

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

RULES AND REGULATIONS

# MOUNT RAINIER NATIONAL PARK

1920

Season from June 15 to September 15



Crossing Nisqually Glacier

WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1920



PARADISE INN, IN BEAUTIFUL PARADISE VALLEY.

Note the wild flowers in the foreground.



MOUNT RAINIER, SHOWING BEGINNING OF NISQUALLY GLACIER.

## 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 Wyoming.	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 California.	252	The Big Tree National Park—12,000 sequoia trees over 10 feet in diameter, some 25 to 36 feet in diameter—Towering mountain ranges—Startling precipices—Cave of considerable size.
Yosemite..... 1890	Middle eastern California.	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 California.	4	Created to preserve the celebrated General Grant Tree, 35 feet in diameter—6 miles from Sequoia National Park.
Mount Rainier..... 1899	West central Washington.	324	Largest accessible single peak glacier system—28 glaciers, some of large size—48 square miles of glacier, 50 to 500 feet thick—Wonderful sub-alpine 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 Colorado.	77	Most notable and best preserved prehistoric cliff dwellings in United States, if not in the world.
Glacier..... 1910	Northwestern Montana.	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 Colorado.	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 6,879 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.

# The National Parks Portfolio

By  
ROBERT STERLING YARD

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# MOUNT RAINIER NATIONAL PARK.

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## GENERAL DESCRIPTION.

“OF ALL the fire-mountains which, like beacons, once blazed along the Pacific coast, Mount Rainier is the noblest,” wrote John Muir. “The mountain that was God,” wrote John D. Williams, giving title to his book.

“Easily King of all is Mount Rainier,” wrote F. E. Matthes, of the United States Geological Survey, reviewing that series of huge extinct volcanoes towering high above the sky line of the Cascade Range. “Almost 250 feet higher than Mount Shasta, its nearest rival in grandeur and in mass, it is overwhelmingly impressive both by the vastness of its glacial mantle and by the striking sculpture of its cliffs. The total area of its glaciers amounts to no less than 48 square miles, an expanse of ice far exceeding that of any other single peak in the United States. Many of its individual ice streams are between 4 and 6 miles long and vie in magnitude and in splendor with the most boasted glaciers of the Alps. Cascading from the summit in all directions, they radiate like the arms of a great starfish.”

Mount Rainier is in western Washington, about 40 miles due southeast from the city of Tacoma and about 55 miles southeast from Seattle. It is not a part of the Cascade Range proper, but its summit is about 12 miles west of the Cascade summit line, and is therefore entirely within the Pacific slope drainage system.

The Mount Rainier National Park is a rectangle approximately 18 miles square, of 207,360 acres. It was made a national park by act of Congress of March 2, 1899.

The southwest corner of the park, at which is the main entrance, is distant by automobile road 6 miles from Ashford on the Tacoma Eastern Railroad, 56 miles from Tacoma, and 96 miles from Seattle.

Seen from Tacoma or Seattle the vast mountain appears to rise directly from sea level, so insignificant seem the ridges about its base. Yet these ridges themselves are of no mean height. They rise 3,000 to 4,000 feet above the valleys that cut through them, and their crests average 6,000 feet in altitude. Thus at the southwest entrance of the park, in the Nisqually Valley, the elevation, as determined by accurate spirit leveling, is 2,003 feet, while Mount Wow (Goat Mountain), immediately to the north, rises to an altitude of 6,030 feet.

## ITS GREAT PROPORTIONS.

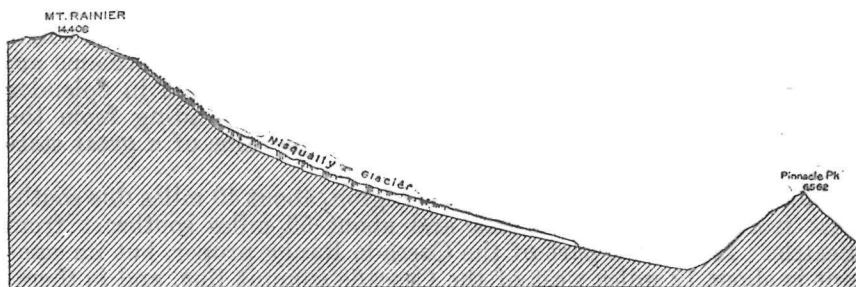
But so colossal are the proportions of the great volcano that they dwarf even mountains of this size and give them the appearance of mere foothills. In height it is second in the United States only to Mount Whitney.

Mount Rainier stands, in round numbers, 11,000 feet above its immediate base, is nearly 3 miles high, measured from sea level,

and covers 100 square miles of territory, or one-third of the area of Mount Rainier National Park. In shape it is not a simple cone tapering to a slender, pointed summit like Fuji (Fujiyama), the great volcano of Japan. It is rather a broadly truncated mass resembling an enormous tree stump with spreading base and irregularly broken top.

Its life history has been a varied one. Like all volcanoes, Rainier has built up its cone with the materials ejected by its own eruptions—with cinders and steam-shredded particles and lumps of lava and with occasional flows of liquid lava that have solidified into layers of hard, basaltic rock. At one time it attained an altitude of not less than 16,000 feet, if one may judge by the steep inclination of the lava and cinder layers visible in its flanks. Then a great explosion followed that destroyed the top part of the mountain and reduced its height by some 2,000 feet.

Indian legends tell of a great eruption. There have been slight eruptions within memory—one in 1843, one in 1854, and one in 1858, and the last in 1870. Even now it is only dormant. Jets of steam



PROFILE OF MOUNT RAINIER SHOWING NISQUALLY GLACIER.

melt fantastic holes in the snow and ice at its summit, and there are hot springs at its foot. But it is entirely safe to visit Mount Rainier, as further eruptions are unlikely.

#### SECOND LOFTIEST TO WHITNEY.

Later on this great cavity, which measured nearly 3 miles across from south to north, was filled by two small cinder cones. Successive feeble eruptions added to their height until at last they formed together a low rounded dome—the eminence that now constitutes the mountain's summit. The higher portions of the old crater rim rise to elevations within a few hundred feet of the summit and, especially when viewed from below, stand out boldly as separate peaks that mask and seem to overshadow the central dome. Especially prominent are Point Success (14,150 feet) on the southwest side and Liberty Cap (14,112 feet) on the northwest side.

The altitude of the main summit has for many years been in doubt. Several figures have been announced from time to time, no two of them in agreement; but all of these, it is to be observed, were obtained by more or less approximate methods. In 1913 the United States Geological Survey, in connection with its topographic



surveys of the Mount Rainier National Park, made a new series of measurements by triangulation methods at close range. These give the peak an elevation of 14,408 feet, thus placing it near the top of the list of high summits of the United States. This last figure, it should be added, is not likely to be in error by more than a foot or two, and may with some confidence be regarded as final. Greater exactness of determination is scarcely practicable in the case of Mount Rainier, as its highest summit consists actually of a mound of snow, the height of which naturally varies.

This crowning snow mound, which was once supposed to be the highest point in the United States, still bears the proud name of Columbia Crest. It is essentially a high snowdrift or snow dune heaped up by the furious westerly winds.

#### A GLACIAL OCTOPUS.

One of the largest glacier systems in the world radiating from any single peak is situated on this mountain. A study of the map will show a snow-covered summit with great arms of ice extending from it down the mountain sides, to end in rivers far below. Six great glaciers appear to originate at the very summit. They are the Nisqually, the Ingraham, the Emmons, the Winthrop, the Tahoma, and the Kautz glaciers. But many of great size and impressiveness are born of the snows in rock pockets or cirques, ice-sculptured bowls of great dimensions and ever-increasing depth, from which they merge into the glistening armor of the huge volcano. The most notable of these are the Cowlitz, the Paradise, the Fryingpan, the Carbon, the Russell, the North and South Mowich, the Puyallup, and the Pyramid glaciers.

Twenty-eight glaciers, great and small, clothe Rainier—rivers of ice, with many of the characteristics of rivers of water, roaring at times over precipices like waterfalls, rippling and tumbling down rocky slopes—veritable noisy cascades, rising smoothly up on hidden rocks to foam, brooklike, over its lower edges.

Every winter the moisture-laden winds from the Pacific, suddenly cooled against its summit, deposit upon its top and sides enormous snows. These, settling in the crater which was left after the great explosion in some prehistoric age carried away perhaps 2,000 feet of the volcano's former height, press with overwhelming weight down the mountain's sloping sides.

Thus are born the glaciers, for the snow under its own pressure quickly hardens into ice. Through 14 valleys self-carved in the solid rock flow these rivers of ice, now turning, as rivers of water turn, to avoid the harder rock strata, now roaring over precipices like congealed waterfalls, now rippling, like water currents, over rough bottoms, pushing, pouring relentlessly on until they reach those parts of their courses where warmer air turns them into rivers of water.

#### WEALTH OF GORGEOUS FLOWERS.<sup>1</sup>

In glowing contrast to this marvelous spectacle of ice are the gardens of wild flowers surrounding the glaciers. These flowery

<sup>1</sup>The most abundant flowers are described in the illustrated publication entitled "Features of the Flora of Mount Rainier National Park," which may be obtained from the Superintendent of Documents, Washington, D. C., for 25 cents. It may be purchased also by personal application at the office of the superintendent at the entrance to the park, but that officer can not fill mail orders.

spots are called parks. One will find on the accompanying map Spray Park, St. Andrews Park, Indian Henrys Hunting Ground, Paradise, Summer Land; and there are many others.

"Above the forests," writes John Muir, "there is a zone of the loveliest flowers, 50 miles in circuit and nearly 2 miles wide, so closely planted and luxurious that it seems as if nature, glad to make an open space between woods so dense and ice so deep, were economizing the precious ground and trying to see how many of her darlings she can get together in one mountain wreath—daisies, anemones, columbine, erythroniums, larkspurs, etc., among which we wade knee deep and waist deep, the bright corollas in myriads touching petal to petal. Altogether this is the richest subalpine garden I have ever found, a perfect flower elysium."

The lower altitudes of the park are densely timbered with fir, cedar, hemlock, maple, alder, cottonwood, and spruce. The forested areas, extending to an altitude of about 6,500 feet, gradually decrease in density of growth after an altitude of 4,000 feet is reached, and the high, broad plateaus between the glacial canyons present incomparable scenes of diversified beauties.

#### FOREST TYPES.<sup>1</sup>

The forests of the Mount Rainier National Park contain few deciduous trees, but are remarkable for the variety and beauty of their conifers. The distribution of species and their mode of growth, the size of the trees, and the density of the stand are determined, primarily, by the altitude.

The dense evergreen forests characteristic of the lower western slopes of the Cascades extend into the park in the valleys of the main and West Fork of White River, the Carbon, the Mowich, the Nisqually, and the Ohanapecosh. Favored by the warm and equable temperatures and the moist, well-drained soil of the river bottoms and protected from the wind by the inclosing ridges, the trees are perfectly proportioned and grow to a great height. The forest is of all ages from the seedling concealed in the undergrowth to the veteran 4 to 8 feet in diameter and perhaps 400 years old. The average increase at the stump in valley land is about 1 inch in six years. A Douglas fir growing along the stage road between the park boundary and Longmire's, at the age of 90 to 120 years, may have a breast diameter of 20 inches and yield 700 feet of saw timber. But many of the trees of this size may be much older on account of having grown in the shade or under other adverse conditions. The trees between 200 and 300 years of age are often 40 to 50 inches in diameter and may yield an average of from 2,700 to 5,500 board feet. The largest Douglas firs are sometimes over 400 years old and 60 to 70 inches in diameter. Such trees when sound will produce over 8,000 feet of lumber. Up to 3,000 feet the forests about Mount Rainier are composed of species common throughout the western parts of British Columbia, Washington, Oregon, and northern Cali-

<sup>1</sup>The forest trees are described in the illustrated publication entitled "Forests of Mount Rainier National Park," by G. F. Allen, supervisor Rainier National Forest, which may be obtained from the Superintendent of Documents, Washington, D. C., for 20 cents. It may be purchased also by personal application at the office of the superintendent of the park at the entrance, but that office can not fill mail orders. The statement given here is the résumé of the publication cited.

fornia. The dominant trees are the western hemlock and the Douglas fir. While these trees compose the type peculiar to the bottom lands, they are not confined to it, but extend to the ridges and continue to be the prevailing species up to 3,000 feet. The stand on the mountain slopes is lighter and more open, and the trees are smaller. Huckleberry bushes and other shrubs adapted to the drier soil of the foothills, Oregon grape, and salal take the place of the tall and dense undergrowth of the bottom lands, and the amount of fallen timber is noticeably less.

Between the elevations of 3,000 and 4,500 feet the general character of the forest is intermediate between that of the lowland type and the subalpine growth of the high mountains. The forest is continuous, except where broken by extremely steep slopes and rocky crests where sufficient soil has not accumulated to support arborescent growth. In general, there is little undergrowth. The stand is fairly close on flats, benches, and moderate slopes and more open on exposed situations and wind-swept ridges. The prevailing trees are the amabilis and noble fir. They sometimes grow separately in pure stands, but more often are associated. At the lower limits of this type they are mixed with the Douglas fir and hemlock, while subalpine species appear at the upper limits.

A large part of the area above the 4,500-foot contour consists of open, grassy parks, rocky and barren summits, snow fields, and glaciers. Tracts of dense subalpine forest occur in sheltered locations, but they are nowhere very extensive, and their continuity is broken by open swamp glades and meadows and small bodies of standing water. The steep upper slopes of the spurs diverging from the main ridges are frequently covered with a stunted, scraggy growth of low trees firmly rooted in the crevices between the rocks. The most beautiful of the alpine trees are about the mountain parks. Growing in scattered groves and standing in groups or singly in the open grassland and on the margins of the lakes, they produce a peculiarly pleasing landscape effect which agreeably relieves the traveler from the extended outlook to the snow fields of the mountain and broken ridges about it. At the lower levels of the subalpine forest the average height of the largest trees is from 50 to 60 feet. The size diminishes rapidly as the elevation increases. The trees are dwarfed by the cold, and their trunks are bent and twisted by the wind. Small patches of low, weather-beaten, and stunted mountain hemlock, alpine fir, and white-bark pine occur up to 7,000 feet. A few diminutive mountain hemlock grow above this elevation. The trunks are quite prostrate, and the crowns are flattened mats of branches lying close to the ground. The extreme limit of tree growth on Mount Rainier is about 7,600 feet. There is no distinct timberline.

Notwithstanding the shortness of the summer season at high altitudes, the subalpine forests in some parts of the park have suffered severely from fire. There has been little apparent change in the alpine burns within the last 30 years. Reforestation at high altitudes is extremely slow. The seed production is rather scanty, and the ground conditions are not favorable for its reproduction. It will take more than one century for nature to replace the beautiful groves which have been destroyed by the carelessness of the first visitors to

the mountain. At low elevations the forest recovers more rapidly from the effects of fire. Between the subalpine areas and the river valleys there are several large, ancient burns which are partly reforested. The most extensive of these tracts is the Muddy Fork Burn. It is crossed by the Stevens Canyon Trail from Reflection Lakes to the Ohanapecosh Hot Springs. This burn includes an area of 20 square miles in the park and extends north nearly to the glaciers and south for several miles beyond the park boundary nearly to the main Cowlitz River. The open sunlit spaces and wide outlooks afforded by reforested tracts of this character present a strong contrast to the deep shades and dim vistas of the primitive forest. On the whole, they have a cheerful and pleasing appearance very different from the sad, desolate aspect of the alpine burns, which less kindly conditions of climate and exposure have kept from reforestation.

#### NOTES ON THE WILD FLOWERS.<sup>1</sup>

The flowering plants in the forest in the zone ranging from 2,000 feet to 4,000 feet are those adapted to grow in the shade. Many of these live on decayed vegetation instead of preparing their own food as ordinary plants do under the action of light on the green coloring matter in their leaves. Some of these so-called flowering plants have in reality become fungi, depending wholly on other plants for their food. Two forms of the ghost plant or Indian pipe are good examples of these colorless forms. In addition to these saprophytic plants there are many others providing their own living, such as the Indian pipsissewa, the pyrolas, and the moneses, producing beautiful waxy flowers. Nearly everywhere through the moss grows the little bunch berry or Canada dogwood. Close companions of the latter are the forest anemone, the ovate trillium, and the beautiful white, one-flowered clintonia. The sword fern, deer fern, oak fern, lady fern, and maidenhair fern all vie with each other in producing a beautiful setting among those giant trees and graceful flowering plants.

Many trails wind through these enchanted woods, giving the tourist an opportunity to forget the cares of business life and see nature at its best.

In the upper area of this zone the squaw grass, mertens, corral root, the racemose pedicularis, the secund pyrola, and the ovate salal are typical plants. Here and there along the roadside the beautiful twin flower hangs down gracefully over the embankments, filling the air with its fragrance. This can be seen along the road long before the park is reached, though at its best between 2,000 and 3,000 feet elevation.

At about 4,000 feet the glacial valleys make openings into the forest. In the open places the plants of the higher regions often blend with those of the forest areas. In many places the sinuate mountain alder, the devil's club, and the salmon berry form dense jungles. The spring beauties, pentstemons, monkey flowers, luinas, stonecrops, and mertensias are common on the old moraines and moist places.

The forest continues up to 4,500 feet, at which elevation the grassy meadows begin. Here begins also the real floral beauty of the park.

<sup>1</sup> By J. B. Flett, park ranger in Mount Rainier National Park.

The lower meadows are generally moist and often swampy. The typical plants are the cotton grass, spiraeas, asters, erythroniums, arnicas, monkey flowers, the creamy firewood, swamp speedwells, sedges, and willows. These moist meadows soon give way to dry grassy areas interspersed with beautiful symmetrical tree groups. As elevation increases the groups of trees diminish in both number and size until timber line is reached, when they form prostrate mats at about 6,700 feet.

The region of the greatest floral beauty is about 5,400 feet. Here the plants are large, growing in fertile soil. Here the color of the leaves as well as the floral organs are superb. All colors are represented. The principal plants having red flowers in this zone are Indian paint brush, Lewis's monkey flower, red heather, rosy spiraea, and the fireweeds; those having white flowers are valerians, mountain dock, saxifrages, avalanche lilies, several umbelliferous plants, and the cudweeds; those having blue flowers are speedwells, lupines, mertensias, pentstemons, and violets; those having yellow flowers are the arnicas, potentillas, buttermilks, deertongues, stonecrops, mountain dandelions, and monkey flowers.

The principal plants in the pumice fields above timber line are the mountain phlox, golden aster, Lyall's lupine, yellow heather, scarlet pentstemon, hulsea nana, purple phacelia, golden draba, and melowskia. The last two vie with each other for attaining the highest altitude.

## TWELVE CHARACTERISTIC PARK BIRDS.<sup>1</sup>

### RED-SHAFTED FLICKER.

*Size.*—Somewhat larger than a robin.

*General color.*—Head, nape, chin, and throat gray, with brownish crown and forehead, males with red mustaches; upperparts smoky brown with transverse black bars, underparts lighter, with numerous conspicuous round black spots, and shield of black on breast; wing and tail feathers red shafted; rump white; end of tail black.

*Identification.*—The red-shafted wing and tail feathers, and prominent white rump distinguish the flicker from any other woodpecker in the park.

*Principal call note.*—A ringing *yip, yip, yip, yip, yip, yip.*

*Occurrence.*—From the park boundaries to timberline.

*Remarks.*—The noisiest, most conspicuous, most adaptable, most numerous, and most universally distributed woodpecker in the park. The flicker undoubtedly prefers the tracts of "ghost" trees or dead stubs which are encountered at fairly frequent intervals around the mountain; for here both nesting sites and food are present in greatest abundance.

### STELLAR JAY.

*Size.*—Somewhat larger than a robin.

*General color.*—Head black, back gray, rump, tail, and underparts blue.

*Identification.*—A prominent crest, combined with the bluish coloration and saucy habits, suffice to distinguish this bird from any other.

*Principal call note.*—Has been well rendered by the syllables *shaack, shaack, shaack.*

*Occurrence.*—Commonly found from park boundaries to about 3,500 feet altitude. Abundant at Longmire Springs. A vertical migration takes place in late summer, when the birds may be found in the high parks, just below timberline.

<sup>1</sup>By Walter P. Taylor, assistant biologist, Bureau of Biological Survey, U. S. Department of Agriculture.

*Remarks.*—Fond of human society, or, rather, of the good pickings that go with it. More or less omniverous as to diet, loquacious of temperament, alternately bold and shy. A secretive nester. Comports himself with much dignity and the appearance of respectability and worldly wisdom, but is something of a villain in spite of that, for it is well known that he is not averse to eating the eggs and breaking up the homes of smaller birds.

#### CAMP ROBBER—OREGON JAY.

*Size.*—About that of a robin.

*General color.*—Gray above, whitish beneath; top of head dark brown, face mostly white.

*Identification.*—The grayish coloration of the back, combined with the whitish color of the underparts and dark brown head, serve to distinguish this bird. If these were not sufficient, its extraordinary habits would at once identify it as a camp robber.

*Call notes.*—Possesses a number of widely different calls, such that one not infrequently thinks several different varieties of birds are within hearing. Prominent are a *rekkek*, *rekkek*, *wheet*, *wheet*, and *whecup*, with a whistled *wheooo*.

*Occurrence.*—Throughout the forested area within the park.

*Remarks.*—A most loquacious and inquisitive bird. Less shy than any other in the park. Does not hesitate to invade one's camp and appropriate tasty morsels of butter, potatoes, and scraps of mush or meat even from the very plate from which one is eating—if one will permit. The vocal versatility shown by the bird, his occurrence in heavy timber where other birds are scarce, his informal manner of dropping in on one's camp, his extraordinary freedom from shyness, and his comical struggles with food fragments too large for him to carry away promptly, all contribute to one's affectionate interest in the Oregon jay, and serve to establish his reputation as one of the park's most interesting bird citizens.

#### VARIED THRUSH.

*Size.*—Of a robin.

*General color.*—Slate color above, tawny below, with black breast band; belly more or less whitish; two reddish yellow bands on wings.

*Identification.*—The black breast band and the two chestnut wing bars suffice to distinguish this bird from its relative the robin.

*Voice or principal call note.*—An exceedingly elusive bird song, difficult or impossible to describe, but once heard ever after recognized; "the famous note that holds the rapt sublimation of the songs of all the thrushes."

*Occurrence.*—From the park boundaries to the limit of trees.

*Remarks.*—This bird, while abundant through the park, is never conspicuous. It is a personification of the elusive and mysterious inward spirit of the majestic forest in which it makes its home. Its color, demeanor, song, call notes, and habits harmonize perfectly with this conception.

#### WESTERN WINTER WREN.

*Size.*—About that of a house wren.

*General color.*—Dark brown, lighter beneath.

*Identification.*—The small size, deep-brown color, absence of conspicuous white line over the eye, and ground-loving habits of this diminutive park resident makes identification easy.

*Voice or principal call note.*—The call note most often heard is a *chek*, *chek-chek*, *chek-chek*. This wren possesses a variety of notes and its tiny tinkling song is one of the most attractive features of the heavy dark woods.

*Occurrence.*—Abundant from the park boundaries nearly to the limit of trees.

*Remarks.*—This bird seems as much a part of the shadowy forest floor as the mosses, huckleberry vines, huge logs, and upturned roots of its surroundings. Ordinarily the bird does not venture higher than 6 feet above the ground, but it wont suddenly to issue from beneath a huge mossy log quite close to the observer and give his usual command to *chek-chek*, *chek-chek*. If approached he dodges back under the log, or slips silently away in some handy root tangle. Food, nesting site, and approved living conditions all are furnished in abundance by his forest-floor habitat.

## WATER OUZEL—DIPPER.

*Size.*—About two-thirds that of a robin.

*General color.*—Slate gray.

*Identification.*—No other bird can be confused with the modestly dressed dipper, with its bobtail, its pretty habit of courtesying, and its passion for turbulent streams and waterfalls.

*Call note.*—A *rekekekk*, which has been rendered also as a *jigic, jigic, jigic*. Possesses a song of full rich notes, which is wonderfully attractive in the wild surroundings in which this bird is usually found.

*Occurrence.*—Along streams and about lake shores from the park boundaries to 5,900 feet altitude.

*Remarks.*—As is well known the water ouzel has the extraordinary habit of nesting beneath waterfalls. The Washington Cascades between Narada Falls and Paradise Valley is a favorite stretch of water, but one is not unlikely to meet the bird on any of the streams of the park. The birds have also been observed swinging low over the water near the shores of Reflection and Mowich Lakes, apparently as much at home as on the cascading creeks below.

## CLARK NUTCRACKER.

*Size.*—Somewhat larger than a robin.

*General color.*—Body plumage gray; wings black, bordered with white; tail black above with white margins, white beneath.

*Identification.*—The gray body plumage, black wings with white borders, and black tail with white margins well serve to identify this bird.

*Call notes.*—The most conspicuous is usually described as a *chaar chaar*. The harsh begging cries of the young importuning their elders for food reminds one somewhat of the domestic fowl.

*Occurrence.*—At high altitudes (above 5,000 feet) in the eastern part of the park. Most abundant in Glacier Basin, but found west on the south side of the mountain as far as Indian Henrys Hunting Ground and on the north side to Chenuis Mountain and Tolmie Peak.

*Remarks.*—Omnivorous feeders and rather secretive nesters. Common about the settlements in Paradise Valley. Often not shy, invading the camp and making off with whatever eatables they can find. Equally at home on the ground or in the conifers. Usually attract much attention through their loud and penetrating cries.

## SHUFELDT JUNCO.

*Size.*—About that of an English sparrow.

*General color.*—Head, throat, and breast black, back brownish gray, belly white, wings and tail dusky, tail edged with white.

*Identification.*—No other bird can be mistaken for the black-hooded, gray-brown backed, and white-bellied snowbird.

*Call note.*—The call note most frequently heard is a *chek chek*. The lilting trill song, *tlip, tlip, tlip, tlip, tlip, tlip*, very rapidly repeated on a single note, is often heard also.

*Occurrence.*—Throughout the park from the lowest altitudes to timber line.

*Remarks.*—The trill song of the Shufeldt Junco is at least as likely to be heard in the dwarfed firs at timberline as any other sound. In this bleak region it is cheering and delightful.

## WHITE-TAILED PTARMIGAN.

*Size.*—Of a small domestic fowl.

*General color.*—Above, in summer, pale tawny, or dull-grayish buff, mottled or barred with black; underparts mottled or barred with black on a whitish ground; belly, wings, and tail white. In winter plumage wholly white.

*Identification.*—Can be confused with no other bird in its habitat.

*Voice or principal call note.*—A rolling cluck varied with a sharp squeak or squeak, as follows: *Susqueck, cluk-luk-a-luk-cluk-luk-a-luk*, or simply *squeek, cluk, cluk, cluk, cluk*.

*Occurrence.*—Found between altitudes of 6,000 and 8,000 feet all around the mountain, the region at or just above timber line being the ptarmigan's preferred habitat.

*Remarks.*—The birds nest on the ground, usually in the shelter of a rock. The exquisite heather bells, with the leaves of the little alpine buckwheat and other vegetation of the heights, furnish in summer an abundant supply of food. Tame and unsuspecting, the ptarmigan is one of the most easily approached and studied of birds. Its grace, beauty, and pleasing personal characteristics, coupled with the inspiring nature of its surroundings, make the ptarmigan in its habitat perhaps the most attractive bird in the park.

## PINE SISKIN.

*Size.*—Of a goldfinch.

*General color.*—Above grayish or brownish, rump paler; below dull white; streaked with dusky above and below; two whitish wing-bars. Basal parts of principal wing and tail feathers pale yellow.

*Identification.*—The less secretive habits of the pine siskin, with the longitudinal streaking and shrill call notes, distinguish this bird from certain warblers with which it might otherwise be confused.

*Call notes.*—The principal call note in flight is *Sooooet*, with a slightly rising inflection.

*Occurrence.*—Found throughout the park, to altitudes far above timberline.

*Remarks.*—This goldfinch of the heights is an attractive little creature, both in his dress and his personality. Of an exceedingly sociable disposition, he apparently regrets the necessity of giving up the flocking habit even for the nesting period, and as soon as possible he gathers with his relatives, friends, and acquaintances into considerable companies. These flocks, made up sometimes of as many as 200 or 300 individuals, may be seen perching on heather banks, snow fields, rocks, or alpine firs, continuously circling and wheeling as they seek their food, conversing amicably in the pleasing siskin language as they industriously work and play together.

## PIPIT.

*Size.*—About that of an English sparrow.

*General color.*—Gray above, whitish washed with buffy beneath; breast more or less streaked lengthwise with dusky.

*Identification.*—In the field this bird appears dark above, and buffy-whitish beneath. A more or less conspicuous lengthwise streaking on the breast is apparent also. The tail appears brownish, with white edgings. At intervals the bird tips up its tail in a characteristic manner.

*Call notes.*—Alarm note, *whist, whist, whist*; location call, *tsink, tsink*.

*Occurrence.*—From timberline, averaging 6,500 feet altitude, at least to Camp Muir, altitude 10,000 feet.

*Remarks.*—With the rosy finch and pine siskin, the pipit holds the altitude record for birds observed by us in the park. Grassy patches above timberline are apparently preferred for nest sites. Often one will encounter this bird cheerfully teetering and calling on storm-swept rock ledges or pumice slopes from hundreds to thousands of feet above the last dwarfed and matted trees.

## HEPBURN LEUCOSTICTE OR ROSY FINCH.

*Size.*—About that of an English sparrow.

*General color.*—Brown above and below, with rose color along flanks and on margins of wing feathers. Head gray, except black frontal patch; face gray.

*Identification.*—The pipit is the only other bird of similar size occurring in the leucosticte's habitat. The darker color alone of the latter would usually distinguish it from the pipit; the leucosticte lacks the white markings on the tail possessed by the pipit, and also the teeter-tail habit so conspicuous in the pipit. The bearing of the birds is different, the leucosticte being a sparrow; the pipit a wagtail.

*Call notes.*—*Krek, krek*, or *kereck, kereck*; sometimes *peep, lip, lip, peep, lip, lip*.

*Occurrence.*—Noted on rocky ridges from timberline, 6,500 feet altitude, at least to the altitude of Camp Muir, 10,000 feet.

*Remarks.*—Individuals or pairs of this hardy bird mountaineer can quite certainly be found if one has the persistence to climb to its habitat. Ap-



parently scorning more comfortable surroundings, the Rosy Finch selects for its home and feeding ground bleak and windswept ridges of rock and dizzy crags and precipices, and it is not hard to understand why very few nests have ever been found. In the fall the birds gather in considerable flocks and descend to lower altitudes.

## TWELVE CHARACTERISTIC MAMMALS OF THE PARK.<sup>1</sup>

### COLUMBIAN BLACK-TAILED DEER.

*Size.*—Big bucks will approximate perhaps 200 pounds.

*General color.*—In summer, rich rusty red; in winter, grayish brown.

*Identification.*—The short, broad black tail is sufficient to distinguish this deer from any other.

*Occurrence.*—Found generally distributed around the mountain, in the meadows and timber to 6,000 feet altitude.

*Remarks.*—While present, doubtless, in greater numbers than one would at first suppose, deer are not often seen, probably because of the liberal amount of cover afforded by the heavily forested park area. One is as likely to observe deer on the green meadow at Longmire Springs, or along the road between Longmire Springs and Paradise Valley, as anywhere in the park.

### MOUNTAIN GOAT.

*Size.*—Old billies will probably weigh up to 400 pounds.

*General color.*—White; nose and horns appear black.

*Identification.*—The shaggy white hair, short unbranched horns, and awkward-appearing heavy body suffice to identify the animal.

*Voice.*—Seldom heard. The kids have a shrill whinny, a little like the mew of a cat.

*Occurrence.*—Found all around the mountain, in summer usually at or above timberline.

*Remarks.*—Any mountaineer who is vouchsafed the sight of a mountain goat in the park may consider himself fortunate, for here, contrary to the case elsewhere, the animals are extremely wary. Living amid glaciers, rocky crags, precipitous cliffs, and pumice fields, the mountain goat has a habitat on Mount Rainier the superior of which in scenic grandeur would be very hard to find. Though present in some numbers about the mountain, one must hunt with exceeding great care to see him at all. Remarkably light on his feet for so heavy-bodied and clumsy-appearing an animal, he is able to negotiate ice and rock slopes of unbelievable steepness. His size, sure-footedness, conspicuousness, herding habit, and unapproachability make the mountain goat unquestionably the most interesting animal in the park.

### BLACK BEAR.

*Size.*—Length, 6 feet or less; weight, usually between 200 and 300 pounds.

*General color.*—Black or brown, both phases occurring in the same kind of bear, often, indeed, in the same litter.

*Occurrence.*—Found throughout the park in suitable situations, perhaps more often than elsewhere in the open alpine park country between altitudes of 4,500 and 6,000 feet.

*Remarks.*—Sign of the presence of bears, in the form of tracks and droppings, is much more often seen than are the animals themselves. Not infrequently, however, especially in huckleberry time, one catches sight of the bear himself regaling his appetite on the juicy fruit. Although bears have been protected since 1899 when the park was established, they do not seem to be abundant, and they continue shy. The abundance of cover also militates against their being seen, and there are undoubtedly many more bears in the park than one might at first suppose.

<sup>1</sup> By Walter P. Taylor, assistant biologist, Bureau of Biological Survey, U. S. Department of Agriculture.

## HOARY MARMOT—WHISTLER.

*Size.*—About that of an averaged-sized badger.

*General color.*—Black, brown, and gray; face black; nape, shoulders, and upper back gray, remaining portion of back and rump black grizzled with gray; tail brown; underparts dark brown grizzled with gray; feet black.

*Identification.*—Any animal of heavy-bodied appearance about the size of a badger, noted on the rock slides or in the green meadows nearby, is sure to be a marmot.

*Voice.*—A shrill, penetrating whistle of clear quality and decided attractiveness.

*Occurrence.*—Abundant in rock slides from 4,900 feet altitude to timber line and somewhat above.

*Remarks.*—The clear and penetrating whistle of the hoary marmot is among the best of the wild music of the mountains. The facility with which the animal traverses rock slides and steep slopes would scarcely be anticipated in an animal of so heavy-bodied and awkward an appearance. The reposed demeanor of the marmot, as it sits quietly on some convenient rock as one approaches, gives little evidence of the struggle between curiosity and caution taking place within. During July the young appear with their parent, and seating themselves on some handy bowlder stare at the observer with a comical gravity. The picture furnished by the glorious amphitheaterlike cirques of the pars, with their precipitous walls, glaciers, snow fields, and rock slides, and their forests and flowers, would scarcely be complete without the whistler.

## THE DOUGLAS SQUIRREL.

*Size.*—A little smaller than the gray squirrel.

*General color.*—Dark brown above, the color separated as a rule from the paler or redder color of the underparts by a black line. Tail bordered with paler color.

*Identification.*—The unstriped dark-brown back of this squirrel serves to separate it from any other member of the squirrel family in the park.

*Voice.*—An alarm note is *qurr-r-r-weep*. The call perhaps most often heard is a *quooo, quooo, quooo*, which is sometimes uttered at intervals of a few seconds for a considerable period of time.

*Occurrence.*—From the boundaries of the park to timber line and above, all around the mountain.

*Remarks.*—A bundle of restless energy, the Douglas squirrel is always one of the most interesting mammals of the woods. On seeing you suddenly he appears to be almost overcome by his nervous excitement, and running jerkily up the nearest tree he calls down imprecations upon you for disturbing the quiet of his peaceful woods. His bright eyes, unusual activity, and graceful movements are sure to attract favorable comment. Probably more people will become acquainted with the Douglas squirrel than with any other animal in the park except the chipmunks.

## LITTLE CHIPMUNK.

*Size.*—About one-third the size of a house rat. Length of tail and body, 9½ inches or less.

*General color.*—Pale grayish brown, with nine stripes lengthwise on the back, alternating dark brown and lighter; sides brownish; underparts whitish; face gray, striped with dark brown; tail blackish above margined with brownish, below pale brownish edged with black and brown.

*Identification.*—The brownish rather than silver grayish margins of the tail separate this form from the cooper chipmunk.

*Voice.*—Possesses several call notes, one of the commonest of which is *whitz, whitz, whitz*, and so on, often for a quarter of an hour or more. When suddenly surprised the chipmunk breaks into a whole series of excited chitterings, which betray his uncontrollable excitement.

*Occurrence.*—In open situations all around the mountain between 4,500 and 6,500 feet altitude.

*Remarks.*—The chipmunk of the open alpine park country about Paradise Inn and elsewhere at similar altitudes (5,500 feet) is smaller and a trifle paler than the chipmunk of the deep woods about Longmire Springs. The bright eyes,

sharp call notes, curiosity, and generally vivacious and sprightly temperament of the chipmunks make them without doubt the most attractive mammals commonly seen by travelers through the park.

#### COOPER CHIPMUNK.

*Size*.—About one-third the size of a black rat. Length of tail and body, 9½ inches or more.

*General color*.—Deep brown, the nine lengthwise black stripes less accentuated than in the little chipmunk, tending to be obscured by the deeper color. The light stripes are brownish and grayish, never white; tail black above, margined with silvery gray; dark brown below, edged with black and gray.

*Identification*.—The silver-gray rather than brown margins of the tail separate this species from the little chipmunk.

*Voice*.—Very similar to that of the little chipmunk. A whistled *whooit* note is conspicuous in its repertoire.

*Occurrence*.—From the park boundaries to an altitude of 6,000 feet, or nearly to the limit of trees.

*Remarks*.—One may frequently walk for some minutes along trails or roads through the deep forests about Longmire Springs without seeing a single bird or mammal. It will not be long, however, before one of these handsome chipmunks will be noted running with consummate grace and agility along a mossy log, or sitting on his haunches, alert and watchful, to see what is coming. This chipmunk possesses the mischievous character so often attributed to the tribe in general, and makes himself very much at home about the cabins and camps at Longmire Springs. He is a very attractive and friendly "brother in fur," however, and one should remember that the crumbs that nobody else cares for afford the chipmunk ideal materials for a feast.

#### THE MANTLED GROUND SQUIRREL.

*Size*.—Of a brown rat.

*General color*.—Black grayish brown, with two series of more or less conspicuous lengthwise stripes on the sides of the back, an almost obsolete black stripe above, a white stripe in the middle, and a strong black stripe below; underparts lighter; head, shoulders, and forearms inclined to brownish or yellowish.

*Identification*.—The size and the plump, less graceful proportions of this squirrel, together with the smaller number of stripes lengthwise, serve to separate this animal from the chipmunks. The presence of stripes distinguishes it from the Douglas squirrel.

*Voice*.—A call note is given like *tsecup*, or *tscek*.

*Occurrence*.—Occurs all around the mountain (except on the west side) between altitudes of 2,500 and 7,000 feet.

*Remarks*.—Ordinarily the mantled ground squirrel is not conspicuous, as he does not possess the vivacity or sprightly personality of the chipmunk. On the contrary he is inclined to be somewhat corpulent and of phlegmatic disposition. He quickly becomes accustomed to human society, and likes nothing better than a chance to filch food fragments from campers' supplies. Not uncommonly noted about Longmire Springs and Paradise Valley.

#### CONY.

*Size*.—About that of a rat.

*General color*.—Brownish gray.

*Identification*.—The cony is a small grayish-brown rabbitlike animal, lacking any visible tail and possessing large round ears.

*Voice*.—The call note most often heard may be rendered *cnk*. This call is subject to considerable variation.

*Occurrence*.—Normally occurs in suitable rock slides from 3,000 feet to timber line and a little above, say to 7,000 feet.

*Remarks*.—No talus slope amid the inspiring and vivifying influence of timber-line scenery would be complete in the absence of the "cony that lives in the rocks." In spite of the fact that conies are soft-bodied, delicate creatures and must furnish, occasionally, a delicious morsel for the ever-active marten, weasel, coyote, or eagle, they seem to thrive well in their unusual surroundings.

They have taken literally the injunction to make hay while the sun shines. In the late summer and fall, piles of vegetation in various stages of accumulation and drying form a conspicuous feature of cony rock slides.

#### WHITE-FOOTED MOUSE—DEER MOUSE.

*Size.*—About that of a house mouse.

*General color.*—Dark brown above, white below.

*Identification.*—The comparatively large ears serve to distinguish this mouse from any of the meadow mice or shrews; and the brownish coloration above, with white underparts, separate the deer mouse from the house mouse with its dirty grayish color above and below.

*Occurrence.*—Throughout the park, at practically all altitudes. Noted on the summit of Mount Rainier.

*Remarks.*—The white-footed mouse finds congenial surroundings in almost any sort of habitable situation. Since the animals are active only at night, they are seldom seen. In spite of the fact that they become something of a pest in campers' cabins, their bright eyes and agile movements render them not altogether unattractive to park residents.

#### LARGE-FOOTED MEADOW MOUSE—WATER RAT.

*Size.*—About three-fourths the size of a brown rat.

*General color.*—Bluish gray.

*Identification.*—A shy, bluish-gray creature usually about one-half or three-fourths as large as a full-grown rat, with inconspicuous ears, and no bright colors or conspicuous markings.

*Occurrence.*—Usually in the moist park country from 4,500 feet to timber line or above.

*Remarks.*—This is the largest meadow mouse in the park. Its runways are conspicuous in the moist vegetation of the flower-covered meadows at about 5,000 feet altitude, and the animal itself is not infrequently seen in broad daylight slipping furtively along its trail from burrow to burrow. The animal is very much at home in the water, where it swims and dives with facility. It has often been called water rat by travelers unfamiliar with its true status; and it must be conceded that under ordinary conditions this name would be highly appropriate. It is, however, a very adaptable animal, and is known to live on dry heather hillsides or even among rocks far from water and high above timber line.

#### RED-BACKED MOUSE.

*Size.*—Somewhat larger than a house mouse.

*General color.*—Back broadly reddish; remainder of upper parts a grayish-brown, underparts paler.

*Identification.*—The reddish color of the back suffices to distinguish the red-backed mouse from any of the meadow mice; its small ears and short tail separate it from the white-footed mouse.

*Occurrence.*—From the park boundaries to nearly 6,000 feet altitude.

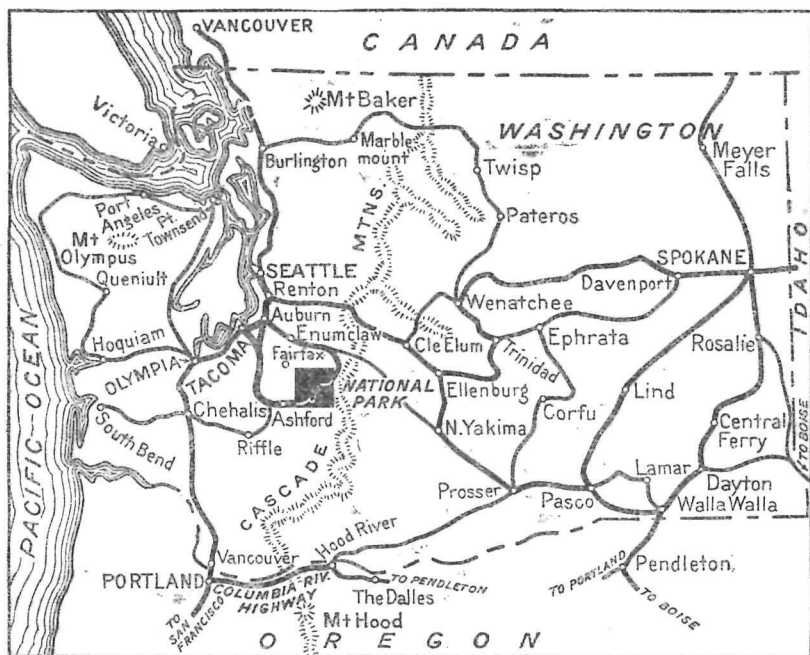
*Remarks.*—If one will quietly walk out into the thick timber near Longmire Springs, seat himself in some comfortable place where there are many mossy logs and watch for some minutes, he is almost sure to catch sight of a red-backed mouse. Perhaps a streak and a shadow is about all he will see, but often the mouse will proceed with deliberation sufficient to afford an adequate view. Finally, in all likelihood, the mouse will dodge into a hole in a stump or disappear in a burrow beneath some huge mossy log.

### SCENIC APPROACHES FROM TACOMA.

Leading south as the crow flies, down the main business artery of Tacoma, the highway to the park really begins in the very business center of the city. For 28 miles the railroad and the highway, paralleling each other, run along the base of huge timbered bluffs

which rise sheer from the prairie level, or through timbered copses and huddling jack pines that dot the landscape, mirroring themselves in the crystal water of many lakes.

At the foothills of the mountain the railroad and the highway really become canyon roads. From the top of King Hill, overlooking Ohop Valley, the highway affords a most inspiring view of the great mountain and its surrounding peaks and valleys. This point is about half way to the park entrance. After descending this hill the road begins rising, almost imperceptibly at first, toward the eternal snows on the mountain's dome. On all sides are mighty firs as yet barely touched by the lumbermen. Now and



PRINCIPAL AUTOMOBILE ROADS IN WASHINGTON.

again the highway—smooth surfaced from January to December—leads at the brink of canyons; gullies they are, compared to what come farther toward the clouds. Here the road turns suddenly on itself and in a twinkling is across the valley's floor. A few hundred yards and it begins again to climb, this time through fir forests a hundred times more splendid than were found before the Ohop was reached.

Presently the traveler finds himself looking down a sheer thousand feet to where the Nisqually River threads its way to the sea. This is the Nisqually Canyon. How the road ever came to wind its very lip is one of the marvels that only the engineer can explain. Near the lower end of the canyon is a great commercial enterprise, made possible by the great glaciers of the Mount Rainier National Park. The city of Tacoma has built a \$2,500,000 electric

plant, and electric light and power are furnished in abundance for the citizens of that municipality, and from the road a full view of the huge project unfolds.

For seeming miles of breathless interest the road runs perilously above the canyon; then, presently, it plunges anew into the endless forests of fir and goes on and on, always gently climbing. The railroad ends at Ashford, 6 miles from the park entrance. At this point motor stages pick up the travelers by rail.

A portion of the Rainier National Forest, 3 miles in width at this point, is crossed just before reaching Mount Rainier National Park, and then the park entrance is reached, almost at the southwest corner of the park. Here a huge log gate has been erected, and through this gate alone may comfortable entry be had to this portion of the mountain park with vehicles. Just inside the gate is a lodge, where the visitor must register and become apprised of the rules; then on and on the road plunges, through timber so dense the earlier forests seem pigmy, with glimpses of the mountain breaking through ever and anon and the sound of many rushing waters coming through the trees, until at a sudden turn an evidence of civilization presents itself in the form of the National Park Inn and Longmire Springs.

The mountain road really begins at Longmire Springs. By switchback and crooked twist it rises gradually into the clouds, doubling back and forth on itself far below, every foot revealing some new glory that beggars word description. After 5½ miles the way leads on to a bridge. At the left, less than a thousand feet away, a huge wall of ice rears into the air. This is the terminus of Nisqually Glacier and the beginning of the Nisqually River.

From the glacier the road leads on, with devious windings and turnings, through scenery more glorious every yard, until finally, where eternal snows begin, it ends.

#### WHAT TO WEAR—WHAT TO TAKE WITH YOU.

Reasonably warm clothing should be worn by all park visitors and they should be prepared for sudden changes of weather and altitude.

Those who intend to live in the open or to do any hiking should give particular attention to the footwear to be worn after leaving hotel or camp. Medium-weight shoes, hobnailed, will suffice for all ordinary tramping, but for ice climbing calks instead of hobnails should be used. If the services of guides are to be engaged the guides will provide the calked shoes, clothing, alpenstocks, colored glasses, and face paints necessary for trips over snow and ice fields. Arrangements for guides on the South Side can be made with the Rainier National Park Co.

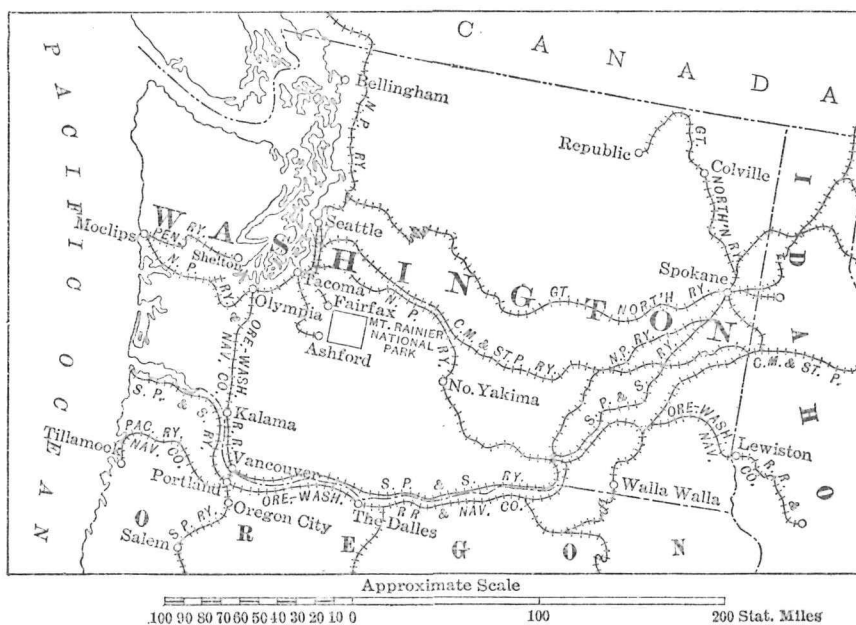
Visitors who intend to camp in the public camp grounds should furnish their own tents, bedding, cooking utensils, provisions, etc. There are grocery stores at Ashford and Longmire Springs where provisions may be purchased by campers. Provisions may also be purchased from the Rainier National Park Co. at Paradise Valley.

#### ADMINISTRATION.

The Mount Rainier National Park was established by the act of March 2, 1899 (30 Stat., 993). The representative of the National Park Service in immediate charge of the park is the superintendent,

Mr. Roger W. Toll. A force of rangers assist this officer in protecting the reservation. Exclusive jurisdiction over the park was ceded to the United States by act of the Washington Legislature dated March 16, 1901, and accepted by Congress by act approved June 30, 1916 (39 Stat., 243). Mr. Edward S. Hall is the United States Commissioner for the park.

The tourist season extends from June 15 to September 15. The address of the superintendent is Longmire, Wash., between June 15 and September 15, and Ashford, Wash., during the remainder of the year. General information may be obtained from the superintendent. All complaints should be addressed to him.



RAILROAD ROUTES TO MOUNT RAINIER NATIONAL PARK.

### HOW TO REACH THE PARK.

#### *Railroad information.*

Mount Rainier National Park is connected by automobile stages of the Rainier National Park Co. with Ashford, Wash., a station on the Chicago, Milwaukee & St. Paul Railroad 55 miles from Tacoma, 93 miles from Seattle, and 6 miles from the park entrance.

Tacoma and Seattle are reached by the Chicago, Milwaukee and St. Paul Railroad, Great Northern Railroad, Northern Pacific Railroad, and Union Pacific System.

During summer season, round-trip excursion tickets at reduced fares are sold from practically all stations in the United States to Tacoma and Seattle as destinations. Passengers holding through excursion tickets to other destinations will find stop-over privileges

available. From many stations in the Northwest excursion tickets are sold through via Ashford to points within Mount Rainier National Park.

The fares from Tacoma and Seattle to points within the Park via Chicago, Milwaukee & St. Paul Railroad to Ashford, thence via automobile stages of the Rainier National Park Co., are as follows:

	Round trip from—	
	Tacoma.	Seattle.
To Longmire Springs.....	\$6.40	\$8.70
To Nisqually Glacier.....	7.40	9.70
To Paradise Valley.....	9.40	11.70

For further information regarding railroad fares, service, etc., apply to railroad ticket agents or address Geo. B. Haynes, general passenger agent, Chicago, Milwaukee & St. Paul R. R., Chicago, Ill.; W. S. Basinger, assistant passenger traffic manager, Union Pacific R. R., Omaha, Nebr.; C. E. Stone, general passenger agent, Great Northern R. R., St. Paul, Minn.; or A. M. Cleland, general passenger agent, Northern Pacific R. R., St. Paul Minn.

*Trail and highway.*

The southern portion of the park is reached by rail to Ashford, thence by automobile stage lines of the Rainier National Park Co. to Longmire Springs, a distance of 13 miles, 6½ of which are within the park.

The northwestern portion of the park is accessible by trail from Fairfax. The distance is 10 miles from Fairfax to the Carbon River ranger station, from which point trails lead to Mowich Lake, Spray Park, Carbon Glacier, Mystic Lake, and other points of interest. Pack horses can be secured at Fairfax by engaging them in advance from Rainier National Park Co., address Tacoma, Wash.

The northeastern portion of the park is reached through the White River entrance, which is 39 miles from Enumclaw, over the McClellan Pass State Highway. This highway has been completed to The Dalles, Wash., 29 miles from Enumclaw. The reconstruction of the remaining 10 miles of road to the park entrance is contemplated during 1920. From the White River entrance a road has been constructed by the Mount Rainier Mining Co. to Glacier Basin, a distance of 10 miles. This road, known as the Storbo Road, is not passable for automobiles at the present time.

From Glacier Basin, and from other points on the Storbo Road, trails lead to Chinook Pass, Owyhigh Lakes, Summer Land, Yakima Park, Winthrop Glacier, Mystic Lake, and other points of interest.

The southeastern portion of the park, where the Ohanapecosh Hot Springs are located, can best be reached by trail from Narada Falls, 14 miles. This section can also be reached by trail, 13 miles from Lewis, Wash. There are no hotel and camp accommodations at the hot springs.



*Auto stage service from Ashford to points within the park.*

The Rainier National Park Co., post-office address Tacoma, Wash., operates 12-passenger auto stages from Ashford to points within the national park. This service connects with the trains of the Chicago, Milwaukee & St. Paul Railroad. Rates are as follows:

	One way.	Round trip.
Between Ashford and park entrance.....	\$0.75	\$1.00
Between Ashmore and Longmire Springs.....	1.50	2.00
Between Ashford and Nisqually Glacier.....	2.25	3.00
Between Ashford and Narada Falls.....	3.00	4.00
Between Ashford and Paradise Valley.....	3.75	5.00

There is at present but one automobile-road entrance to this portion of the park. This road leads out from Tacoma, Seattle, Olympia, and other Puget Sound cities, and for the greater distance from those cities is a highly improved thoroughfare to the park entrance, where it joins the Government road in the park. The distance from Tacoma is 56 miles and from Seattle 96 miles.

*Auto stage service from Tacoma and Seattle to Mount Rainier National Park.<sup>1</sup>*

The Rainier National Park Co. operates regular daily automobile service from Tacoma and Seattle to points within the park at the following rates:

	One way.	Round trip.
From Tacoma to Longmire Springs.....	\$4.00	\$7.00
From Tacoma to Nisqually Glacier.....	4.50	8.00
From Tacoma to Narada Falls.....	5.00	9.00
From Tacoma to Paradise Valley.....	5.50	10.00
From Seattle to Longmire Springs.....	6.50	12.00
From Seattle to Nisqually Glacier.....	7.00	13.00
From Seattle to Narada Falls.....	7.50	14.00
From Seattle to Paradise Valley.....	8.00	15.00

Standard seven-passenger touring cars are used for this service.

Parties desiring exclusive use of automobile for the service between Tacoma, Seattle, and the National Park can arrange for same on the basis of six regular fares for the service desired.

The Rainier National Park Co. maintains hotels, inns, and camps in the park, as well as automobile stage transportation, garage, and other service for the accommodation of visitors.

**HOTELS AND CAMPS.****NATIONAL PARK INN.**

The National Park Inn at Longmire Springs is operated on the American plan only. A number of bungalows and tents are operated in connection with the hotel. An attractive club house or assembly hall of pine logs has been provided for the comfort and entertainment of visitors. Water is taken from the Nisqually River for the operation of an electric lighting and refrigerating plant. The National Park Inn is open from June 15 to September 15.

<sup>1</sup> For transportation within the park, see p. 27.

*Authorized rates at National Park Inn.*

One person in tent, with meals, per day	\$4. 75
Two or more persons in tent, with meals, per day, each	4. 50
One person in hotel room, or bungalow, with meals, per day	6. 00
Two or more persons in hotel room, or bungalow, with meals, per day, each	5. 50
One person in room, with private bath	9. 00
Two or more persons in room, with private bath, each	7. 00
Single meals, table d'hôte:	
Breakfast	1. 25
Luncheon	1. 25
Dinner	1. 50
Children under 8, half rates.	

Except when occupying rooms with private bath, a discount of 10 per cent will be allowed patrons of National Park Inn who remain one week or more.

## PARADISE INN.

The Paradise Inn, situated in Paradise Valley in full view of the Mountain and the Tatoosh Range, is constructed entirely of weathered logs from the Silver Forest near by. These logs show entirely to the ridgepole in the big lounging room, which is 50 by 112 feet. The dining room has about the same dimensions.

The Inn is operated on the American plan. Rooms may be had with or without private bath. One hundred 2-room bungalow tents are grouped near by and are operated in connection with the Inn. Hotel rooms and bungalow tents are heated and lighted by electricity. Rooms in hotel and bungalow tents will be assigned only to guests taking all meals at the inn.

*Authorized rates at Paradise Inn.*

[American plan.]

One person in half of double bungalow tent, with meals, per day	\$5. 50
Two or more persons in half of double bungalow tent, with meals, per day, each	5. 00
One person in room, Paradise Inn, with meals, per day	6. 50
Two or more persons in room, Paradise Inn, with meals, per day, each	6. 00
One person in room, with private bath, Paradise Inn, with meals, per day	10. 00
Two or more persons in room, with private bath, Paradise Inn, with meals, per day, each	8. 00
Single meals, table d'hôte:	
Breakfast	1. 25
Luncheon	1. 50
Dinner	1. 50
Children under 8, half rates.	

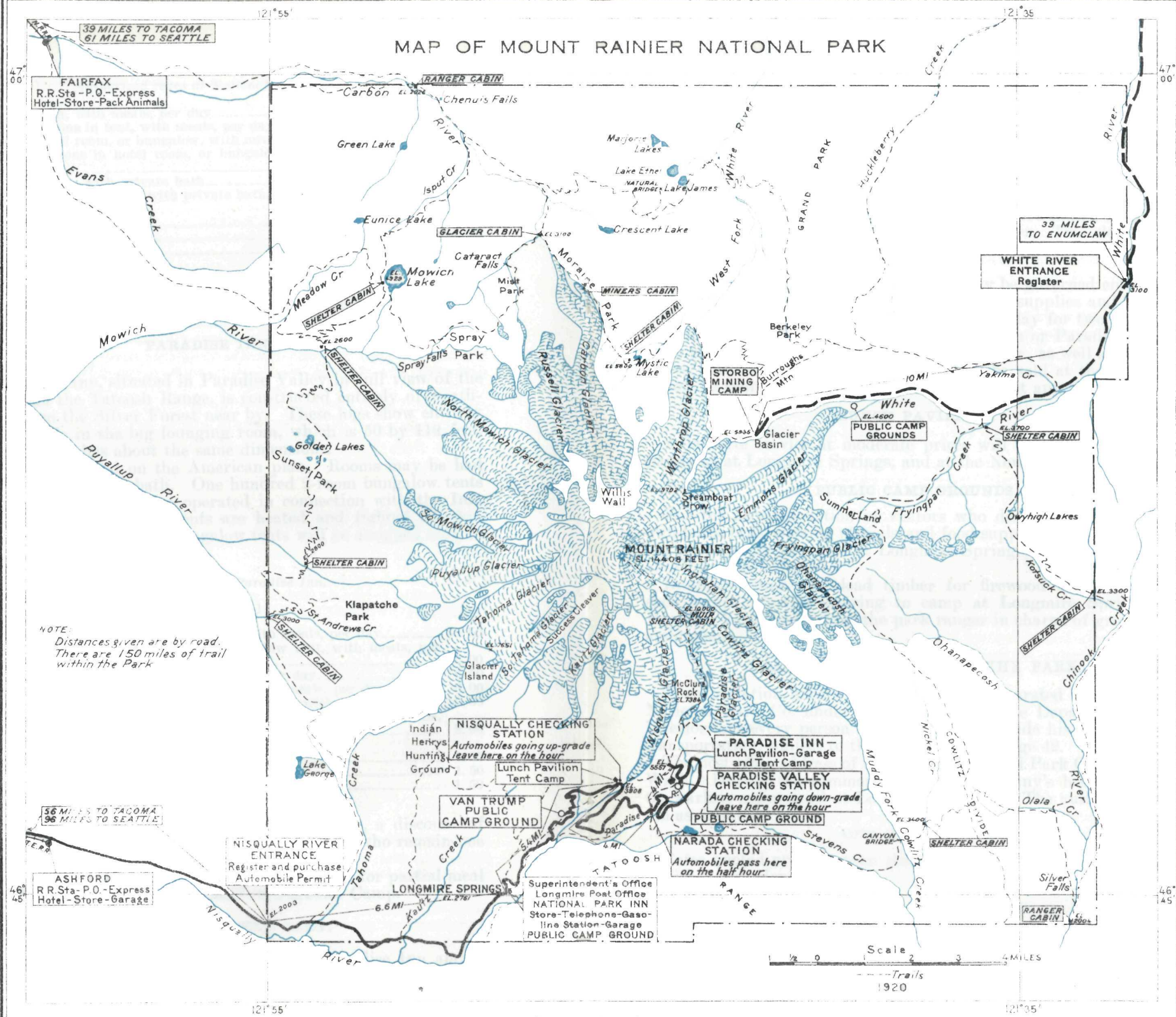
Except when occupying rooms with private bath, a discount of 10 per cent will be allowed patrons of Paradise Inn who remain one week or more.

Patrons who desire to lease tents without meals or for partial meal service will be accommodated at the New Paradise Camp.

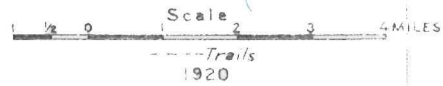
## THE NEW PARADISE CAMP.

This camp is located about 300 yards from Paradise Inn and is operated separately. It is intended to care for visitors desiring moderately priced accommodations. Camp service only is pro-

# MAP OF MOUNT RAINIER NATIONAL PARK



NOTE:  
Distances given are by road.  
There are 150 miles of trail  
within the Park



vided here; there is no bell boy or chambermaid service. The tents are floored, provided with double beds, springs, and mattresses, and ordinary furniture, except bed covering.

*Authorized rates at New Paradise Camp.*

Tent, furnished for two people, except bed cover, per day-----	\$1. 00
Blankets, per pair, per day-----	. 25

Sheets, pillows, pillow cases, and towels may be rented at 40 cents for the first day and 25 cents per day thereafter. Two clean towels per tent will be furnished daily on this basis. Meals will be served as ordered in the lunch pavilion.

Under this plan of camping patrons may be governed entirely by their own wishes; they may bring their food supplies and blankets and live at a minimum outlay of 75 cents per day for two people, or they may take their meals at the lunch pavilion or Paradise Inn, all or in part. Cured meats, flour, sugar, coffee, etc., as well as prepared coffee, tea, and chocolate by measure will be sold at the lunch pavilion, so that patrons may purchase supplies at any time.

**LUNCH PAVILIONS.**

A la carte service at moderate prices will be available in lunch pavilions at Longmire Springs, and at the New Paradise Camp.

**PUBLIC CAMP GROUNDS.**

For the accommodation of visitors who desire to bring in their own tents, beds, cooking utensils, and food supplies free public camping grounds are provided at Longmire Springs, Van Trump Camp, and Paradise Valley.

Running water and dead timber for firewood are available at each camp. Parties desiring to camp at Longmire Springs and Paradise Valley should see the park ranger in charge of grounds for assignment.

**TRANSPORTATION WITHIN THE PARK.**

Transportation lines within the park are operated by the Rainier National Park Co. under a franchise from the Department of the Interior, but every person is at liberty to provide his own means of transportation, subject to the regulations on page 42.

The post-office address of the Rainier National Park Co. is Tacoma, Wash. During the summer season the company's headquarters in the park is maintained at Longmire Springs. The authorized rates are as follows:

**AUTO STAGE SERVICE.**

Rates quoted are "between stations," as the same charge is made in either direction.

*Auto stage rates within park limits.*

	One way.	Round trip.
Between Longmire Springs and park entrance-----	\$0. 75	\$1. 50
Between Longmire Springs and Nisqually Glacier-----	. 75	1. 00
Between Longmire Springs and Narada Falls-----	1. 50	2. 00
Between Longmire Springs and Paradise Valley-----	2. 25	3. 00

AUTOMOBILE SERVICE.

Standard seven-passenger touring cars will be furnished for the exclusive use of private parties at the following rates per passenger; minimum of four fares for this special car service:

*Automobile rates within park limits.*

	One way.	Round trip.
Between Longmire Springs and park entrance.....	\$1. 00	\$2. 00
Between Longmire Springs and Nisqually Glacier.....	1. 00	2. 00
Between Longmire Springs and Narada Falls.....	1. 75	3. 00
Between Longmire Springs and Paradise Valley.....	2. 50	4. 00

HORSES AND GUIDES.

The Rainier National Park Co. will maintain adequate saddle and pack horse service for park trails. Arrangements for this service should be made at the company's office, Longmire Springs. For parties of five or more guide and horse will be furnished without charge. For parties of less than five a charge of \$5.00 per day will be made for guide and horse. Following are the authorized rates:

*Rates for saddle and pack horse and guide service.*

Saddle horse and equipment, per day.....	\$4. 00
Pack horse and equipment, per day.....	4. 00
Guide and horse per day for less than five in party.....	5. 00
Saddle horse and equipment between Narada Falls and Paradise Valley, round trip.....	1. 50
Saddle horse and equipment between Narada Falls and Paradise Valley, one way.....	1. 00
Saddle horse and equipment for Sky Line Trail trip.....	3. 50

Saddle and pack horse service is operated between Narada Falls and Paradise Valley when snow conditions will not permit use of automobile highway between these points. A charge of 1 cent per pound in each direction is made for packing baggage between Narada Falls and Paradise Valley. Minimum charge for this packing service, 50 cents.

GUIDE SERVICE—SPECIAL TRIPS.

The four most popular trips in the National Park requiring guide service are: (1) Climb to the summit, (2) climb to Camp Muir, (3) climb to Pinnacle Peak, (4) what is generally called the "side trip." This is from Paradise Valley to Stevens and Paradise Glaciers.

The summit climb requires from 15 to 20 hours for the round trip. Only those accustomed to climbing and in practice should attempt the journey. The Pinnacle Peak climb requires from six to eight hours for the round trip. The side trip to Stevens and Paradise Glaciers requires four or five hours for the round trip.

Muir Camp parties now leave Paradise Valley in the afternoon, reach Muir Camp about 7 o'clock, spend the night in the shelter cabin, and return to Paradise Valley next morning. This change in plan and time of trips to Muir Camp came about through the desire of visitors to witness the sunset and sunrise from that point.

A corps of competent guides, both men and women, is employed by the Rainier National Park Co. Trail guides are stationed at Para-

dise Inn, in Paradise Valley. Horse guides are stationed at both Longmire Springs and Paradise Valley. The following rates will be charged for scheduled service; rates for special service will be made by the manager of the department:

*Rates for guide service.*

Minimum charge for summit climb, not more than five persons-----	\$50.00
More than five people, per person-----	10.00
Clothing and equipment for summit climb, per person-----	2.50
Guide service and special clothing for Muir Camp climb, minimum of three people, per person-----	7.00
Guide service and special clothing for trip to Nisqually Glacier and Ice Caves, per person-----	2.50
Guide service and special clothing for trip to Stevens and Paradise Glaciers, snow sliding, etc., per person-----	2.50
Guide service and special clothing for Pinnacle Peak climb, minimum of three people, per person-----	4.00

**ALL-EXPENSE TRIP.**

Beginning with the 1920 season the Rainier National Park Company will operate saddle and pack horse camping trips between Longmire Springs and Fairfax, the latter point being the terminus of the Northern Pacific Railroad near northwest corner of the National Park. The trip will be made via west trails, visiting Indian Henrys Hunting Ground, Saint Andrews, Sunset, and Spray Parks. Mowich and Mystic Lakes and other interesting north-side points will be visited. Guides and cooks will accompany each party. Tents, blankets, and other necessary camping equipment will be conveyed on pack horses. Camp will be made each night at a suitable place. Parties making the trip need bring only personal clothing and toilet articles. Such belongings will be limited to 20 pounds per person and should be carried in a dunnage bag. Suit cases or hand bags can not be handled. Parties will be limited to 25 people. Necessary minimum for trip, 10 people. These trips will start about July 15, but exact dates will be duly announced in Tacoma and Seattle papers. Registration for the trips should be made as early as possible, as assignments will be in order of registration. Start may be made either from Longmire Springs or Fairfax, according to desire of patron. Parties may register for the trip in one direction only, or for "round trip" if preferred. The trip, in one direction, will require seven days' time, which will mean six nights camping en route. Charge for the trip, including saddle horse, guide service, use of camping equipment and camp board en route, \$9.50 per day, per person, or \$66.50 per person for the trip in one direction.

**INFORMATION, UTILITIES, ETC.**

**INFORMATION.**

General information with respect to the park may be obtained by inquiry at the offices of the park superintendent at Longmire Springs and at the entrance to the park, or at the offices of the principal hotels; and a topographic map of the park may be secured at the principal hotels or from the park superintendent for 10 cents.

**MEDICAL SERVICE.**

A physician is subject to call by the National Park Service and can be summoned in cases of acute illness or serious injury by telephonic communication with the superintendent's office.

**POST OFFICE.**

The post office is Longmire, Wash., between June 15 and September 15, and Ashford, Wash., during the remainder of the year.

**TELEPHONE AND TELEGRAPH SERVICE.**

Local and long-distance telephone service is available at all of the hotels and at other points in the park. Telegrams may be received or sent from the hotels. In addition to the regular telegraph charge, an extra charge is made for transmitting a message over the telephone line. All telephone lines in the park are owned and operated by the National Park Service. The charge for use of telephone from or to Ashford and any point in the park, or from point to point within the park, is 25 cents for not exceeding 3 minutes, and 10 cents for each additional minute.

**EXPRESS.**

Express shipments received at any of the hotels or camps will, upon payment of charges, be forwarded by the Rainier National Park Co., and likewise the company will receive and deliver express shipments for its patrons at reasonable rates approved by the National Park Service.

**GASOLINE SERVICE STATION.**

A gasoline service station is operated at Longmire Springs. Gasoline, oil, and similar motor supplies may be procured.

**ROADS AND TRAILS.**

There are two automobile roads in the park, descriptions of which will be found in the paragraphs immediately following.

Trails have been constructed with a view to making the wonders of nature within the park easily accessible as well as to provide patrol routes for the protection of the forests and game. During the season of 1915 the trail system encircling the mountain was completed, and it is now possible in about one week's time to make the entire circuit of the mountain, for which purpose experienced guides with saddle and pack animals may be obtained through the Rainier National Park Co.

The park trail system not only makes accessible the terminals of some 20 glaciers which radiate from the summit of Mount Rainier, but lead directly to the parks and points of interest known as Paradise Valley, Van Trump Park, Indian Henrys Hunting Ground, Klapatche Park, Sunset Park, Mowich Lake, Spray Park, Mist Park, Cataract Basin, Moraine Park, Mystic Lake, Grand Park, Natural Bridge, Berkeley Park, Glacier Basin, Summer Land, Ohanapecosh Park, Ohanapecosh River and its hot springs, Canyon Bridge, Reflection Lakes, Eagle Peak, Narada Falls, Comet Falls, etc.

## THE SOUTHERN PORTION OF THE PARK.

The automobile road from Tacoma, Seattle, Olympia, and Puget Sound cities to the entrance gate in the southeastern portion of the park is described on page 20. The Government end of this road is 20 miles in length, leading from the entrance gate (elevation 2,003 feet) to Longmire Springs (6.6 miles, elevation 2,761 feet); thence to foot of Nisqually Glacier (5.4 miles, elevation 3,908 feet); thence to Narada Falls (4 miles, elevation 4,572 feet); thence to Paradise Inn in Paradise Valley (4 miles, elevation 5,557 feet). Snowshoeing parties find many delights during the winter months.

The upper 8 miles of the road above Nisqually Glacier is operated on a schedule by which automobiles leave Nisqually Glacier ascending and Paradise Valley descending on each hour from 8 a. m. to 7 p. m., passing at Narada Falls on the half hour. No serious accidents have occurred on this road, although from 5,000 to 10,000 automobiles pass over it annually with many thousands of visitors.

This road, which has an average grade of only 4 per cent, affords one of the most wonderful automobile drives in the world.

Paradise Valley, Indian Henrys Hunting Ground, and Van Trump Park are the most easily reached and consequently the most frequented places of interest within the national park.

Regular automobile stage lines are operated to Paradise Valley over the Government road from Ashford and Longmire Springs; for rates, see pages 25 and 27.

Indian Henrys Hunting Ground, 7 miles from Longmire Springs, is reached by trail only. This trip may be made afoot or ponies may be secured at Longmire Springs, where the most frequently used of the three trails leading to this resort begins.

To reach Van Trump Park the same Indian Henrys trail is taken, branching off to the right after about 1 mile of travel. The trip to Van Trump Park should, however, be made by going up past Christine Falls and returning by the old trail to Longmire Springs. The distance from Van Trump Creek at the Government road to Van Trump Park by this trail is about 2½ miles. This park is reached by trail only, and the trip may be made afoot or on ponies. While this is one of the most beautiful of the mountain parks, and one of the most easily reached, yet there are no accommodations for travelers, and lunches should be taken and return trip made to Longmire Springs before nightfall.

Ramparts Ridge, 1¼ miles north of Longmire Springs, from which a fine view is obtained, is a very popular trip. The climb of about 1,300 feet can be made in about one hour, and the return may be made by the Indian Henry trail.

A trail known as the "Sky Line Trail" leads from Paradise Inn in Paradise Valley up Timberline Ridge, crosses above Shuiskin Falls, and follows down Mazama Ridge to Reflection Lakes, thence via Narada Falls and up the ridge to Paradise Inn. It is about 8 miles in length and has been used by large numbers of tourists. The time required to make the circuit on horseback is about four hours.

Eagle Peak (elevation 5,955 feet), 3¼ miles east from Longmire Springs, is also a popular trip. A good foot trail leads directly to the summit, which commands a magnificent view of the south side of Mount Ranier and the surrounding country. Parties making this trip usually take lunch along and spend several hours at the summit.



The Ohanapecosh Valley, with its beautiful Silver Falls, is reached by trail only from Narada Falls. This is a trip filled with interest, but should be taken only by good riders or pedestrians who are accustomed to long, hard walks. A few rods distant, just outside the southeast corner of the national park, are the wonderful Ohanapecosh hot mineral springs. The Ohanapecosh Trail leaves the Government road at Narada Falls, leading past Reflection Lakes down the Stevens Canyon to the wonderful box canyon of the Muddy Fork of the Cowlitz River, thence climbing the Cowlitz River divide and down into the valley of the Ohanapecosh River. The distance from Longmire Springs is about 20 miles.

#### THE NORTHERN PORTION OF THE PARK.

Directions for reaching the northern portion of the park are given on page 24.

The Storbo Road from the White River Ranger Station on the northeast boundary of the park to Glacier Basin, 10 miles long, was constructed by the Mount Ranier Mining Co. under a permit from the department, for use in connection with their mining operations. It is a one-way road, 12 to 14 feet wide, with grades from  $2\frac{1}{2}$  to  $13\frac{1}{2}$  per cent. This road is not passable for automobiles at the present time.

The recent trail improvement and new trail construction has opened many beauty spots and scenic wonderlands, making them easier of access to the public.

The ascent of Mount Ranier is made by parties starting either from Mystic Lake or Glacier Basin with a usual overnight camp either at Camp Curtis or Steamboat Prow, at an elevation of 9,500 feet. From this point upward the climb varies with the changing condition of the snow on the mountain side. With favorable weather, a guide familiar with local conditions, and ordinary endurance it is possible for a party to make the ascent by this route with no more than the usual discomforts experienced by mountain climbers in like altitudes elsewhere.

In all the vast upland region from Sunset Park to Summer Land and extending from Columbia Crest to the northern boundary of the park there is but little choice in the scenery. This is an expanse whose reaches embrace myriad lakes of emerald and turquoise, natural parks of varied and fantastic beauty, dark wooded valleys in whose depths the hoarse roar of waterfalls is faintly heard, solitary peaks and rugged cliffs, and the overtowering majesty of the mountain itself. With such a variety of natural beauty and splendor as here shown, words fail of description and the sense of observation palls, therefore it is only after many visits that the eye becomes accustomed to and the mind begins to comprehend it all.

#### FISHING.

The principal streams of the park have their origin in glaciers. During the summer time these streams contain much sediment from the grinding action of the glaciers and trout do not bite well at such times. In the spring and fall the streams are clearer and trout can then be caught with bait, and occasionally they will take a fly. Streams of this character, where trout may be caught at favorable

times, are the Nisqually River (below Longmire Springs), the Ohanapeocosh River (below Silver Falls), the White River, and the Carbon River. Mowich Lake contains trout of large size and offers good sport to those who can induce them to bite. The varieties of trout vary with the different streams but include cutthroat, eastern brook, rainbow, and Dolly Varden trout. Some streams and lakes have been recently stocked and further stocking is contemplated, so it is hoped that fishing will improve and become one of the attractions of the park. Fishing tackle is obtainable in Tacoma and Seattle, but not in the park. The fishing regulations will be found in section 5 of the regulations, on page 43.

### HOW TO CLIMB MOUNT RAINIER.<sup>1</sup>

The ascent of Mount Rainier is ordinarily made from Paradise Valley, by what is known as the Gibraltar route. This route, which is the one Gen. Hazard Stevens and P. B. Van Trump originally selected for their pioneer climb in 1870, has proven to be by far the safest and most convenient of all the routes by which the old volcano has been attacked. Besides, it is the only route readily available to the tourist public, as it starts on the south side of the mountain, which is the only side upon which permanent hotels and tourist camps are located. The country surrounding the other sides of the mountain is still in its virgin state of wildness, except for a few trails that traverse it, and is frequented only by parties of hardy mountaineers who carry their own camping outfits.

Generally speaking, Mount Rainier is not an easy peak to climb. The great altitude of its summit (14,408 feet above sea level) and the low level of the region about its base (between 2,000 and 5,000 feet) combine to make the ascent an exceedingly long and exhausting one. Dangerously crevassed ice covers a large proportion of the mountain's flanks, while the sharp ridges between the glaciers are composed of treacherous crumbling lava and pumice. Those who have set their ambition on making the ascent will do well, therefore, to realize at the outset that there is no choice of routes, and that should one lose the beaten trail there is little or no hope of extricating one's self by another way. Several lives have been lost on the mountain, in every case by parties venturing out without the aid of guides.

There are several reasons for securing the services of a competent guide. The route does not consist of a definitely marked path. It leads for miles over snow fields on which footprints melt away from one day to the next. Again, the rock climbing up the Cowlitz Cleaver and Gibraltar Rock is not altogether without hazard, and is not to be attempted unaided except by experienced mountaineers.

It is to be recognized, further, that most people do not know how to handle themselves on a long and difficult ascent, as mountain climbing is not with them a daily experience. They are apt to rush eagerly at the start, using up their strength before the really arduous part of the climb is reached. The guide is there not merely to show the way, but to tell the tourist how to climb, how fast to go, when to rest and to take nourishment and to take care of him in case he is overcome with exhaustion or is taken with mountain sickness.

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<sup>1</sup> By F. E. Matthes, United States Geological Survey.

Finally, account must be taken of the exceeding fickleness of the weather conditions on the mountain. Only guides familiar with Rainier's many moods can presume to foretell whether the day will turn out favorable for a climb or not. What may look to the uninitiated like harmless, fleecy vapors on the summit may be the forerunners of a sudden snowstorm which no one could hope to live through. A majority of those who have perished on the mountain have been overcome by blizzard-like storms. Such storms may occur even in midsummer, and on the summit are always attended by fierce gales, against which it is impossible to hold one's footing.

Paradise Inn, in Paradise Valley, is the logical base from which to make the climb. It lies near the timber line, at an altitude of 5,400 feet. Accommodations may there be had by the day or week; guides may be secured, and through them such necessities as alpenstocks, amber glasses, calks, hobnails, and actor's paint to protect the face from sunburn, etc.

The start is usually made from Paradise Valley in the afternoon, so as to reach Camp Muir before dusk. Here, at an elevation of 10,000 feet, a stone shelter cabin has been built that protects the visitor from wind or storm. The Rainier National Park Co. provides mattresses and blankets for parties making the trip under the leadership of their guides. The camp is some 4,000 feet above the highest vegetation. Provisions and fuel are carried up from Paradise Inn and water is obtained by melting snow. The accommodations are of the simplest character, but enable parties to spend the night at this point, after having climbed 4,600 feet, and to start early the following morning, somewhat refreshed, for the remaining climb of 4,400 feet to the summit. Camp Muir is located in a saddle at the base of a narrow rock spur known as the Cowlitz Cleaver.

The ascent of the Cowlitz Cleaver is quite taxing, being mostly over rough, angular lava blocks. By 8 o'clock, as a rule, the base of Gibraltar Rock is reached. A narrow ledge is followed along the face of the cliff, part of the way overlung by rock masses and huge icicles, and this ledge leads to the base of a narrow chute between the ice of the upper Nisqually Glacier and the body of Gibraltar. This chute offers the most serious difficulties in the ascent, and women should not attempt it with skirts. Bloomers are here a necessity. Ropes are usually suspended from the cliffs, whereby one may assist himself upward. It is wise to move one at a time, as there is ever danger of the persons above starting rock débris and ice fragments that may injure those below. The ascent and descent of the chute are therefore inevitably time-consuming. Ordinarily the saddle above Gibraltar (12,679 feet) is not reached until 10 o'clock.

From Gibraltar on there remains only a long snow slope to climb, but this snow slope is often exceedingly fatiguing. Huge, gaping crevasses develop in it which must be skillfully avoided by detours. Freshly fallen snow may be so deep that one plunges into it to the waist, or else the snow may have melted out into tapering spines and so-called honeycombs many feet high, among which one can not travel without considerable exertion.

The rim of the south crater is usually reached about 11 o'clock. It is always bare of snow, and shelter from the high gales may be found behind the great rock blocks on the crest. Metal cases are left here in which the tourist may inscribe the record of his ascent.

The crater is always filled with snow and may be traversed without risk; only one should be careful near the edges, as the snow there is melted out in caverns by the steam jets which rise from beneath it in many places. Those having the strength may go on to Columbia Crest, the snow dome that constitutes the highest summit of the mountain. The return to Paradise Inn is easily made in from five to six hours.

The climb is occasionally made in a night and a day, leaving Paradise Valley about 10 or 11 o'clock at night, reaching Camp Muir for an early breakfast, and completing the trip during the day. This involves a continuous climb of 9,000 feet which is beyond the endurance of most persons not in first-class condition.

In conclusion, it may be well to say a word of caution to the over-ambitious. The climb is such a long one and the altitude gained so high that none but those who have previously prepared themselves by preliminary shorter climbs can hope to accomplish the feat with anything like genuine enjoyment. Altogether too many people have attempted the ascent immediately upon arrival from the city, without having permitted their hearts and lungs to become accustomed to the rarified air of the higher altitudes, and without having toughened their muscles for the great task. As a consequence they have either come back exhausted to the verge of collapse or else they have altogether failed in the undertaking. And there is unfortunately more than one case on record of persons who have permanently injured their health by such ill-considered proceeding.

It is wise upon arrival to spend several days—the more the better—in climbing about at lesser altitudes. A favorite try-out is an ascent of Pinnacle Peak, on the Tatoosh Range. It affords useful lessons in every kind of climbing that one may be called upon to do in conquering the main peak.

Moderation in diet and the avoidance of heavy food of any sort are precautions that can not be too urgently recommended. One should bear in mind that he is preparing for the most heroic kind of athletic work, and that such work is impossible on the conventional diet followed by most people.

Before starting on the ascent of Mount Rainier do not eat such articles as fried eggs, fried potatoes, hot cakes, or heavy pastry.

Abstain from coffee and tobacco, if possible. Spirituous liquor of any kind is taboo, except as a stimulant in case of collapse. Beef tea, lean meat, all dry breakfast foods, cocoa, sweet chocolate, crackers, hardtack, dry bread, rice, raisins, prunes, dates, and tomatoes are in order. The simpler the diet, on the whole, the more beneficial it is likely to be. Never eat much at a sitting during the ascent, but eat often and little at a time. These are rules well known to mountaineers. The more faithfully one complies with them the higher one's efficiency will be and the keener the enjoyment of the trip.

#### CAUTION.

*All persons starting on dangerous trips to the mountains or glaciers, unaccompanied by a registered guide, should register with the ranger in charge of the nearest station and give him details of proposed journey and name and address of the person to notify in case of serious accident.*

## TABLES OF DISTANCES.

*South Side Road, park entrance to Paradise Valley—20 miles.*

Name.	Distance from—		Elevation above sea level.	Remarks.
	Park entrance.	Paradise Valley.		
	<i>Miles.</i>	<i>Miles.</i>	<i>Feet.</i>	
Hansens Camp.....	0.9	19.1	2,105	Fine water.
Tahoma Fork.....	1.2	18.8	2,120	60-foot cedar-log bridge. Beginning of West Side Trail.
Rock Point.....	2.6	17.4	2,270	Heavy rock out.
Kautz Creek.....	3.4	16.6	2,378	Glacial stream from Kautz Glacier.
Bear Prairie Point.....	4.8	15.2	2,500	Magnificent view of mountain.
Longmire Springs.....	6.6	13.4	2,750	Superintendent's headquarters
Indian Henry Trail.....	7.0	13.0	2,850	Trail to Indian Henry's Hunting Ground.
Cougar Rock.....	8.0	12.0	3,000	High rock, base of Rampart Ridge.
Mouth of Paradise River.....	8.6	11.4	3,175	Fine view of pony bridge.
Van Trump Camp.....	9.5	10.5	3,410	Public camp ground near mouth of Van Trump Creek.
Hair Pin Curve.....	10.6	9.4	3,650	Upper curve on switchbacks.
Christine Falls.....	10.9	9.1	3,667	Beautiful falls.
Nahunta Creek and Falls.....	11.5	8.5	3,800	Small stream from Cushman Crest.
Nisqually Glacier.....	11.9	8.1	3,908	Checking station.
Ricksecker Point.....	13.4	6.6	4,212	Fine view of mountain and surrounding country.
Silver Forest.....	15.0	5.0	.....	Gray tree trunks, the bark of which has fallen off.
Narada Falls.....	16.0	4.0	4,572	Checking station.
Inspiration Point.....	17.3	2.7	4,900	Magnificent view.
Paradise Valley.....	20.0	.....	5,400	Checking station.
Public camp grounds.....	20.4	0.4	5,490	

*Paradise Trail from Longmire to Paradise Valley—6 miles.*

Name.	Distance from—		Elevation above sea level.	Remarks.
	Longmire Springs.	Paradise Valley.		
	<i>Miles.</i>	<i>Miles.</i>	<i>Feet.</i>	
Forks of trail.....	1.4	4.6	3,100	Left-hand fork leads to Paradise Valley via Nisqually Glacier.
Mouth of Paradise River.....	1.7	4.3	3,150	Pony bridge over Nisqually River.
Carter Falls.....	2.7	3.3	3,500	On Paradise River.
Madcap Falls.....	2.9	3.1	3,600	Do.
Narada Falls.....	4.3	1.7	4,572	Principal falls on Paradise River with sheer drop of 150 feet.
Paradise Inn and Camp.....	6.0	0.0	5,400	New hotel and camp. Base of start for climb to top of mountain.

*Indian Henry Trail,<sup>1</sup> Longmire Springs to Indian Henry's Hunting Ground—7 miles.*

Name.	Distance from—		Elevation above sea level.	Remarks.
	Longmire Springs.	Indian Henrys.		
	<i>Miles.</i>	<i>Miles.</i>	<i>Feet.</i>	
Ramparts Ridge.....	1.9	4.7	3,800	Right-hand trail leads to Van Trump Park.
Kautz Creek.....	2.8	3.7	3,700	Fast flowing stream from Kautz Glacier.
Fishers Hornpipe Creek.....	4.0	2.5	4,300	Small clear stream.
Devils Dream Creek.....	4.7	1.8	4,500	Do.
Squaw Lake.....	5.5	1.0	5,000	Small clear lake.
Ranger Station.....	6.5	0.0	5,300	Ranger cabin; telephone; all points of interest are in close proximity to station.

<sup>1</sup> There are three trails leading from the Government road to Indian Henry's Hunting Ground. The most generally used trail leaves the Government road near Longmire Springs, and is the one on which this table of distances is based. The original entrance to Indian Henry's Hunting Ground was by way of a trail recently made accessible to tourists, branching from the Government road 1 mile east of the park entrance, following up Tahoma Creek to the foot of South Tahoma Glacier, from where one of the most imposing scenes in the park may be witnessed. This point is about 6 miles from the Government road and the camp in Indian Henry's Hunting Ground is about 1 mile farther distant on this trail. Another trail, *not recommended for tourist travel*, leaves the Government road at the crossing of Kautz Creek and, after passing over a shoulder of Mount Ararat, reaches Indian Henry's Hunting Ground.

*Rampart Ridge-Van Trump Park Trail, Longmire Springs to Van Trump Park—5.5 miles.*

Name.	Distance from—		Elevation above sea level.	Remarks.
	Longmire Springs.	Van Trump Park.		
	<i>Miles.</i>	<i>Miles.</i>	<i>Feet.</i>	
The Ramparts.....	1.2	4.3	4,080	Low ridge north of Nisqually River from which a fine view may be obtained. Left-hand fork leads to Indian Henrys. Beautiful mountain park.
Forks of trail.....	2.2	3.3	3,900	
Van Trump Park.....	5.5	0.0	5,500	

*Eagle Peak Trail, Longmire Springs to Eagle Peak (foot trail only)—3.5 miles.*

Name.	Distance from—		Elevation above sea level.	Remarks.
	Longmire Springs.	Eagle Peak.		
	<i>Miles.</i>	<i>Miles.</i>	<i>Feet.</i>	
Nisqually River.....	0.25	3.25	2,800	Suspension pony bridge; fine view of river and mountain. At west end of Tatoosh Range; magnificent view of mountain and surrounding country.
Eagle Peak.....	3.5	0.0	5,955	

*Glacier Trail from Junction with Paradise Trail, 1.4 miles above Longmire Springs to Paradise Valley—5.5 miles.*

Name.	Distance from—		Elevation above sea level.	Remarks.
	Longmire Springs.	Paradise Valley.		
	<i>Miles.</i>	<i>Miles.</i>	<i>Feet.</i>	
Forks of trail.....	1.4	5.2	3,100	Right-hand fork leads to Paradise Valley via Narada Falls.
First crossing of Government road.	1.5	4.1	3,100	
Van Trump Camp.....	2.5	3.1	3,410	Public camp grounds, running water.
Van Trump Creek.....	2.7	2.9	3,450	Clear stream.
Forks of trail.....	3.1	2.5	3,550	Left-hand fork leads to Van Trump Park.
Nisqually Bridge.....	4.0	1.6	3,908	1 mile below terminus of glacier.
Paradise Inn and Camp.....	5.6	0.0	5,400	New hotel and camp in Paradise Valley.

*Van Trump Creek Trail from junction with Glacier Trail to Van Trump Park—5.6 miles.*

Name.	Distance from—		Elevation above sea level.	Remarks.
	Longmire Springs.	Van Trump Park.		
	<i>Miles.</i>	<i>Miles.</i>	<i>Feet.</i>	
Junction of trails.....	3.1	2.5	3,550	Beautiful falls on Van Trump Creek. R. N. P. Co.'s plant; generates 250 volts under head of 420 feet.
Christine Falls.....	3.4	2.2	3,667	
Power plant.....	3.5	2.1	3,715	
Van Trump Canyon.....	4.5	1.1	4,500	Small canyon on Van Trump Creek.
Comet Falls.....	4.9	0.7	5,200	Beautiful falls with 200-foot drop.
Van Trump Park.....	5.6	0.0	5,500	Beautiful mountain park.

*Ohanapecosh Trail from Narada Falls to ranger station—15 miles.*

Name.	Distance from—		Elevation above sea level.	Remarks.
	Narada Falls.	Ohanapecosh Ranger Station.		
	<i>Miles.</i>	<i>Miles.</i>	<i>Fect.</i>	
Narada Falls.....	0.0	15.0	4,572	Checking station; telephone.
Reflection Lakes.....	1.5	13.5	4,861	Beautiful clear lakes.
Louise Lake.....	2.5	12.5	4,592	Beautiful clear lake; stocked with fish in 1917.
Stevens Canyon.....	3.5	12.0	-----	
Martha Falls.....	4.0	11.5	3,110	Beautiful falls in Martha Creek.
Stevens Creek Crossing.....	6.5	8.5	2,730	
Muddy Fork Box Canyon.....	7.5	7.5	3,042	One of the most beautiful river canyons in America, across which a horse and foot bridge has been built 40 feet long and 200 feet above the water.
Nickel Creek.....	8.5	6.5	3,300	Tributary of Muddy Fork, with many falls; shelter cabin; telephone.
Cowlitz Divide.....	10.0	5.0	4,770	Junction of Cowlitz Divide Trail.
Olala Creek.....	11.5	3.5	3,950	Small clear stream.
Forks of trail.....	12.5	2.5	3,350	1.3 miles by left-hand fork to East Side Trail near mouth of Cougar Creek.
Ohanapecosh River.....	14.5	0.5	1,930	Clear stream with many falls and cascades.
Ohanapecosh Ranger Station.....	15.0	0.0	2,004	Ranger cabin; telephone.
Ohanapecosh Hot Springs.....	15.2	0.2	1,900	Noted for curative powers.

*East Side Trail, Ohanapecosh Ranger Station to Storbo Road—17½ miles.*

Name.	Distance from—		Elevation above sea level.	Remarks.
	Ohanapecosh Ranger Station.	Storbo Road.		
	<i>Miles.</i>	<i>Miles.</i>	<i>Fect.</i>	
Laughing Water Creek.....	0.6	16.6	2,000	Clear stream.
Silver Falls.....	0.85	16.25	2,050	On Ohanapecosh River.
Park boundary.....	1.9	15.3	2,300	
Cedar Flat.....	2.0	15.2	2,300	Many large cedars.
Park boundary.....	2.9	14.3	2,300	
County boundary.....	3.6	13.6	2,350	Between Pierce and Lewis Counties.
Cougar Creek.....	3.8	13.4	2,325	Clear stream in heavy timber.
Olala Creek Cut-Off Trail.....	4.0	13.2	2,350	Short cut to Olala Creek.
Whittier Creek.....	5.4	11.8	2,700	Clear stream.
Stafford Falls.....	6.5	10.7	2,775	On Ohanapecosh River.
Park boundary.....	6.65	10.35	2,800	
Fork of Chinook Creek.....	7.8	9.4	3,124	Heavily timbered basin.
Boundary Creek.....	8.5	8.7	3,275	
Park boundary.....	8.6	8.6	3,300	
Sydney Falls.....	9.1	8.1	3,600	Beautiful falls on Kotsuck Creek; shelter cabin; telephone.
Horseshoe Falls.....	11.5	5.7	5,000	Beautiful falls on Kotsuck Creek.
Goats Pass.....	12.2	5.0	5,300	
Owyhigh Lakes.....	12.6	4.6	5,150	Beautiful lakes amid rugged peaks.
Fryingpan Cabin.....	16.7	0.5	3,700	Shelter; telephone.
Fryingpan River.....	16.85	0.35	3,700	
Summer Land Trail.....	17.0	0.2	3,700	6 miles to Summer Land.
Storbo Road.....	17.2	0.0	3,725	5 miles above White River Ranger Station.

*Cowlitz Divide-Summer Land Trail from summit of Cowlitz Divide to Storbo Road—15 miles.*

Name.	Distance from—		Elevation above sea level.	Remarks.
	Cowlitz Divide.	Storbo Road.		
	<i>Miles.</i>	<i>Miles.</i>	<i>Fect.</i>	
Cowlitz Divide.....	0.0	15.0	4,770	At Ohanapecosh Trail.
Indian Bar.....	5.0	10.0	5,150	Beautiful basin above Wauhaukaupauken Falls.
Ohanapecosh Park.....	6.0	9.0	5,500	Beautiful region; many waterfalls and rugged peaks.
Fryingpan Glacier.....	7.5	7.5	6,750	
Summer Land.....	9.0	6.0	5,900	Beautiful park; many flowers amid rugged surroundings.
Storbo Road.....	15.0	0.0	3,725	5 miles above White River Ranger Station.

*West Side Trail, Tahoma Fork Bridge to Carbon River Ranger Station—39 miles.*

Name.	Distance from—		Elevation above sea level.	Remarks.
	Tahoma Fork Bridge.	Carbon River Ranger Station.		
	<i>Miles.</i>	<i>Miles.</i>	<i>Fect.</i>	
Tahoma Fork Bridge.....	0.0	39.0	2,120	60-foot cedar log bridge.
Mount Wow.....	4.0	35.0	6,030	Fine view of mountain and surrounding country.
Fish Creek.....	3.2	35.8	2,950	2½ miles to Tahoma Glacier, 4 miles to Indian Henrys. Clear stream.
Indian Henry Trail.....	4.1	34.9	3,100	
Round Pass.....	5.6	33.4	4,000	Timbered saddle, west end of Emerald Ridge.
South Puyallup River.....	6.5	32.5	3,400	Box canyon, swift glacier stream.
Soda Springs.....	8.8	30.2	3,100	Shelter cabin; telephone.
Ethania Falls.....	9.3	29.7	3,400	Beautiful falls on St. Andrews Creek.
Larrupin Falls.....	9.8	29.2	3,550	Do.
Denman Falls.....	10.6	28.4	3,800	Do.
Trail to Klapatche Park.....	10.9	28.1	3,900	About 2 miles to Klapatche Park.
Moores Point.....	12.1	26.9	4,300	West end of Klapatche Ridge.
North Puyallup River.....	15.0	24.0	2,800	Shelter cabin; telephone.
Sunset Park.....	20.4	18.6	5,500	Beautiful upland park.
Golden Lakes.....	21.2	17.8	5,000	Numerous beautiful, clear lakes; stocked with fish in 1917; good camping.
South Mowich River.....	27.0	12.0	2,650	Good fishing.
North Mowich River.....	27.5	11.5	2,650	Shelter cabin; telephone.
Forks of trail.....	28.0	11.0	3,000	Right-hand trail to Mowich Lake. Left-hand trail to Mountain Meadow.
Mowich Lake.....	31.0	7.9	4,929	Beautiful clear lake; fishing; good camping; side trips; shelter cabin; telephone.
Ipsut Pass.....	33.6	5.4	5,000	Pass between Ipsut Creek and Meadow Creek.
Carbon River Range Station.....	39.0	0.0	2,026	Ranger cabin; telephone.

*Grindstone Trail from Fairfax to Mowich Lake—20 miles.*

Name.	Distance from—		Elevation above sea level.	Remarks.
	Fairfax.	Mowich Lake.		
	<i>Miles.</i>	<i>Miles.</i>	<i>Fect.</i>	
Fairfax.....	0.0			On Northern Pacific Ry.; hotel, store, post office, etc.
Grindstone.....	10.0	10.0	3,300	In national forest.
Park boundary.....	12.5	7.5	3,500	Spring water.
Forks of trail.....	13.0	7.0	3,500	3 miles by right-hand fork to West Side Trail; ½ mile north of Mowich River.
Mountain Meadows.....	14.0	6.0	4,000	Good camping; horse feed.
Mowich Lake.....	20.0	0.0	4,929	Beautiful clear lake; fishing; good camping; side trips; log cabin; telephone.

*Mowich Lake-Spray Park Trail from Mowich Lake to Glacier Cabin—10 miles.*

Name.	Distance from—		Elevation above sea level.	Remarks.
	Mowich Lake.	Glacier Cabin.		
	<i>Miles.</i>	<i>Miles.</i>	<i>Fect.</i>	
Lee Creek.....	1.5	8.5	4,700	Clear stream.
Eagle Cliffs.....	3.0	7.0	4,900	Fine view of Mount Rainier.
Spray Falls.....	3.5	6.5	5,300	Highest and most beautiful fall on North Side.
Spray Park.....	4.0	6.0	5,500-6,000	Most beautiful park on North Side.
Mist Park.....	6.0	4.0	5,500	Beautiful park at head of Cataract Creek.
Cataract Camp.....	9.8	0.2	3,200	Good camping place; fine water.
Glacier Cabin.....	10.0	0.0	3,175	Old cabin; no good water for camping.



*Carbon River Trail from Fairfax to Glacier Basin—29 miles.*

Name.	Distance from—		Elevation above sea level.	Remarks.
	Fairfax.	Glacier Basin.		
	<i>Miles.</i>	<i>Miles.</i>	<i>Feet.</i>	
West boundary.....	6.5	22.5	1,716	Fairly good trail.
Carbon Ranger Station.....	10.0	19.0	2,026	Ranger cabin, water, and telephone.
Chenuis Creek and Falls.....	10.5	18.5	2,100	Fishing; stocked above falls in 1915.
Forks of trail.....	11.5	17.5	2,350	Right-hand fork to Mowich Lake.
Do.....	14.0	15.0	2,883	Left-hand fork to Chenuis Mountain, Natural Bridge, and Grand Park.
Spukwush Creek.....	14.5	14.5	2,900	Good fishing.
Forks of trail.....	16.0	13.0	3,100	Right-hand trail to Spray Park.
Carbon Glacier.....	16.5	12.5	3,355	Lowest perpetual ice field in the United States.
Miner's cabin.....	18.2	10.8	5,100	Old cabin on Moraine Creek.
Moraine Park.....	20.0	9.0	5,700	Good camping, grass, and water.
Mystic Lake.....	22.0	7.0	5,750	Clear, beautiful lake; shelter cabin; magnificent views may be obtained from this locality.
Terminus of Winthrop Glacier.....	24.0	5.0	4,872	Magnificent views.
Granite Creek Basin.....	26.0	3.0	6,270	Mount Rainier Mining Co.'s headquarters; telephone; buildings; upper end of Storbo Road.
Burroughs Mountain.....	27.0	2.0	7,050	
Glacier Basin.....	29.0	0.0	5,935	

*Grand Park Trail from Carbon River to Glacier Basin—25 miles.*

(Branches from Carbon River Trail 4 miles above Carbon River Ranger Station.)

Name.	Distance from—		Elevation above sea level.	Remarks.
	Carbon River Ranger Station.	Glacier Basin.		
	<i>Miles.</i>	<i>Miles.</i>	<i>Feet.</i>	
Ranger station.....	0.0	25.0	2,026	Cabin; telephone.
Forks of trail.....	4.0	21.0	2,883	Right fork to Carbon Glacier.
Chenuis Mountain.....	7.5	18.5	6,100	Beautiful park region, with high cliffs, lakes, snow fields, and high rocky peaks; mountain goats; good horse feed.
Natural Bridge.....	10.0	15.0	5,400	At end of branch trail; one of the natural wonders of the park.
Mosquito Flat; Van Horn Creek Falls.....	11.0	14.0	4,400	Scenic region; good camping and horse feed; fishing below the falls.
West Fork White River.....	13.0	12.0	3,240	Swift glacial stream from Winthrop Glacier; no bridge.
Grand Park.....	17.0	8.0	5,700	Most extensive mountain park on North Side; wild game; unobstructed view of Mount Rainier.
Berkeley Park.....	20.0	5.0	6,000	Beautiful park basin; mountain flora abounds here in great profusion.
Frozen Lake.....	21.0	4.0	6,750	Barren region.
Burroughs Mountain.....	22.5	2.5	7,400	Magnificent views of Mount Rainier and surrounding country.
Glacier Basin.....	25.0	0.0	5,935	Mount Rainier Mining Co.'s headquarters; telephone; upper end of Storbo Road.

*Storbo Road from White River entrance to Glacier Basin—10 miles.*

(White River entrance is 39 miles from Enumclaw.)

Name.	Distance from—		Elevation above sea level.	Remarks.
	Park entrance.	Glacier Basin.		
	<i>Miles.</i>	<i>Miles.</i>	<i>Feet.</i>	
White River entrance.....	0.0	10.0	3,050	Entrance gate; ranger cabin; office building, telephone, etc.
Klickitat Trail.....	2.7	7.3	3,425	Trail to Cayuse Pass.
Yakima Park Trail.....	2.9	7.1	3,450	Trail to Yakima Park.
Camp site.....	3.6	6.4	3,550	
East Side Trail.....	5.2	4.8	3,900	To Ohanapeosh and Summer Land.
Public camp grounds.....	6.7	3.3	4,300	Fine view of mountain; good water.
Terminus of Emmons Glacier.....	7.5	2.5	4,719	Source of White River.
Glacier Basin.....	10.0	0.0	5,935	End of road; Mount Rainier Mining Co.'s headquarters; telephone.

*Principal points of interest reached from Paradise Inn.*

[ Best reached on foot. ]

Name.	Distance and direction from Paradise Inn.	Elevation above sea level.	Remarks.
	<i>Miles.</i>	<i>Fect.</i>	
Nisqually Glacier.....	1½ W.....	5,500	Largest glacier on south side of Mount Rainier.
Van Trump Glacier.....	2½ NW.....	6,500	Small glacier west of Nisqually Glacier.
Kautz Glacier.....	3 W.....	4,800	On this glacier and on the Nisqually and Van Trump Glaciers are to be seen bands of mountain goat.
Kautz Box Canyon.....	¾ SW.....	4,500	Narrow basalt canyon 800 feet deep at terminus of Kautz Glacier.
Reflection Lakes.....	2 SW.....	4,861	Beautiful clear lakes on bench north of Pinnacle Peak, Tatoosh Range.
Bench Lake.....	2½ SE.....	4,500	On lower bench overlooking Stevens Canyon.
Pinnacle Peak.....	3 SE.....	6,562	Sharp peak on Tatoosh Range. Easy trip from Paradise Park.
Stevens Peak.....	4 SE.....	6,511	At east end of Tatoosh Range.
Unicorn Peak.....	4¾ SE.....	6,939	Highest peak on Tatoosh Range. Pinnacle, Stevens, and Unicorn Peaks are easy to climb and a fine view of the surrounding country may be had from either and all of them.
Shuiskin Falls.....	1¼ NE.....	5,900	First fall of Paradise River below Paradise Glacier, 300 feet high.
Paradise Glacier.....	1½ NE.....	6,500	Clear ice glacier. Source of Paradise River on east side of Paradise Park.
Stevens Glacier.....	1¾ NE.....	6,000	East lobe of Paradise Glacier draining into Stevens Canyon.
Stevens Ice Cascades.....	2 NE.....		Crevasse slope on Stevens Glacier.
Stevens Water Cascades.....	2½ NE.....		At foot of Stevens Glacier.
Stevens Canyon.....	2½ NE.....		Below Stevens Glacier. Four miles long, ½ mile wide, 1,000 to 2,000 feet deep.
Fairy Falls.....	2¾ NE.....	5,500	Beautiful falls 700 feet high at head of Stevens Canyon.
Cowlitz Glacier.....	3 NE.....	4,500	Largest glacier on southeast side of the mountain.
Cowlitz Rocks.....	2½ NE.....	7,457	Ridge dividing Paradise Glacier from Cowlitz Glacier.
Granite Falls.....	3¼ NE.....		Large volume of water with sheer drop of 350 feet.
Cathedral Rocks.....	3¼ NE.....	8,262	Lofty spires on divide west of Ohanapechosh Glacier.
Cowlitz Chimneys.....	8 NE.....	7,607	Large chimneylike peaks on divide between Cowlitz River and White River.
McChure Rock.....	2 N.....	7,384	Flat rocky platform overlooking Paradise Glacier.
Anvil Rock Fire Lookout Station.....	3¼ N.....	9,584	Sharp crest halfway between McChure Rock and Camp Muir. The trail leads over snow fields.
Camp Muir shelter hut.....	3¾ N.....	10,000	Saddle at foot of Cowlitz Cleaver, up which the trail to the summit of the mountain leads. To this point the ascent is easy. Mostly over snow fields.
Beehive.....	4½ N.....	11,033	Pinnacle on Cowlitz Cleaver. Its shape resembles a beehive.
Camp Misery.....	4½ N.....	11,033	At base of Beehive.
Eagle Nest Camp.....	4½ N.....		On Cowlitz Cleaver.
Camp of the Stars.....	4½ N.....		At the foot of Gibraltar.
Gibraltar Rock.....	4½ N.....	12,679	Large rock mass at head of Cowlitz Glacier, along west edge of which the ascent is made, often with the aid of ropes. This rock divides the feeders of three glaciers—Nisqually on the west, Cowlitz on the south, and Emmons on the east.
Register Rock.....	6½ N.....	14,161	First point reached on rim of east crater.
Columbia Crest.....	7 N.....	14,408	Huge snowdrift on northwest side of east crater. Highest summit of Mount Rainier.
Point Success.....	7½ N.....	14,150	Most southern summit. About 250 feet lower than Columbia Crest.
Liberty Cap.....	7½ N.....	14,112	High summit near the north end of mountain.
East Crater.....	6½ N.....	14,100	Main crater on east side of Columbia Crest about 1,400 feet in diameter.

*Principal points of interest reached from Indian Henrys Hunting Ground.*

[ Best reached on foot.]

Name.	Distance and direction from Indian Henrys Hunting Ground.	Elevation above sea level.	Remarks.
	<i>Miles.</i>	<i>Fect.</i>	
Mount Ararat.....	1 SW.....	5,996	High hill where Indian Henry's tillacums watched for game; fossils found on north slope.
Iron Mountain.....	1 E.....	6,200	Small twin mountains from which fine views may be obtained; crystal ledges in Crystal Mountain.
Crystal Mountain.....	1 NE.....	6,306	
Pyramid Peak.....	2 NE.....	6,937	
South Tahoma Glacier.....	1.5 N.....	4,500	Highest peak in Indian Henrys; immediately against flank of Mount Rainier.
Glacier Island.....	3 NE.....	7,651	Largest glacier on southwest side of Mount Rainier.
Mirror Lake.....	0.8 N.....	5,400	Large rock mass separating North and South Tahoma Glaciers.
Satulick Point.....	1.5 S.....	5,574	Small clear lake giving beautiful reflection of Mount Rainier.
Success Cleaver.....	5 NE.....	10,000	Fine view of Mount Adams, St. Helens, and Mount Hood.
Emerald Ridge.....	2.5 N.....	5,935	This is on route formerly used for the summit climb. Beautiful green ridge, home of the mountain goat.

## RULES AND REGULATIONS.

## GENERAL REGULATIONS.

(In effect March 1, 1920.)

The following rules and regulations for the government of the Mount Rainier National Park are hereby established and made public, pursuant to authority conferred by the acts of Congress approved March 2, 1899 (30 Stat., 993), May 27, 1908 (35 Stat., 365), and June 30, 1916, (39 Stat., 243):

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 or other life, or other natural conditions and curiosities in the park is prohibited.

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.

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 must, 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 profit or merchandise 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 should be killed. Ten 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 upon the Government lands 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 on Government lands in the park.

10. *Patented lands.*—Owners of patented lands within the park limits are entitled to the full use and enjoyment thereof; the boundaries of such lands, however, shall be determined, and marked and defined, so that they may be readily distinguished from the park lands. While no limitations or conditions are imposed upon the use of private lands so long as such use does not interfere with or injure the park, private owners shall provide against trespass by their live stock upon the park lands, and all trespasses committed will be punished to the full extent of the law. Stock may be taken over the park lands to patented private lands with the written permission and under the supervision of the superintendent, but such permission and supervision are not required when access to such private lands is had wholly over roads or lands not owned or controlled by the United States.

11. *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.

12. *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 will 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.

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

14. *Dead animals.*—All domestic or grazed animals that may die on the Government lands 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.

15. *Travel on trails.*—Pedestrians on trails, when saddle or pack animals are passing them, shall remain quiet until animals have passed.

Persons traveling on the trails of the park, either on foot or on saddle animals, shall not make short cuts, but shall confine themselves to the main trails.

16. *Travel—General.*—(a) Saddle horses, pack trains, and horse-drawn vehicles have right of way over motor-propelled vehicles at all times.

(b) On side-hill 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 side-hill grades when meeting or passing passenger vehicles drawn by animals.

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

(d) 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.

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

(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.

18. *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 subject to a fine of not more than \$500 or imprisonment not exceeding six months, or both, and be adjudged to pay all costs of the proceedings.

#### AUTOMOBILE AND MOTORCYCLE REGULATIONS.

Pursuant to authority conferred by the act of Congress approved March 2, 1899 (30 Stat., 993), and June 30, 1916 (39 Stat., 243), the following regulations governing the admission of automobiles and motorcycles into the Mount Rainier National Park are hereby established and made public:

1. *Entrances.*—Automobiles and motorcycles may enter and leave the park by the southwestern or Nisqually River entrance and the northeastern or White River entrance.

2. *Automobiles.*—The park is open to automobiles operated for pleasure, but not to those carrying passengers who are paying, either directly or indirectly, for the use of the machines (excepting, however, automobiles used by transportation lines operating under Government franchise).

Careful driving is demanded of all persons using the roads.

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

3. *Motorcycles*.—Motorcycles are admitted to the park under the same conditions as automobiles and are subject to the same regulations, as far as they are applicable.

Automobiles and horsedrawn vehicles shall have the right of way over motorcycles.

4. *Intoxication*.—No person who is under the influence of intoxicating liquor and no person who is addicted to the use of narcotic drugs shall be permitted to operate or drive a motor vehicle of any kind on the park roads.

5. *Roads; hours*.—Automobiles will not be permitted to enter or leave the park before 6 a. m. or after 9 p. m., except in case of emergency, but no automobile or motorcycle shall enter the park, or leave Longmire Springs or Nisqually Glacier in either direction later than 8.30 p. m. The use of automobiles will be permitted on the Government road between Nisqually Glacier and Paradise Valley on a one-way schedule only, under which cars leave Nisqually Glacier ascending and Paradise Valley descending on each hour, 8 a. m. to 7 p. m., inclusive, passing at Narada Falls on each half hour.

6. *Permits*.—The permit shall be secured at the ranger station where the automobile enters, and will entitle the permittee to go over any or all of the roads in the park. It is good for the entire season, expiring on December 31 of the year of issue. The permit shall be conveniently kept so that it can be exhibited to park rangers on demand. Each permit shall be exhibited to the checking ranger for verification on exit from the park.

7. *Fees*.—Fees for automobile and motorcycle permits are \$2.50 and \$1, respectively, and are payable in cash only.

8. *Distance apart; gears and brakes*.—Automobiles while in motion shall not be less than 50 yards apart, except for purpose of passing, which is permissible only on comparatively level stretches of road or on slight grades. All automobiles, except while shifting gears, shall retain their gears constantly enmeshed. The driver of each automobile shall be required to satisfy the ranger issuing the permit that all parts of his machine, particularly the brakes and tires, are in first-class working order and capable of making the trip, and that there is sufficient gasoline in the tank to reach the next place where it may be obtained. The automobile shall carry at least one extra tire. Motorcycles not equipped with brakes in good working order will not be permitted to enter the park.

9. *Speeds*.—Speed is limited to 12 miles per hour on grades and when rounding sharp curves. On straight open stretches when no team is nearer than 200 yards the speed may be increased to 20 miles per hour.

10. *Horns*.—The horn shall be sounded on approaching curves or stretches of road concealed for any considerable distance by slopes, overhanging trees, or other obstacles, and before meeting or passing other automobiles, motorcycles, riding or driving animals, or pedestrians.

11. *Lights*.—All automobiles shall be equipped with head and tail lights, the headlights to be of sufficient brilliancy to insure safety in driving at night and all lights shall be kept lighted after sunset when automobile is on the roads. Headlights shall be dimmed when meet-

ing other automobiles, motorcycles, riding or driving animals, or pedestrians.

12. *Muffler cut-outs.*—Muffler cut-outs shall be closed while approaching or passing riding horses, horse-drawn vehicles, hotels, camps, or checking stations.

13. *Teams.*—When teams, saddle horses, or pack trains approach, automobiles shall take the outer edge of the roadway, regardless of the direction in which they may be going, taking care that sufficient room is left on the inside for the passage of vehicles and animals. Teams have the right of way, and automobiles shall be backed or otherwise handled as may be necessary so as to enable teams to pass with safety. In no case shall automobiles pass animals on the road at a speed greater than 8 miles an hour.

14. *Overtaking vehicles.*—Any vehicle traveling slowly upon any of the park roads shall, when overtaken by a faster moving motor vehicle and upon suitable signal from such overtaking vehicle, give way to the right, in case of motor-driven vehicles, and to the inside, or bank side of the road, in case of horse-drawn vehicles, allowing the overtaking vehicle reasonably free passage, provided the overtaking vehicle does not exceed the speed limits specified for the road in question.

When automobiles, going in opposite directions, meet on a grade, the ascending machine has right of way, and the descending machine shall be backed or otherwise handled as may be necessary to enable the ascending machine to pass with safety.

15. *Accidents; stop-overs.*—If, because of accidents or stop for any reason, automobiles are unable to keep going they shall be immediately parked off the road, or, where this is impossible, on the outer edge of the road. If on a one-way road, the automobile must wait where parked for the next hour schedule going in its direction of travel.

16. *Fines and penalties.*—Violation of any of the foregoing regulations will be punishable by revocation of automobile permit, or by immediate ejection from the park, or by a fine not to exceed \$500 or six months' imprisonment, or by any combination of these penalties, and be cause for refusal to issue a new automobile permit to the offender without prior sanction in writing from the Director of the National Park Service, or the superintendent of the park.

17. *Time.*—Automobile drivers shall compare their watches with the clocks at checking stations.

18. *Reduced engine power, gasoline, etc.*—Due to the high altitude of the park roads, ranging between 3,000 and 5,500 feet, the power of all automobiles is much reduced, so that a leaner mixture and about 40 per cent more gasoline is required than for the same distance at lower altitudes. Likewise, one gear lower will generally have to be used on grades than would have to be used in other places. A further effect that must be watched is the heating of the engine on long grades, which may become serious unless care is used. Gasoline can be purchased at regular supply stations as per posted notices.



**PANORAMIC VIEW.**

Panoramic view of Mount Rainier National Park, 19 by 20 inches, scale 1 mile to the inch, may be purchased from the Superintendent of Documents, Government Printing Office, Washington, D. C. Price, 25 cents.<sup>1</sup> Remittances should be made by money order or in cash.

This view is based on accurate surveys and gives an excellent idea of the configuration of the surface as it would appear to a person flying over it. Ten colors were used in the printing, the ice being shown in light blue, the meadows and valleys in light green, the streams and lakes in light blue, the cliffs and ridges in combinations of colors, and the roads in light brown. The lettering is printed in light brown, which is easily read on close inspection, but which merges into the basic colors when the sheet is held at some distance.

**MAP.**

The following map may be obtained from the Director of the United States Geological Survey, Washington, D. C. Remittances should be made by money order or in cash.

Map of Mount Rainier National Park; 20 by 18 $\frac{1}{2}$  inches; scale 1 mile to the inch. Price 10 cents.<sup>2</sup>

The roads, trails, and names are printed in black, the streams and lakes in blue, and the relief is indicated by brown contour lines.

**LITERATURE.****GOVERNMENT PUBLICATIONS.**

Government publications on Mount Rainier 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, Washington, D. C., or by personal application to the office of the superintendent at the entrance to the park:

Glimpses of our National Parks. 48 pages.

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

Automobile road map of Mount Rainier National Park.

Shows the park road system, trail system, hotels, camps, garages, superintendent's office, routes to the park, etc. Also contains short description of Mount Rainier and suggestions for motorists. Printed in two colors.

Map of National Parks and National Monuments.

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

**SOLD BY THE SUPERINTENDENT OF DOCUMENTS.**

The following publications 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.

Mount Rainier and its glaciers, by F. E. Matthes, 48 pages—including 25 illustrations. Price, 15 cents.<sup>1</sup>

This pamphlet contains a general account of the glaciers of Mount Rainier and of the development of the valleys and basins surrounding the peak.

<sup>1</sup> May be purchased by personal application at the office of the superintendent of the park at the entrance, but that office can not fill mail orders.

Features of the flora of Mount Rainier National Park, by J. B. Flett. 1916. 48 pages, including 40 illustrations. 25 cents.<sup>1</sup>

Contains descriptions of the flowering trees and shrubs in the park.

Forests of Mount Rainier National Park, by G. F. Allen. 1916. 32 pages, including 27 illustrations. 20 cents.<sup>1</sup>

Contains descriptions of the forest cover and of the principal species.

**National Parks Portfolio, by Robert Sterling Yard. 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 national parks and monuments.

### BIBLIOGRAPHY.

ALLEN, E. F. A guide to the national parks of America. 1915. 286 pp.

BRYCE, JAMES. University and historical addresses. 1913. 433 pp.

National Parks—The need of the future on pp. 389-406.

DUMBELL, K. E. M. California and the Far West. 1914. 198 pp.

Glacier, pp. 23-26; Crater Lake, pp. 26-27; Mount Rainier, pp. 30-41; Mesa Verde, pp. 78-80; Yellowstone, pp. 83-90; Yosemite, pp. 147-156; Sequoia, pp. 161-162.

FINCK, H. T. Pacific coast scenic tour. 1890. 309 pp., illustrated.

Mount Rainier on pp. 209-216; Crater Lake on pp. 157-158; Yellowstone on pp. 279-293; Yosemite on pp. 81-107.

FOUNTAIN, PAUL. The eleven eagles of the West. 1906. 362 pp.

Mount Rainier on pp. 110-112; Crater Lake on pp. 46-49; Yellowstone on pp. 173-198; Yosemite on pp. 21-27.

HALLAHAN, D. F. Tourists in the Northwest. 1914. 151 pp.

Mount Rainier, pp. 99-109; Yellowstone, pp. 42-86.

MEANY, E. S. Mount Rainier, a record of exploration. 1916. 325 pp.

MILLS, ENOS A. Your national parks. 1917. 532 pp., illustrated.

Mount Rainier on pp. 116-136; 460-469.

RUSSELL, I. C. Glaciers of North America. 1897. 210 pp.

Mount Rainier on pp. 62-67.

——— Volcanoes of North America. 1897. 346 pp.

Mount Rainier on pp. 241-245; Crater Lake on pp. 235-236.

STEEL, W. G. The mountains of Oregon. 1890. 112 pp.

Mount Rainier on pp. 43-51, 55-65; Crater Lake on pp. 12-33.

WILLIAMS, JOHN H. The mountain that was God. 1911. 144 pp., illustrated.

WINTHROP, THEODORE. Canoe and saddle. 1904. 375 pp.

Mount Rainier on pp. 123-154.

YARD, ROBERT STERLING. The top of the continent. 1917. 244 pp., illustrated.

Mount Rainier on pp. 115-139.

——— The Book of the National Parks. 1919. 420 pp., 76 illustrations, 16 maps and diagrams.

Mount Rainier on pp. 156-183.

<sup>1</sup> May be purchased also by personal application at the office of the superintendent at the entrance to the park, but that office can not fill mail orders.

**OTHER NATIONAL PARKS.**

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

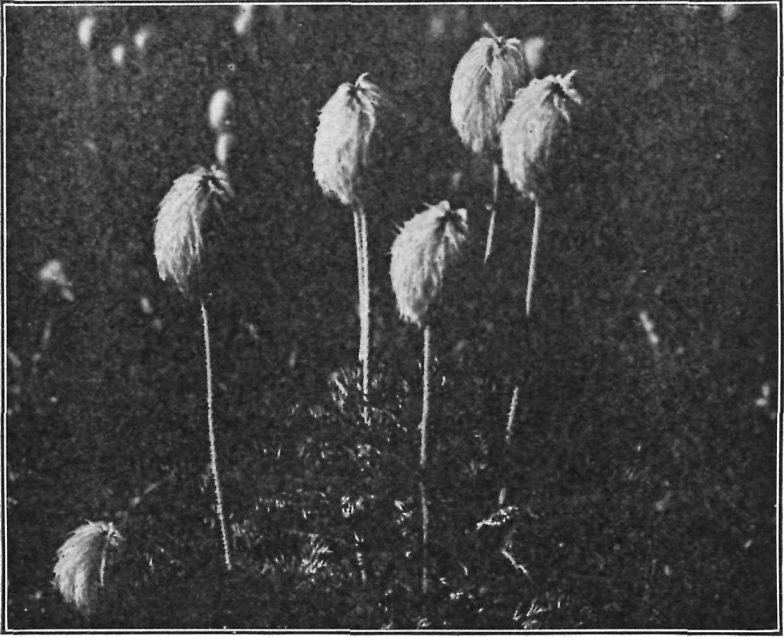
Yellowstone National Park.	The Hot Springs of Arkansas.
Yosemite National Park.	Glacier National Park.
Crater Lake National Park.	Rocky Mountain National Park.
Mesa Verde National Park.	Wind Cave National Park.
Sequoia and General Grant National Parks.	Grand Canyon National Park.

**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.





Seed pods of anemone.

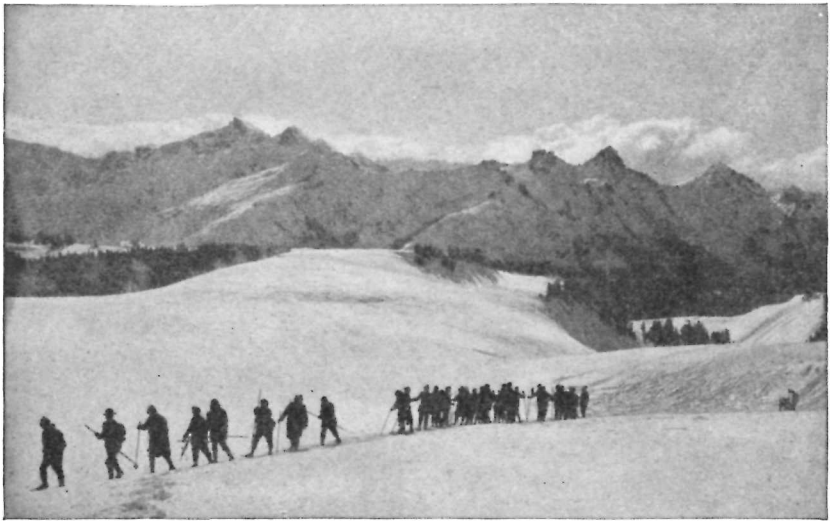
Color of flower, lavender; height of plant, 8 to 20 inches; blooms July and August.  
Photograph by Asahel Curtis.



Western anemone (*Anemone occidentalis*).

Photograph by Asahel Curtis.

Illustrations from "Features of the Flora of Mount Rainier National Park," by J. B. Flett. A copy of this pamphlet may be purchased by personal application at the office of the superintendent for 25 cents.



The Mountaineers in Paradise Valley in December.



The bobsled replaces the automobile.

WINTER SPORTS.