend on a real adventure could hardly spend them more unforgettably than by a visit to Supai-land.

All arrangements are made through the Indians at Supai. Reservations must be made in advance by telephoning or writing the Tourist Manager, Havasu Development Enterprise, Supai, Ariz. He will send someone to meet you at Hualpai Hilltop for the trip into the canyon.

It is 143 miles by car from the South Rim to a point 5 miles east of Peach Springs, Ariz., thence 62 miles north to Hualpai Hilltop. The last 30 miles are rough, but passable. Leaving your automobile at the rim, you ride an Indian pony or hike the 8-mile trip to Supai.

The 4-hour journey ends abruptly as you emerge into a green valley that is narrow and deep, with canyon walls towering high above it. Beside Havasu Creek, cottonwood trees grow thickly, and orchards and garden plots contribute to the lushness of the scene. You may stay in a cottage in the heart of the valley, which is guarded by two giant rock pillars—the Havasupai patrons named Wigleeva (two rocks that stand alone).

The Supai serve no meals; so you must prepare to camp or to cook your own food at the tourist lodge or the dormitory. Gas stoves and refrigerators are standard equipment, and accommodations are comfortable and modern. Some groceries can be purchased in the tribal store. You may want to make the 3-mile trip to the falls next day, either by horseback or on foot, and you should be prepared to take color pictures.

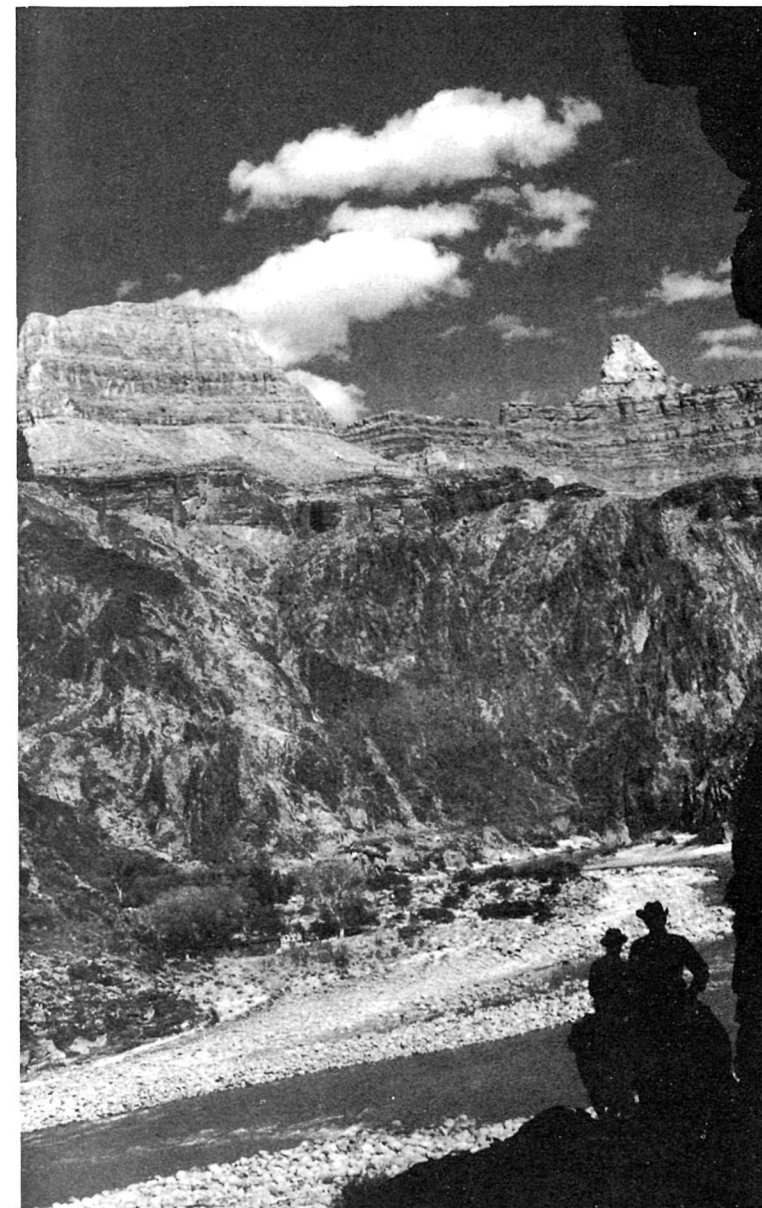
If you hike into the canyon, where you will be on reservation lands, there is an admittance fee of 50 cents and a camera fee of \$1. Camping is free in the National Park Service campground. The load limit for pack horses is 150 pounds.

THE NORTH RIM

The North Rim, with a rugged awesomeness all its own, is more reminiscent of the Colorado Rockies than of the South-

west desert country. It is 214 miles from the South Rim, over paved roads. The route takes you from Desert View, where you leave the park, past the canyon of the Little Colorado, itself a masterpiece of river-cutting. On U. S. 89, you traverse the Painted Desert to Navajo Bridge over Marble Canyon. You cross the bridge 467 feet above the Colorado River, here a broad, seemingly slow-moving stream. Past the Vermillion Cliffs, towering at your right, and through House Rock Valley, the road climbs up onto the Kaibab Plateau. At Jacob Lake, where you leave U. S. 89 to turn south, you will have ascended nearly 4,400 feet from Navajo Bridge to an elevation of 7,921 feet.

The river near Phantom Ranch.



From there the road, which is closed in winter, leads through a magnificent forest—tall pines and spruce, intermingled with quaking aspen. Passing grassy mountain meadows where deer may be seen in the evening, you reach the entrance station to the North Rim—back in Grand Canyon National Park, but a quite different kind of country from that of the South Rim.

"Kaibab" is an Indian word that means "mountain lying down." The Kaibab Plateau, 50 miles long and 35 miles wide, contains one of the most beautiful forests in the United States.

Getting to Know the North Rim

The park ranger station, lodge, and inn on the North Rim are located on a promontory that stretches for a mile out into the canyon, bounded on one side by Bright Angel Canyon and on the other by The Transept, another side canyon. The end of the promontory is Bright Angel Point. This will be your destination on the 13-mile drive from the entrance station. You will have become acquainted with the wonders of the Kaibab National Forest, but the rugged beauty of the Grand Canyon itself as seen from the North Rim will still remain to be experienced. There are several ways to see it.

BY AUTOMOBILE. To begin your exploration of the North Rim, you might first take to the park road to gain perspective.

Cape Royal is a 26-mile drive along a paved road to the viewpoint from which you can see the canyon stretching eastward to the Painted Desert. Near Cape Royal, you should stop for a view of the canyon through Angel's Window. You may well marvel at the engineering at the viewpoints and wonder how workmen ever got the sturdy fences in place so that you can look over the rim in safety.

Returning, take time for the 3-mile drive to Point Imperial, which leads off the Cape Royal road. This is the highest rim

point on the North Rim accessible to you, and it is from here that the Painted Desert, at midday, seems to hang suspended like a mirage on the eastern horizon.

The road to *Point Sublime* is primitive, and drivers are urged to use caution. You may get some spectacular photographs at places along the road, which leads through aspen and evergreen forests. At Point Sublime, the inner canyon seems to come closer than at any other spot along the North Rim.

The daily afternoon bus trip to Point Imperial and Cape Royal includes a nature talk at Cape Royal.

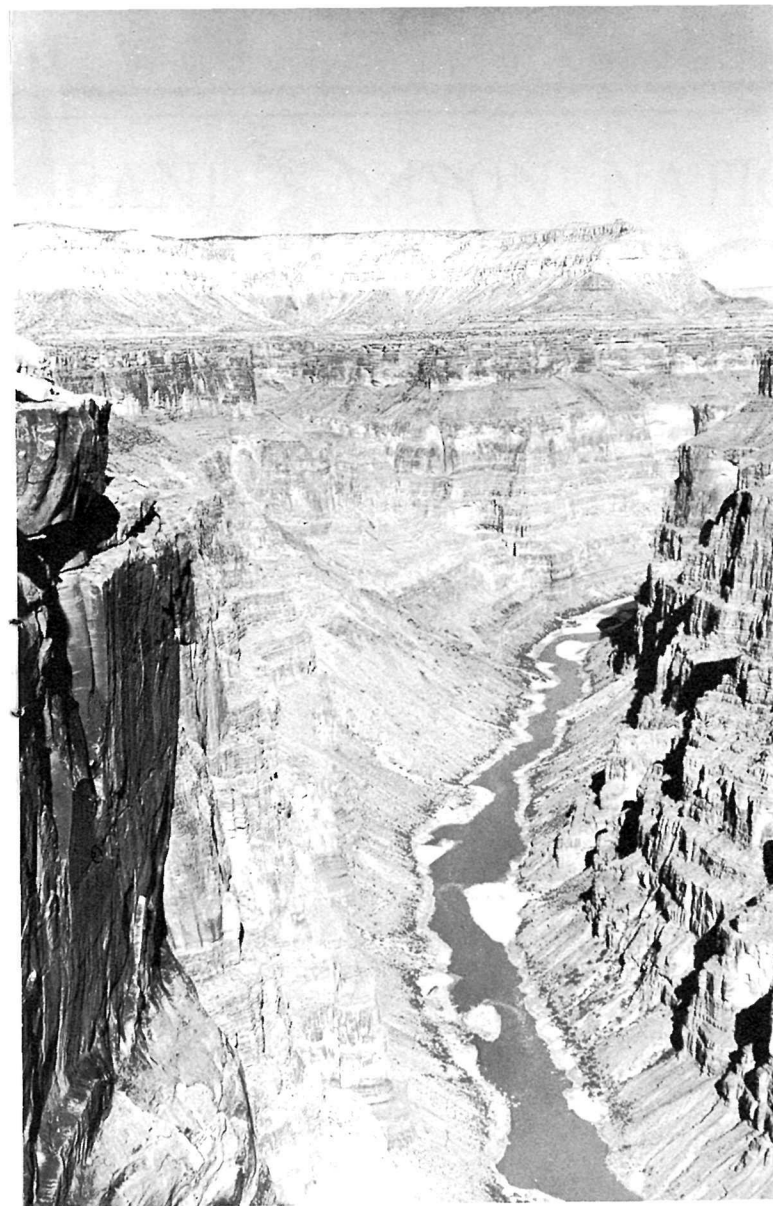
BY HORSEBACK. There are morning and afternoon trips along the rim, and special parties may be arranged.

BY MULEBACK. The trip down the North Kaibab Trail by mule matches the South Rim's Phantom Ranch trip for thrills and superb scenery. You may go to Roaring Springs, a trip of 4.6 miles, and return in 1 day. Another trip takes you all the way to Phantom Ranch.

When you leave the Bright Angel area on the mule trip to Phantom Ranch, the trail is still in deep shade—you are following a path that winds among the trees. Then you begin to descend into the canyon without warning, riding a trail that at times has been cut out of solid rock. Roaring Springs, just below Bright Angel Point, is your first stop.

At Cottonwood Camp, halfway between Roaring Springs and Ribbon Falls, you will find that the temperature has risen some 30° F. since you left Bright Angel Point, for you have experienced a drop in elevation of almost 3,000 feet. At Ribbon Falls, 9 miles along on your 14-mile journey to the river, you will want to stop and wash off the dust, and then, refreshed, take time to enjoy the beauty of the waterfalls.

The last 5 miles will be the hottest. But they will be shady for the most part, and then you reach Phantom Ranch and all the comforts of a hotel in the depths of the canyon. You have



View from Toroweap Point, Grand Canyon National Monument.

made a trip which, as far as climate is concerned, is like going from Canada to southern Sonora, Mexico.

ON FOOT. The North Kaibab Trail to the river can be made in a day; however, you are urged to break your trip at one of the four campgrounds en route. Water is available all along the way.

There are two other things to watch, however: First, be very careful in crossing the creek during high water—you are not as sure-footed as the mules to whom it is routine. Second, be on the lookout for mule parties, and observe the rules of the trail by standing perfectly still on the *outside* of the trail until they have passed.

The Naturalist Program

Short-haul hikers will find the Bright Angel Point walk, led by a park ranger, a pleasant and instructive ¾-mile round-trip stroll. It starts at the trail shelter near the lodge and proceeds to the point and back.

Talks are given at 3 p. m. daily at Cape Royal and each evening in the campfire circle at the campground near the inn. These will greatly increase your understanding of the park and thus they will increase your pleasure in it.

Taking Pictures

As on the South Rim, best hours for taking pictures are before 10 a. m. and after 2 p. m. For panoramas, set up a tripod at any of three major lookout points—Royal, Imperial, or Sublime. For sunsets, try Vista Encantadora because the sunsets do strange and wonderful things to the desert, which will be the background for your pictures.

If you are on the rim in the autumn, you should note that the light is not as strong as it is in the summer, so take careful meter readings, especially for color. Give the aspens plenty of exposure, and try some of them in black-and-white, with a heavy yellow filter. Wait for some big fluffy clouds to appear in that blue sky, and you will have a picture to remember.

GRAND CANYON NATIONAL MONUMENT

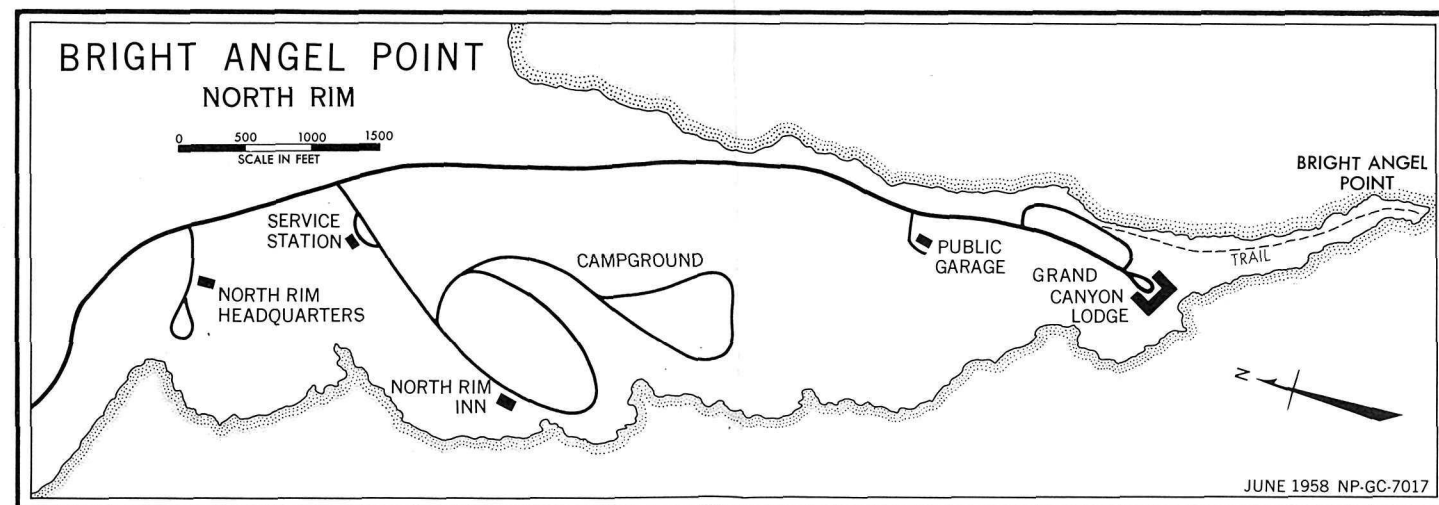
At Toroweap Point, in Grand Canyon National Monument, which joins the park at its western boundary, you may get a 3,000-foot, straight-down look at the Colorado River, which is not possible within the park itself.

To get to Toroweap, 135 miles from Bright Angel Point, you backtrack from the rim to Jacob Lake (8,000 feet), and drop from there to the little town of Fredonia (4,800 feet) near the Arizona-Utah border. Leaving the highway at Fredonia, you take a fair road through the Kaibab Indian Reservation. From there the road is little more than a trail, but passable, and it takes you to Tuweep Ranger Station. Toroweap Point is about 5 miles beyond.

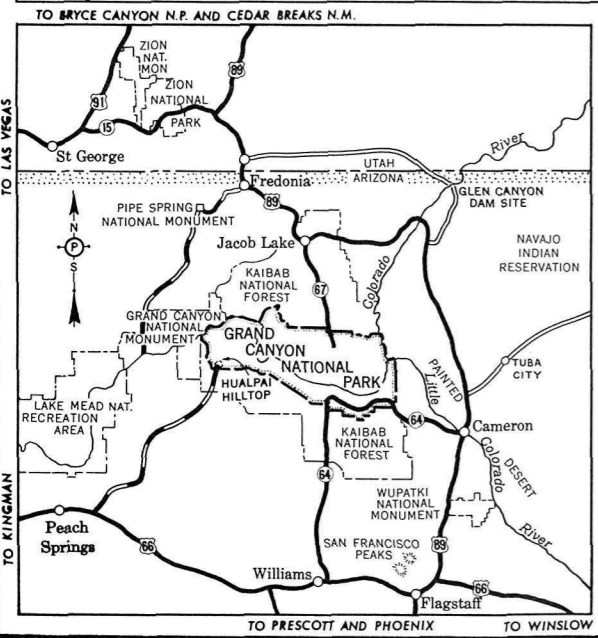
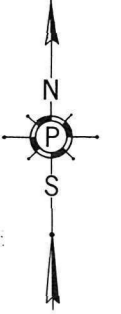
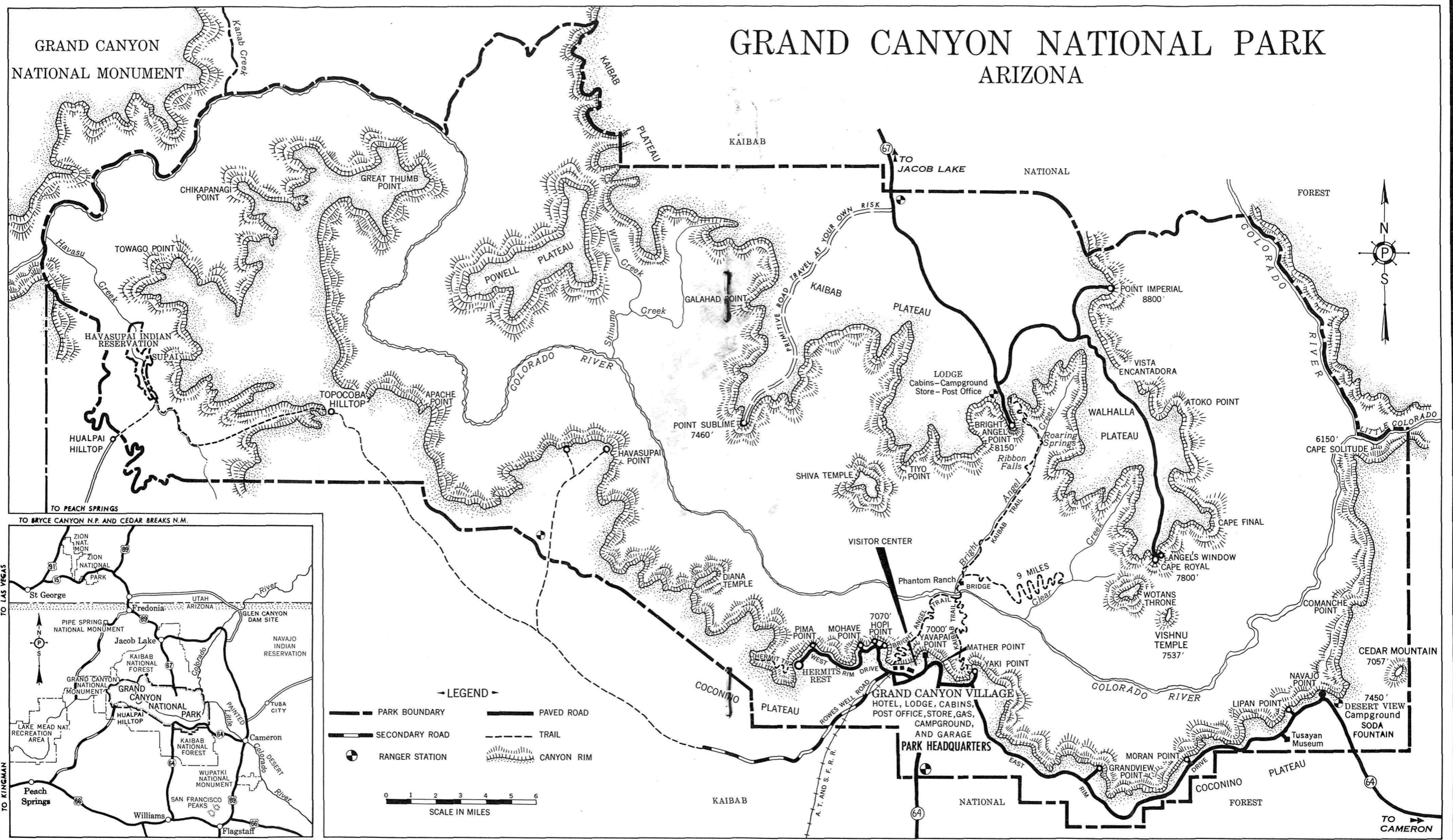
Without a doubt, there is no grander sight in the Grand Canyon. Looking down the sheer rock walls of the gorge, you can make out the Colorado River, more snakelike than ever, far below. Now turn your eyes upward and westward to Mount Trumbull, the last landmark of the Grand Canyon country on the western horizon.

GEOLOGY

Grand Canyon is far more than the obvious—a sight of infinite beauty and breath-taking size. In the many colors of



GRAND CANYON NATIONAL PARK ARIZONA



LEGEND

- PARK BOUNDARY
- PAVED ROAD
- SECONDARY ROAD
- TRAIL
- RANGER STATION
- CANYON RIM

SCALE IN MILES

its layered walls and in the black rock of its gorge, it reveals a great story of change in the earth's crust. Over the ages, this change has been slow but relentless—change that is not entirely understood by scientists today, change over which man can never have control no matter how he is able to use his vast store of knowledge in the future.

Even though we cannot answer all the "whys," we do have a good idea of how the canyon was formed. According to geologists, it is a new canyon in geologic time, and it is still in the process of forming. As we short-lived humans measure time, the process started long ago, perhaps 7 million years ago. At that time, the Colorado River flowed in its present course over a great plain, almost at sea level. Then a general rising of the land occurred which caused the river to flow more swiftly. Going on at the same time was a slow and gentle doming, localized in this region, which made possible the cutting of Grand Canyon to its present depth. The swift river was able to cut at a rate faster than the rising of the dome. As a result,

the Colorado maintained its course as the canyon walls grew higher and higher above it.

The river itself has really cut only a narrow slot. The great width of the Grand Canyon is the result of landslides, of water from melting snows and especially from violent summer thunderstorms draining into the canyon from the sides, and of the other usual agencies of erosion.

The resulting rock debris—boulders, gravel, sand, and mud—has been working its way downhill to the river. Hence the widening process has been supplying the Colorado's waters, flowing along at an average of 7 miles an hour, with cutting tools—sand for scouring, boulders for pounding. Year after year these tools have helped to deepen the gorge still further. You can get an idea of what a mighty river the Colorado is when you learn that it's the second longest river in the United States, and that in the Grand Canyon it averages 300 feet wide and 12 feet deep. Over the years, its raging brown or red torrents carry past any given point in the canyon an average of half a million tons of mud and sand every 24 hours! In

addition, its waters probably sweep a nearly equal load of boulders along the river bottom.

In cutting this world-renowned chasm, which measures roughly 217 miles long, 10 miles wide, and 1 mile deep, the Colorado River has exposed a great series of rock layers. Unique is the fact that as a result, at Grand Canyon, you may stand at a number of points and see clearly exposed to view fine examples of the rocks of all the known eras of geological time—from Precambrian rocks to those of the most recent era, the Cenozoic, of which the present is a part.

From these rocks we learn of constant slow change in the earth's crust. From them we read the story of the development of life on earth as illustrated by fossils (the remains or traces of ancient plants and animals preserved in the rocks).

The hard black rock of the inner gorge of the Grand Canyon, a narrow V-shaped chasm 1,500 feet deep, belongs to the most ancient geologic era—the Precambrian. This rock, nearly 2 billion years old, was originally composed of lavas and layers of gravel and sand built up both in the sea and on land. But these rock formations are no longer recognizable because of tremendous pressures and heat from great mountain-building forces which worked on them perhaps a billion years ago. These forces recrystallized the rock formations into the dark, vertically platy rock material called schist, which you see in the inner gorge today.

The ancient mountains built up at that time were slowly worn away. Upon their remnants, in later time, many rock layers were deposited in seas or on land. Eventually, other mountains were built and these, in their turn, were eroded away. The rock layers in the upper walls of the Grand Canyon are therefore younger and have been subjected to less change than the ancient layers of the black inner gorge. Today, we can identify in the upper walls thick layers of limestone derived from deposits in prehistoric seas, shales derived from muds, and sandstones derived from sands.

In these rock layers are remnants of prehistoric life. First, primitive plantlife in the sea; then, as we examine younger and hence higher layers in the Grand Canyon walls, we see primitive fossil seashells and crablike trilobites. Later and higher, traces of more advanced forms successively appear: armored fish, which were among the first creatures with backbones; and next the early kinds of land life—fine fossil ferns, and remains of salamanderlike and lizardlike reptiles.

Here, then, is a story that will fill us with wonder, the story of the earth for us to study and enjoy—and all this amid the majesty and beauty of the Grand Canyon.

LIFE ZONES

Biologists have charted the Northern Hemisphere into seven life zones, ranging from the first, or Tropical, at the Equator,

to the seventh, or Arctic, in the North Polar region. They have observed that plants and animals typical of one zone differ strikingly from those in adjacent zones. This condition is also obvious in the Grand Canyon area where, at a single latitude, the elevation range from 2,000 to 9,000 feet creates strong climatic variation, and thus five different zones are found within the park.

They begin with the second life zone, or *Lower Sonoran*, at the river bottom, 2,000 feet elevation. Here the climate is like that of southern Sonora, Mexico. The typical plants are cactus, agave, yucca, and sage; the animals are also those of the desert—shorthorn toad, lizard, rattlesnake, and desert sparrow. Gradually, as you ascend toward the South Rim, the picture becomes typical of the third zone, or *Upper Sonoran*.

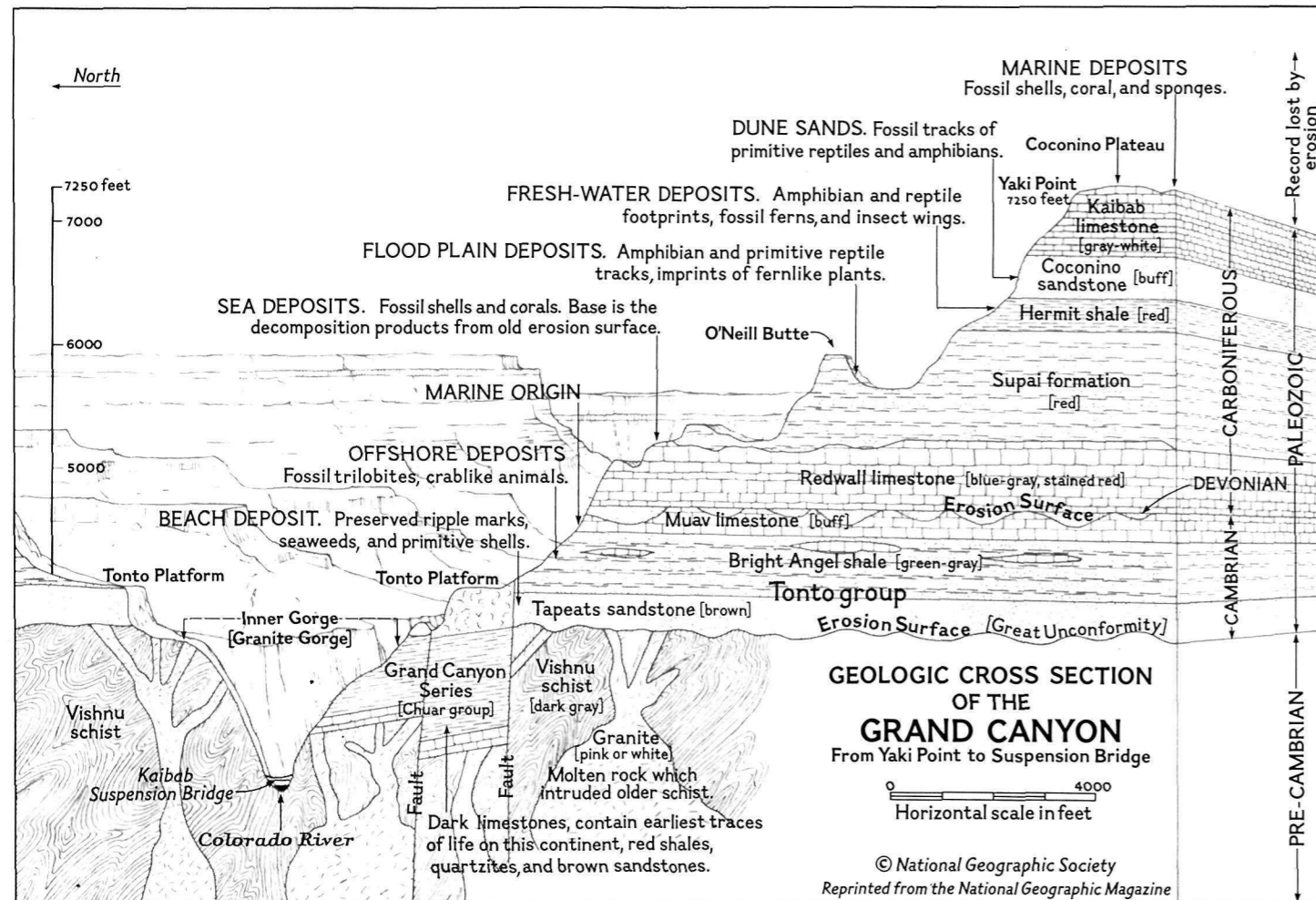
The South Rim itself is in the fourth, or *Transition*, zone, at 7,000–8,000 feet elevation. Here, in the pinyon, juniper, and dwarf pine forests, you will see mule deer, coyote, Arizona gray fox, raccoon, chipmunk, cottontail rabbit, and skunk. The birds most often noted are Steller's jay, nuthatch, chickadee, tufted titmouse, pinyon jay, robin, red-shafted flicker, and hairy woodpecker.

The familiar flowers of the South Rim, from spring to autumn, include phlox, blue penstemon, buttercup, springbeauty, mahonia, cliffrose, tansybush (fernbush), rabbitbrush, wild sunflower, purple aster, bee spiderflower, snakeweed, sulfur eriogonum, and paperflower.

It is because of the existence of these same life zones that animals will not migrate from rim to rim. Even the nomadic deer, accustomed to surroundings at 7,000 or 8,000 feet, is not likely to survive the trip into the rocky desert at the river bank and the long uphill climb to the opposite rim. The river itself is a barrier to smaller creatures. The birds could go from zone to zone and might do so—briefly. But each bird species is at home in that life zone where climate, plants, and food supply are most suitable to its habits.

Thus we are able to notice many differences in the plants and animals on the North and South Rims, even though they are only 10 miles apart. The beautiful white-tailed, black Kaibab squirrel on the North Rim has a near relative, on the South Rim, with a black tail and light body. The famous Kaibab yellow pine and the blue spruce on the North Rim are not seen at all on the other side of the canyon, where evergreens are stunted and sparse. The reason? The North Rim is 1,000 to 2,000 feet higher than the South Rim; therefore, on the North Rim we find at about 8,000 feet the fifth, or *Canadian*, zone, and at 9,000 feet the sixth, or *Hudsonian*, zone.

In climbing from the river to the North Rim, you will have made a trip that compares with one from northern Mexico to southern Canada, measured, not in miles, but by changes in climate, vegetation, and wildlife.



THE HUMAN STORY

Prehistory

The walls of the Grand Canyon and the plateaus along both rims hold the story of the prehistoric people who lived there. Some of the people lived on cliffs high on the canyon walls near the edge of the plateaus, where they had small, family-size cliff dwellings. They built these like fortresses for protection from their enemies. Pottery fragments, fragile pieces of cloth, scraps of sandals, and other remains found at the sites indicate that these Indians had a thriving culture. Traces of their small gardens give us clues to their use of the land.

More than 600 prehistoric sites have been discovered in this National Park, some of them almost impossible to reach because of their precipitous location. So, if you would like a leisurely excursion into the past, why not pay a visit to the Tusayan Ruin and Museum near Desert View in the eastern section of the park?

At the museum, you will see exhibits that portray the saga of prehistoric man at Grand Canyon. Near the museum is the Tusayan Ruin—a pueblo built about A. D. 1185. "Tusayan" is the Spaniards' name for the "Hopi Country."

The pueblos and cliff dwellings of Grand Canyon were already long abandoned by the time the first Europeans visited the area. Probably drought and marauding Indian foes had forced the ancient dwellers to leave.

History

Recorded history of the Grand Canyon began with its discovery in 1540 by Don Lopez de Cardenas, one of Coronado's captains. Cardenas and his 12 followers must have been filled with awe as they stood at the South Rim and gazed into the canyon. The more agile Spaniards tried to descend to the canyon bottom, but they were defeated by the steepness and vastness of the canyon walls. Rocks that from the rim had looked "about as tall as a man" had turned out to be "taller than the great tower of Seville." They abandoned the project with few regrets, for they sought riches, and none were to be found there.

In 1848, after the war with Mexico, the United States became owner of the region by the treaty of Guadalupe Hidalgo. Trappers occasionally passed by the canyon, and their stories of the great gorge quickened interest in its exploration.

The first successful transit of the canyon came when Maj. John Wesley Powell, a one-armed Civil War hero, made his daring voyage down nearly a thousand miles of continuous canyons carved by the Green and Colorado Rivers. Powell and 9 companions in 4 specially built boats started from Green River, Wyo., on May 24, 1869. More than 3 months later, Powell's party emerged from the Grand Canyon near the mouth of the Virgin River. During the passage, they had abandoned 2 boats to the river, and 4 men had left the party, preferring to

take their chances in the surrounding wilderness rather than continue the white-water voyage down the Colorado. After the grueling journey, Powell wrote, "Every waking hour passed in the Grand Canyon has been one of toil. Ever before us has been an unknown danger, heavier than immediate peril."

Since Powell, scores of adventurers and scientists have dared the river. You may see one of these journeys re-created in the motion pictures taken by Emery and Ellsworth Kolb in 1911. These films are shown twice daily on the South Rim.

Tourist travel to the canyon began in the 1880's when John Hance, a miner turned dude wrangler, began to improve the Indian trails and to greet visitors with his tall tales of the canyon. A hotel was built at Grand View Point in 1892; the first automobile steamed up to the South Rim from Flagstaff (a 2-day journey) in 1902; and the Santa Fe Lines completed track to the South Rim in 1904.

Establishment of the Park

The movement to protect the canyon began in 1887, when Senator Benjamin Harrison, of Indiana, introduced a bill to make it a National Park. However, opposition of both public and private interests delayed the passage of such a bill for more than 30 years. In 1893, as President of the United States, Harrison established the Grand Canyon Forest Preserve; but the area was still open to exploitation by mining and lumbering interests.

President Theodore Roosevelt, after his first trip to the canyon in 1903, declared it "the one great sight every American should see." In 1908, he established Grand Canyon National Monument by proclamation. Finally, an act of Congress in 1919 made Grand Canyon National Park a reality.

The Indians Today

Today the Indians in the Grand Canyon region belong to one of three tribes—Navajo, Hopi, or Havasupai. The Havasupai live in the western part of Grand Canyon on the only Indian reservation to be found within the boundaries of a National Park. The Navajo and Hopi live on reservations to the east of the park.

The Havasupai are a peaceful nation whose people boast that they have never killed a white man. In the 12th century, their ancestors were driven from their homes on the plateaus near the Grand Canyon by other raiding Indians, but they found a haven in Havasu Canyon. Their oasis, 2½ miles long and nearly half a mile wide, is in the most level part of the canyon floor. It is watered by Havasu Creek, a spring-fed tributary of the Colorado. The color of the water gives the Indians their name—Havasupai, which means "people of the blue-green water." Below the village of Supai is a series of three waterfalls of great beauty, one of which is 200 feet high.

These Indians number about 200 today. They farm the fertile subtropical valley, raising grain, fruit, and vegetables. They augment their farm income by providing accommodations and services to visitors who follow the trail into their canyon. Leather tanning and basketry are their most important crafts.

Unlike the other Indians of the region who hold tribal ceremonies frequently during the year, the Havasupai have only one major celebration—the Peach Harvest Festival in August.

The Navajos are far more numerous (80,000), and their reservation is the largest in the United States, covering almost 15,000 square miles, including a large part of the Painted Desert. Still partly nomadic, they prefer to live in the open or in isolated hogans rather than in villages. They raise sheep and goats, and, when they stop long enough in one place, they farm. Their chief source of income—next to sheep and goats—is from the sale of their blankets and jewelry.

The ancient past of the Navajos is uncertain, largely because of their nomadic way of life. You can recognize the Navajos by the velvet blouses worn by both men and women and by their beautiful silver and turquoise jewelry.

Four thousand Hopis (their name means "peaceful people") live in 11 villages in their own reservation, which is surrounded by the much larger Navajo Reservation. Intensely conservative, the Hopi people have resisted change. They live today in their mesa-top pueblos almost as the Spaniards found them 400 years ago.

The Hopis derive most of their livelihood from the soil. Corn is their chief crop, and some of their ceremonial dances are marked by prayers for rain and good harvests. The best known of these dances, performed about mid-August, is the snake dance, to which visitors are welcomed.

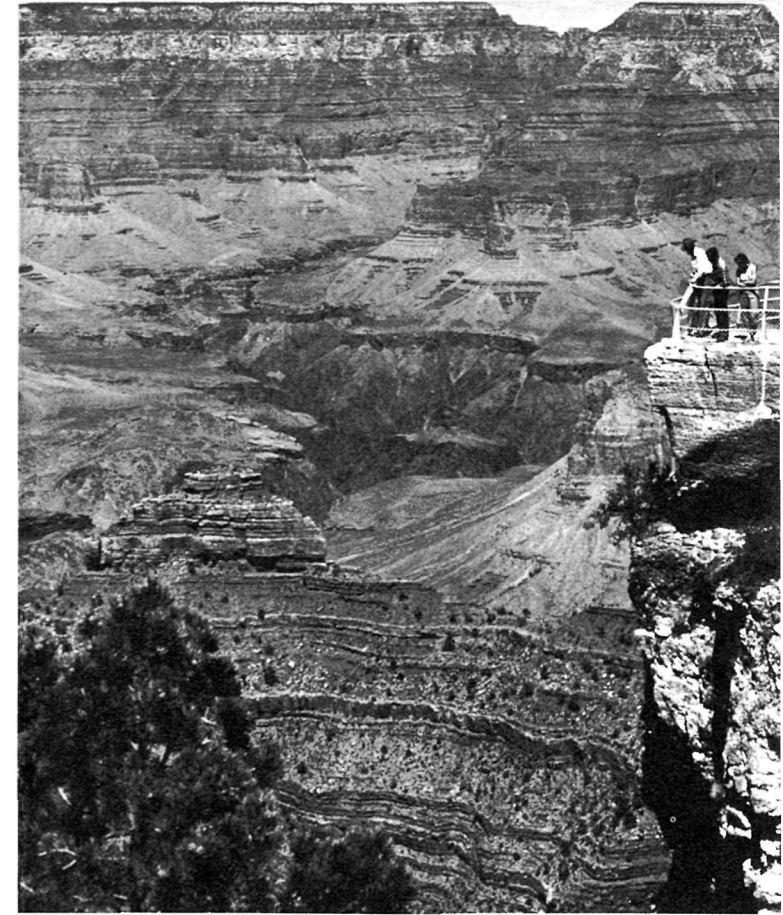
SEASONS

The South Rim

SPRING. The South Rim never really goes to sleep during the winter—most of the foliage is evergreen. But you will know that spring has arrived when the flowers appear. Spring only lasts a short time here; suddenly it is summer.

SUMMER. From June into September, temperatures range from the midforties at night to the mideighties in the daytime; the relative humidity is generally low. It seldom rains in June. Thunderstorms are frequent in July and August, but they are usually brief.

If you are preparing to go into the canyon in midsummer, look for temperatures of around 100° F. and dress accordingly, particularly if you are hiking. Be sure to take water (it is provided on the mule trips) and wear something on your head. The sun of the desert (for the canyon is a desert from Indian Gardens to the river) is nothing to trifle with at that time of year. A sweater or coat is comfortable on the rim



Mather Point, South Rim.

the year round. And in any month, bring a raincoat—just in case.

AUTUMN AND WINTER. Autumn is a short season here, for summer soon turns into the crisp, clear days that are winter on the South Rim. Snow may fall in November, and suddenly winter has come, but it is the mild winter of the Southwest. From November to April, temperatures are likely to drop below freezing at night, but during the day the midforties and fifties are the rule.

The North Rim

The road into the park is usually blocked with snow by November 1, and it remains closed until early in May. But from mid-May to mid-October, three distinct seasons may be enjoyed at the North Rim.

SPRING. By early May, more than 200 inches of snow will have been recorded, but the cold blasts sweeping down through Kaibab National Forest from the north will have given way to gentler winds flowing across the canyon from the desert. Out on Point Sublime and Cape Royal, the persistent warm updrafts from the inner canyon have allowed spring flowers to bloom at the North Rim, and the deer and other wildlife have begun

to make their way back to the forests. The cactus, the agave, and the cliffrose have put out brilliant blossoms, and the air at noon is like it is at midsummer.

Between the park entrance and Bright Angel Point, however, things have not moved quite so fast. Here the alpine meadows are a riot of spring flowers—the flowers which bloom in the summer in the high mountains—but there will be snowbanks near the forest edge, even as the pale new leaves of the aspen begin to show among the greens and blues of the evergreens. Nights are cold, and even in the sunshine the air is chilly.

SUMMER. One of the most memorable incidents of a summer visit to the North Rim is the drive to Cape Royal, the last part of it along a roadway hedged with locust, which looks like wisteria and fills the air with its fragrance. Add to this the sight and smell of countless field and mountain flowers—Indian paintbrush, lupine, gilia, penstemon, iris, Queen-Annes-lace, forgetmenot, and scarlet-bugler—and you will not need, but should have, color film to record the memory.

The upper part of the North Kaibab Trail, through the forest and along Bright Angel Creek, is cool and shady in summer until you reach the inner canyon. Hike this during the day, and take the trail to Bright Angel Point about sunset, when soft breezes come climbing up out of the canyon and singing through the pines. Out on the point, the breezes will be cool, and you may have to brace yourself to keep from being blown off your feet if the night is stormy.

In the forest, the deer roam late—whole families of them, with fawns scarcely old enough to keep up with the others. Keep a sharp eye out for them along the road—they are inveterate jaywalkers, and they give no notice.

AUTUMN. The golden days of "September Song" run well into October on the North Rim. One day the aspen will be a curtain of green and silver in the forest; then, almost overnight, they turn lemon yellow. From day to day the color deepens, until, about mid-October, the deep yellows are touched with red, and the hillsides are covered with a mantle of shimmering gold.

This is the time to ride out to Point Sublime. The road is a primitive one, but it offers no serious risk if you drive slowly—and who would want to rush through all this beauty? Tall spruce intermingle with the aspen, and lanes of golden branches overhang and arch above you as you ride.

In the campground, the wild turkey roam majestically, unafraid. It is a drowsy time. The summer visitors have left, morning comes later, and the sun is still warm and mellow.

OTHER PUBLICATIONS

There are many books and other park publications you might wish to purchase to read while you are here or at home.

They may be ordered also by mail from the Grand Canyon Natural History Association, Box 219, Grand Canyon, Ariz. Be sure to enclose 10 cents postage for each publication. If the list below does not give you all the information you would like, write to the Grand Canyon Natural History Association for further material.

<i>Exploration of the Colorado River</i> , by J. W. Powell . . .	\$3.75
<i>Ancient Landscapes of the Grand Canyon Region</i> , by E. D. McKee50
<i>Grand Canyon Country</i> , by M. R. Tillotson and Frank J. Taylor	1.50
<i>Trees of Grand Canyon National Park</i> , by Natt N. Dodge50
Regional publications applicable to the canyon:	
<i>Prehistoric People of the Northern Southwest</i> , by J. B. Wheat65
<i>Flowers of the Southwest Mesas</i> , by Pauline M. Patraw . .	1.00
<i>Flowers of the Southwest Mountains</i> , by L. P. Arnberger	1.00
These general books on the parks may whet your interest:	
<i>Exploring Our National Parks and Monuments</i> , by Devereux Butcher	\$3.45
<i>The National Parks: What They Mean to You and Me</i> , by Freeman Tilden	1.00
If you do any hiking, you will find the following topographic maps helpful:	
<i>Bright Angel Quadrangle</i>	\$0.30
<i>East Half, Grand Canyon National Park</i>50
<i>West Half, Grand Canyon National Park</i>50
<i>Grand Canyon National Monument</i>50

HOW TO REACH THE PARK

The South Rim

By car from the west, turn north from U. S. 66 near Williams onto Arizona Route 64 to Grand Canyon Village (57 miles). From the east, turn north from U. S. 66 near Flagstaff onto U. S. 89 to Cameron (52 miles), and then go west on Arizona Route 64 to Grand Canyon Village (56 miles). From the north, take U. S. 89 to Cameron, and then go west on Arizona Route 64 to Grand Canyon Village.

Airlines, buslines, and a railroad serve Williams and Flagstaff. Buslines serve Grand Canyon Village from Williams and Flagstaff, and in the summer a local train makes one round trip a day between Grand Canyon Village and Williams, connecting with certain through trains.

The North Rim

By car from the South Rim, take Arizona Route 64 from Grand Canyon Village to Cameron (56 miles), thence north and west on U. S. 89 to Jacob Lake (114 miles), and then

drive south on Arizona Route 67 to North Rim headquarters (44 miles)—total distance, 214 miles. From U. S. 66 near Flagstaff, take U. S. 89 to Jacob Lake (164 miles). From Zion National Park, take Utah Route 15 and U. S. 89 to Jacob Lake (79 miles). From Bryce Canyon National Park, take Utah Route 12 and U. S. 89 to Jacob Lake (117 miles). The road from Jacob Lake to the North Rim is closed by snow from about mid-October to mid-May.

The only public transportation to the North Rim is by bus from Cedar City, Utah, which is served by airlines, buslines, and a railroad.

ACCOMMODATIONS AND SERVICES

The South Rim

Accommodations, available for every taste and budget, range from hotel suites to free campgrounds. For reservations (except for campgrounds, which cannot be reserved), write to Fred Harvey, Grand Canyon National Park, Ariz. This company will send you descriptive folders and prevailing rates upon request. Some accommodations are closed in winter.

El Tovar Hotel is located near the rim. It has a dining room and rooms with or without bath.

Bright Angel Lodge, also near the rim, has a coffee shop and rooms with or without bath.

Yavapai Lodge is near the visitor center, half a mile east of the village. It offers motel-type rooms with bath.

Campgrounds are maintained by the National Park Service at the village and at Desert View. Each site has a fireplace, fuel, and a table. Water and restrooms are conveniently situated.

Trailer Village, near the visitor center, has utility hookups.

Auto Lodge, near the village campground, offers cabins with or without bath, some of which are housekeeping units. A cafeteria is adjacent to the lodge.

The *Grand Canyon Hospital* (telephone 14 or 35) is located near park headquarters.

The *post office* is also near park headquarters. The mailing address is Grand Canyon National Park, Grand Canyon, Ariz.

Santa Fe Railway Depot, near the El Tovar Hotel, has an American Railway Express Company office.

Church services are conducted throughout the year. Protestant services are held Sunday mornings at the Community Building; summer services held in cooperation with the National Council of Churches. Latter-day Saints services are held at Grand Canyon School. Roman Catholic services are held at Bright Angel Lodge. Inquire for time of church services.

Telephones are available at hotel and lodges, at the visitor center, and at the Mountain States Telephone and Telegraph

office. There is telephone service to the North Rim and Phantom Ranch.

Photographic supplies and service may be obtained at Kolb and Lookout Studios near Bright Angel Lodge.

Post cards, gifts, and souvenirs may be purchased at the hotel, lodges, cafeteria, Hopi House, Verkamps, and Kolb and Lookout Studios.

Also in the village are a general store, garage, service station, and laundry.

At *Desert View* there is a soda fountain and a souvenir shop.

At *Hermit's Rest* there is a refreshment room and a souvenir shop.

The North Rim

As the roads are blocked by snow from November until May, accommodations are available only during the summer. Reservations should be made by writing to the Utah Parks Company, Cedar City, Utah, or by telephoning or writing to that company at North Rim Rural Route, Fredonia, Ariz. Rates and descriptive folders will be sent any time of the year upon request.

Grand Canyon Lodge is near the tip of Bright Angel Point. This stone-and-log lodge contains lounge and dining room, gift shop, newsstand, and post office. Cabins conveniently near, many with views of the side canyon, are of two types: *de luxe* (stone and log, with bath, fireplace, and porch) and *standard* (log, with or without bath).

North Rim Inn is less than a mile from Bright Angel Point. The inn consists of a cafeteria, which sells a limited supply of groceries, and a newsstand. Nearby are standard cabins with or without bath. Bath and laundry facilities are available.

A *campground* is near the inn. Tables, fireplaces, wood, and running water are available.

Services include the following:

Medical attention is provided by a nurse, who is on duty at the lodge.

The *post office* is in the lodge. Mail should be addressed in care of General Delivery, North Rim Rural Route, Fredonia, Ariz.

Church services, including Protestant, Roman Catholic, and Latter-day Saints, are held on Sundays. Inquire for time and place.

Telephones, with long-distance service, are available at the lodge and inn.

Shops, offering photographic supplies, drugs, magazines and newspapers, post cards, souvenirs, and gifts, are located at the lodge and inn.

A *gasoline station* is located at Bright Angel Point, on the road to North Rim Inn.



Autumn on the North Rim: A meadow along the road to Point Sublime.

PARK REGULATIONS

*"Let no one say, and say it to your shame,
That all was beauty here until you came."*

Remember, this park belongs to your children and to their children. Would you spoil it for them? Others will follow your example. Leave a clean campground or picnic area, and deposit rubbish in receptacles along the roads and trails.

Preservation of natural features. Park regulations prohibit removing, defacing, or destroying any rock or fossil, tree or plant within the park; or the hunting, capturing, or molesting of any form of wildlife. National Parks are protected by law against vandalism or injury that would prevent leaving them "unimpaired for the enjoyment of future generations."

Fire is the park's greatest enemy. Fires are absolutely prohibited except in campgrounds or picnic areas. Do not leave your fire unattended, even for a moment. Before you leave, be sure it has been thoroughly extinguished. Report any unattended fire to the nearest park ranger with all possible haste.

Maximum speed on park roads is 45 miles per hour. Reduced speed limits are posted. The roads are designed for leisurely enjoyment of scenery. *Drive carefully.*

On the trails. Hikers and riders may not take shortcuts. They are required to stay *on the trail* at all times. Trail-cutting and short-cutting may dislodge earth and rocks and cause serious injury to those below you. Horses and mules have the right-of-way; pedestrians are required to stand quietly on the *outer* side of the trail until the animals have passed.

Camping, which is permitted only in designated areas, is limited to 15 days. Wood and water are provided at all campsites. Burnable rubbish should be disposed of in your campfire; trash cans are provided for other refuse.

Hunting is prohibited within the park. Firearms are permitted within the park only if they are adequately sealed, cased, broken down, or otherwise packed to prevent their use.

Fishing in park streams is in accordance with Arizona State laws, and an Arizona license is required. Details of regulations are available at park entrance and ranger stations.

Pets are allowed in the park only on leash or otherwise under restrictive control *at all times*. They are not allowed on *inner canyon trails* under any circumstances.

ADMINISTRATION

The *superintendent* is in administrative charge of the park. All inquiries regarding your stay at Grand Canyon, and all suggestions about its maintenance and protection, should be addressed to the Superintendent, Grand Canyon National Park, Grand Canyon, Ariz.

The *park rangers* are the protective force of the National Park Service. Their responsibility is not only to protect the park, but also to protect and be of service to you. They have full authority to enforce park regulations. You will find them at the entrance stations, patrolling roads and campgrounds, and at the ranger stations on the South and North Rims.

Park naturalists are the interpretive force of the Service. They operate the visitor center and museums, conduct nature walks and campfire programs, and carry on other interpretive activities.

MISSION 66

Mission 66 is a development program designed to be completed by 1966 which will assure the maximum protection of the scenic, scientific, wilderness, and historic resources of the National Park System in such ways and by such means as will make them available for the use and enjoyment of present and future generations.

VISITOR USE FEES

Automobile, house trailer, and motorcycle permit fees are collected at entrance stations. When vehicles enter at times when entrance stations are unattended, it is necessary that the permit be obtained before leaving the park and be shown upon reentry. The fees applicable to the park are not listed herein because they are subject to change, but they may be obtained in advance of a visit by addressing a request to the superintendent.

All National Park fees are deposited as revenue in the U. S. Treasury; they offset, in part, appropriations made for operating and maintaining the National Park System.

U. S. DEPARTMENT OF THE INTERIOR

Fred A. Seaton, *Secretary*
NATIONAL PARK SERVICE
Conrad L. Wirth, *Director*



Cover: Shifting shadows of the Grand Canyon. Courtesy, Union Pacific Railroad.

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