



MOUNT RAINIER NATIONAL PARK

Mount Rainier National Park

by John Barnett

CONTENTS

Introduction		•		•	•	•			•	•	•	•			•	•	•	•	•	•	•	2
Geological Surve	y				•													•		•		3
Trees and Flowe	rs											•	•	•				•	•	•		17
Wildlife						•	•		•	•	•	•	•	•		•		•	•			24
History									•		•					•	•	•	•			29
What To Do																						33



Designed by Charles Hull



Mount Rainier from near Paradise.

INTRODUCTION

To forsee the beauty of Mount Rainier one must know many things – deep forests where tall trees reach for the sun and in turn shade a forest floor that is carpeted by dense undergrowth – rivers tumbling from boulder to boulder in an anxious rush to reach the tranquility of the sea – of a tiny fawn nestling under a shrub for protection from the harshness of the battle for survival – flower fields that stretch unending distances before the eye with each tiny flower vying for attention during its short time of life – glaciers grinding and tearing at the high mound of rock that nature placed here – of tiny birds or giant volcanoes – winds that swirl in gentle puffs or violent blasts – of blue sky silhouetting a white cone – puffy clouds, or rain, or snow, or fog that shrouds everything in an aura of mystery – and of men who were drawn to this mountain as surely as if a great magnet has pulled them. All of these things are separate, but all are a part of the story of Mount Rainier.



Aerial view of Mount Rainier looking southwest.

THE GEOLOGICAL STORY

Although Mount Rainier is about a million years old, a youngster in geological time, we must look back some 60 million years to find the beginning of the story. Already the area of Washington State had seen mountain ranges come and go. Undoubtedly, regions of natural beauty had been created, with only primitive creatures present to give life to a scene which was then eroded away. Life forms rose from the earliest algae up to the dinosaurs. Many became extinct; others adjusted to the environmental conditions.

In the early Eocene Age, the area of Mount Rainier National Park was a low, swampy plain. The climate was more tropical than it is today and lush vegetation grew in great abundance along this plain. To the west was an ocean embayment which extended approximately from the present day location of Coos Bay, Oregon, to an area just north of Seattle. To the east were some low-lying hills while still farther east were some high mountains. The shore line was not static over the long span of years, but rose and fell. Therefore the sea encroached upon the land and left sediments and then fell back. Steams from the hills and mountains to the east carried sediments down, and in some areas deposited them in great thickness. The plants that grew on the plain were often submerged and buried in great abundance within the sediments. These formed the coal beds which are found today to the northwest of Mount Rainier, and which in turn gave the name to Carbon River. The sediments from this age are the interbedded sea and land deposits known today as the Puget Group. This deposition continued for almost half the time of our story.

About 30 million years ago, now in the Miocene Age, a new factor was added to the scene. To the east, large fissures in the earth's crust opened and poured massive amounts of volcanic material onto the land. The material didn't come in one gigantic flow, but in innumerable smaller ones. First there may have been a large flow of liquid rock; later a small one; then a long period of quiet followed by another period of volcanic flows. On and on this continued until eastern Washington, eastern Oregon, and parts of Idaho, Nevada, and even northern California were covered to a depth of several thousand feet with countless lava and ash deposits. These flows are responsible for much of the scenery along the Columbia River. In Mount Rainier National Park they form the foundations on which Mount Rainier itself is built. Some of the older rocks of this period are located on the eastern side of the park while younger ones may



Columnar lava jointing; known as Devil's Post Pile.



Tatoosh Range from Panorama Point above Paradise Valley

be found in the Tatoosh Range on the south side. Many individual flows have been identified and traced from this earlier period.

As soon as the lava flows settled on the land they were attacked by a variety of erosive forces. Over the years the rugged volcanic landscape was carved into low, rounded hills. Stream patterns became established in the evolving scene, setting the patterns for today's stream courses. At this time more volcanic activity entered the story. But this time the molten rock forced up from the earth's interior never reached the surface. It came from directly below to raise the area and cause a domelike effect. This, combined with earth stresses, created a series of northwest to southeast trending hills that were subsequently eroded. Today, the remains of these hills show primarily as folds in the rocks to the north of Mount Rainier. The material of the deep underground intrusion is found now in the lower part of the deeply eroded valleys around Mount Rainier. It is a salt and pepper colored rock called Granodiorite.

About 12 million years ago, the direction of the earth stress shifted until the alignment of force was almost east-west. As a result, the crustal rock folded and formed two almost parallel





2

1

The drawings on this page depict several stages of the geological history of Mount Rainier National Park. Drawing 1 shows the region as it must have appeared during Eocene time about 60 million years ago. Lava flows started to cover the area over 30 million years ago as shown in Drawing 2.



NPS Photos

Finally, the lava flows ceased and were eroded into rugged hills. About 1 million years ago volcanic vents along the Pacific Ring of Fire opened and created several cone shaped mountains as shown in Drawing 3. Subsequently an ice shield covered and eroded this land. Slowly the ice retreated, leaving the area in its present form as shown in Drawing 4.

north-south mountain ranges — to the west the Olympics and to the east the Cascades. These mountains were not thrust up in one mighty sweep, but by intermittent minor movements. The established stream patterns were able to follow their previous courses, cutting deeper into the higher thrusting mountains until a "first class" mountain range with high ridges and deep valleys was formed. This action is still going on today.

During the folding of the earth's crust several points of weakness developed. Indeed, a long band called the Pacific Circle of Fire began to develop about two million years ago. This ring includes the Mount Rainier area. At points of weakness volcanic magmas began to again find their way to the surface. These vents didn't all start to erupt at the same time, but first one and then another would open and spout ash or frothy pumice or flows of lava. These openings have not covered large areas, but have been small and have created cone-shaped mountains. Besides Mount Rainier, other mountains in the northwestern United States that had such an origin include Mount Baker, Mount Adams, Mount Saint Helens. Even Crater Lake is located in the base of such a mountain that "blew its top" within the past 10,000 years. The Pacific Circle of Fire is still very much with us today. Mount Fuji in Japan is on the ring. Paricutin in Mexico is the latest of this family of mountains rising from a cornfield in 1943. In the lower United States, Mount Lassen in California is the only volcano to erupt in recent times, showing activity as recently as 1914 and continuing into the early 1920's.

When the climate turned colder a great continental ice sheet called the Cordilleran Ice Shield began to form over all but the highest parts of the terrain. Alpine glaciers covered many of the peaks themselves. The valleys were eroded still deeper and even Puget Sound was outlined more definitely. The volcanics did not stop, however. Indeed, we find lava flows which were glacially eroded, covered by younger lava flows. Excellent examples of glacier-eroded lavas are found at Ricksecker Point and in Stevens Canyon.

Finally, some 10,000 years ago the climate began warming up again and the great ice shield slowly retreated. The alpine glaciers, which had extended many miles down the canyons retreated to their high altitude "last stand". This is how we see the landscape



Mount Rainier from Klapatche Point. The three peaks are Liberty Cap, Columbia Crest and Point Success.

today. But remember that the forces of nature are constantly at work.

THE VOLCANO The vent that opened to create Mount Rainier released flow after flow of lava. Layer upon layer accumulated to build the massive cone that we see today. Looking from several angles an observer will notice that there are actually several peaks rather than a single highest point. These peaks are named Liberty Cap, Point Success, and Columbia Crest. If we project the slope of the highest lava flows upward from Liberty Cap and Point Success we find that they converge at a point much higher than the present mountain top. So it is thought that Mount Rainier may once have been some 1,000 feet higher than it is today. After the volcano eruptions quieted down, the cone may have settled back into the vent itself. Subsequent debris flows may also have breached the summit and destroyed the higher cone.

After the settling of the higher peak, a later eruption created the smaller crater we find on the summit today. This small crater is about one-quarter mile in diameter. Columbia Crest, the highest point on the mountain today, 14,410 feet, is on the west rim of this



Climber on the Rim of Mt. Rainier's Summit Crater.

crater. The last significant eruption of Mount Rainier occurred between 500 and 600 years ago.

There are several warm mineral springs on the flanks of Mount Rainier, notably at Longmire and Ohanapecosh, and there are active steam vents on the summit of the mountain. These vents are quite hot and keep the rim of the crater free of snow all year round. Mount Rainier is not an extinct volcano but rather a dormant one that could show renewed activity at any time.

GLACIERS One of the more impressive features found today at Mount Rainier are the glaciers. There are 27 separate "rivers of ice" on the flanks of the sleeping volcano — more than on any single peak in the United States outside of Alaska.

The essential ingredient in glaciers is, of course, ice. Ice comes to central Washington by way of snow. As moist air is carried from the Pacific by the prevailing winds, it strikes the high mountains and rises over the higher terrain. The mountain climate is cool, and as the warm air rises it cools, causing its moisture to condense and fall — generally as snow. And it *does* snow at Mount Rainier! At the Paradise Ranger Station the yearly snowfall averages about 50 feet. During some years over 90 feet have fallen. This depth is not on the ground at any one time since it does pack down. The deepest snow pack recorded is over 30 feet, but, no matter how it is recorded that's a lot of snow! It is thought that Mount Rainier is among the highest snowfall areas of the world.

It can be seen that large amounts of snow and ice will accumulate on the high slopes toward the summit of the mountain. With the colder climates of the higher elevations little snow melts during the summer and great buildups of snow soon pack into ice. Finally the pack becomes so thick that its weight is tremendous and "something has to give". The ice mass begins its slow, grinding movement, pushed down the slope by its own weight, and a glacier is born. With each year's replenishment of the summit ice pack and each year's movement down the slope, a river of ice is formed. At Mount Rainier there are six glaciers which originate at the summit. They are the Kautz, Tahoma, Winthrop, Emmons, Ingraham, and Nisqually glaciers.

Not all of the snow falls at the summit, of course. Actually, more snow falls on the slope of the mountain than at the crest. In the cracks and gullies of the mountain large amounts of snow accumulate. Again, when its weight becomes great enough, the ice is forced out and down the lower side of the catch basin, eventually forming another glacier. Erosion by this kind of glacier can begin at its most uppermost point. Water from the accumulated ice gets behind the rocks and freezes. As the glacier begins its downhill movement, the rocks that are encased in the ice are plucked from the mountainside and carried in the glacier. The original catchment basin, known as a *cirque*, is enlarged, making way for even larger accumulations of snow. Most of the glaciers of Mount Rainier originate from broad areas several thousand feet below the summit.

After a glacier begins its movement, the moving ice is channeled into the valleys. As a glacier moves in its valley, the underside of the glacier ice is under great pressure from above. Thicknesses of several hundred feet are not uncommon. The under part of the glacier takes on physical characteristics of a more plastic nature as it moves and slides over the rocks. The upper part, under less pressure, has the usual characteristics of ice. As the glacier moves



Nisqually Glacier.

over the irregular valley floor, the lower part of the ice moves up and down. Deep fractures called crevasses, open and close in the upper portion of the glacial ice as the glacier moves down the mountain.

The ice scours and erodes the valley down which it moves. Rocks fall from the valley walls onto the ice or are picked up from the valley bed and carried along. Rocks frozen in the ice are the principal grinding tools of the glacier rather than the ice itself. The movement of rock against rock under tremendous pressure causes each to be slowly ground into powder. As the water from glacial melt picks up the finely ground powder, the stream coming from an active glacial valley has milky colored water because of this "glacial flour."

Many rocks which fall onto the top of the glacier simply ride the moving ice to the end of the glacier. Some rocks on the glaciers at Mount Rainier have been marked for yearly measurements of how far they have traveled. Movements of 500 feet per year (18 inches day) have been observed in the centers of channels, with lesser amounts toward the sides of the glaciers. As rocks are deposited at the ends or at the sides of the glaciers they form ridges called *moraines*.

Deep crevasses high on Ingraham Glacier.

Bill Barnett





Paradise Inn covered by snow.

The down canyon terminus of all of the Mount Rainier glaciers have been receding over the past century. As recently as 1900 Nisqually Glacier extended almost a mile farther down its valley than it does today. Others extended similar distances beyond their present limits. There has been an advancing trend, however, during the 1960's and 70's in most of the Mount Rainier glaciers, indicating a period during which accumulation has exceeded melting.

ICE CAVES Several glaciers on the slopes of Mount Rainier have ceased to move downhill because of insufficient replenishment of ice in the glacier area. These are "dead" glaciers. One of these is Paradise Glacier.

Summer warmth causes a certain amount of melting of the snow and ice in all glaciers. The melt water enters the glacial valley and creates a stream of water under the glacier. This may issue forth from below the ice as a full-blown river. This under-ice river hollows out a small tunnel beneath the glacier. In the case of Paradise Glacier the river of ice has ceased its movement and has broken into segments of ice back up the mountain. These uphill breaks have allowed a large air flow into the small water-cut channel beneath the ice. The air moving through the channel has greatly enlarged the tunnel.

This unusual scenic feature of the Paradise Glacier is a truly remarkable sight. When the summers allow the overlying snow to melt sufficiently to allow entry into the tunnel, the ice caves are well worth the hike required to see them.

MUDFLOWS Among the more frightening natural events that occur at Mount Rainier are mudflows. Examinations have revealed some extremely large flows in ages past that would have been catastrophic to large areas should they occur today. Among these are the Osceola Mudflow, which inundated the area of Buckley and Enumclaw and even continued all the way to Puget Sound.

The mudflow that can best be seen and examined at Mount Rainier is the Kautz Creek Mudflow of 1947. In October of that year heavy rains saturated the area. Near the snout of Kautz Glacier some of the ice may have shifted and partially dammed an uphill area, forming a reservoir behind it. Rains continued to pour into the



Paradise Glacier. Entrance to ice caves in lower center.



View from inside ice caves.

area and pressures on the accidental dam became so great that it gave way in a mighty rush. The saturated valley was easily churned into a consistency resembling a concrete slurry. This wet mud rushed down Kautz Creek Valley burying the previous stream bed many feet below, and overflowing into the forest nearby. Boulders of tremendous size were carried along, and trees were crushed in the onslaught.

When the mudflow reached several miles below its source it crossed the road between Longmire and the Nisqually entrance to the park. The road was buried some 50 feet below the flow for about one-quarter mile. The flow continued forward for another few hundred yards until it reached the intersection of Kautz Creek and the Nisqually River. Here it came to a grinding halt. In a few hours a valley several miles long had been totally demolished and reshaped. At the point where the road crosses the site of the Kautz Creek Mudflow there is now a nature trail explaining and showing some of the features of the flood. It is interesting to notice some of the tall dead trees in the area that were not flattened by the flood. They died anyway when their water supply was disrupted and they were killed by suffocation.



Kautz Creek flowing among trees killed by the 1947 mudflow.

Mudflows are not uncommon to Kautz Creek. There is evidence of at least six previous debris flows exposed in the banks of that one stream.

There have been several mudflows since 1947. One such flow on Tahoma Creek in 1967 destroyed a public campground which fortunately had been closed because of high fire danger. The possibility of more mudflows is always very real.

ROCK FALLS The Mountain is constantly being attacked by rain, glaciers, and other forces of nature. Many rocky heights continue to be toppled by these forces and small rock falls occur almost constantly.

The largest of recent years occurred on Little Tahoma Peak in December, 1963 and dropped tons of rock onto Emmons Glacier and down into the White River Valley. Some boulders weighing hundreds of tons came down. The debris stopped only one-half mile short of the White River Campground, after traveling about four miles. No human witnessed this rare spectacle since all facilities were closed for winter.

TREES AND FLOWERS

The overpowering dominance of the volcanic cone of Mount Rainier is almost invariably the primary story as a person observes the majestic scenery. In the summer, as the snow melts away and the meadows emerge from their white wintertime blanket, another story, that of plantlife, unfolds yearly to enchant the visitor and leave a sometimes more lasting impression.

The trees and flowers which cloak Mount Rainier are distributed in belts, controlled to some degree by the climate found at the different elevations. Lower on the slopes, between sea level and about 3,500 feet, Douglas-fir, western red cedar, and western hemlock are the most common forest trees. Although the maples of the lower forest do not stand out during the summer, in their bright autumn foliage they take attention away from the massive evergreens. Ferns of several kinds are common. Impressive stands of the nettle-like devil's club, and the strange looking skunk cabbage



Field of Avalanche Fawnlily in Van Trump Park.



Cliff Penstemon



Arnica



Glacier Lily



Shooting Star



Monkey Flower



Bear Grass

are found in moist areas. Huckleberry bushes are common and can provide a forest banquet in the late summer and early fall. Flowering plants of delicate beauty are often overlooked in the massive forests and dense undergrowth of the lower elevations—the twin flower, springbeauty, salal, vanilla leaf, beadruby, and many others. A beautiful sight on the dark floor of the forest is a carpet of oxalis looking like a solid mat of overgrown clover.

Higher on the mountain slopes the forest thins. The evergreens are not so large and the undergrowth is not as dense. Douglas-firs are still present, but the noble fir and mountain hemlock become part of the scene. Western white pines with their large cones up to a foot long are often found between 3,500 and 4,500 feet. Cascade azaleas and several varieties of penstemon are common in the more open areas of this elevation. Profuse blossoms of the cliff penstemon may turn a rocky cliff into a carpet of luminescent red with its blossoms.

At about 4,500 feet, subalpine firs and mountain hemlocks take over as the common evergreens. Alaska-cedars add a velvety texture to the forest. In the higher elevations, timbered areas give way to open meadows. Clumps of trees dot the mountainside. In the warmer months streams from melting snow wend their way through the meadows. It is here in summer that nature runs rampant with color.

As the snow melts in the meadows, the plants come to life, some even pushing their way through the last few inches of snow. First to appear are the yellow glacier lilies and the white flowered avalanche fawnlilies. In some meadows the white snow is replaced by an almost solid carpet of white blossoms. At the streamsides the white marsh marigolds and purple shooting stars add their color. Entire slopes are cloaked with phlox and cinquefoil, and the delicate pink of heather, whose perfume makes the countryside pleasant.

As the summer progresses the white of the avalanche fawnlily fades and is replaced by the white of the Sitka valerian and American bistort, the magenta of the paintedcup and the blue lupines. Bushes of bluebells and monkey-flowers, both red and yellow, are abundant. Rosy spirea add a lacy pink blossom. The anemone,

19



which early in the season had a low clump of white flowers, has grown a foot high and each blossom has been replaced by a gray, feathery ball which gives it the name bottle brush. Each feathery head looks like a character out of a Dr. Seuss children's book.

The alpine flowers are so dense that in many places it is impossible to point a camera at the ground and not find color. Mount Rainier's wildflower display must rank with the finest in the world.

As the summer ends and the blossoms fade away, nature puts on one last show. The nip of the approaching winter turns the hillsides brilliant red as the leaves of the huckleberry bushes turn scarlet. Soon the snow flies and the mountain meadows again are covered by a mantle of white, to sleep until spring when they will repeat the endless cycle.

High on the mountainside, treeline is an irregular thing sometimes as high as 7,500 feet, sometimes as low as 6,500. Wind-whipped white-bark pine may hang on in precarious places. Few plants find suitable environment in the high elevations and above treeline the mountain is rock and ice, dominated by its arctic climate.



Heather slope on Pinnacle Peak Trail.



Rosy Spirea



Lupine



Anemone Blossom



Anemone Seed Head



Magenta Painted Cup



Gentian

WILDLIFE

The mountain goat is at home at Mount Rainier. These shaggy coated creatures may often be seen as specks of white against the rocks of the high country. It is fascinating to watch them move over rugged and precarious terrain as they seek a favorite grazing area or a place of safety in their high mountain home. Nature has given mountain goats specially constructed hooves that makes them sure footed. In summer they live high on the mountain, near or above treeline, but they usually retreat to more protected alcoves when the winter reclaims the mountain. Like he has done with many animals, man has misnamed this creature. He is not a true member of the goat family, but, rather, a rock antelope. Their short black horns and beards do resemble those of the barnyard billy, however. The young are born in the spring, usually one to a mother, although twins are not rare. The little ones are frisky and precocious, often able to move about easily at the ripe old age of one-half hour! Although there is no way to take an exact count of the mountain goats, about 400 are thought to make their homes in Mount Rainier National Park

The bears found in Mount Rainier are Olympic black bears. Most are indeed black in color, but some are brown or even light cinnamon color. There are no grizzlies known to be in Mount Rainier. Bears will eat almost anything. They like meat, taking chipmunks and ground squirrels and maybe a young or very old deer when they can catch one. These are often the injured or sickly. Much of the time bears are vegetarians. They love huckleberries, strawberries, serviceberries and many other kinds of fruit. They also eat lots of grass. The young are born, generally twins, while the mother is in her wintertime sleep. At birth the babies weigh only a few ounces, but by the time spring rolls around the little ones have grown into active cubs. They stay with the mother through the first year or so of their lives and then are on their own.

Black bear antics are always a source of amusement and when one is sighted where there are people, a crowd is sure to gather. Unfortunately, when visitors feed these animals a bear problem begins. Hungry "camp bears" don't always stop at begging for handouts and sometimes tents and camps and convertibles are



Mountain Goat

NPS Photo





Bear

MRNHA Photo

Deer

ransacked by bears searching for tidbits. They are not normally vicious, but they do have immense size and strength and when they are frightened or must protect their cubs they can be dangerous. If a bear is encountered in the wild, it will usually retreat hastily. None-theless, precautions should always be observed in bear country, including making loud noises should a bear approach, so it will be sure to see you and not be startled.

The most commonly seen large animal at Mount Rainier is the Columbian blacktail deer. The blacktail deer is smaller than a Rocky Mountain mule deer which is rarely seen in the park. The deer range at all elevations up to treeline in summer, but retreat to lower and warmer country as winter sets in. When the mating season arrives in the fall, bucks often contest for supremacy of the herd and the ringing of clashing antlers sends awesome sounds across the hills. The young are born the following May or June when the herd has returned to summer range.

The hoary marmot is one of the most asked-about animals at Mount Rainier. They are sometimes called "whistlers" because of their shrill, piercing whistle that can be heard at great distances. The marmots are related to the woodchuck of the east, but are somewhat larger with an overall body and tail length reaching 30

Marmot



inches. They are one of the largest rodents. Marmots hibernate in winter coming out of a deathlike sleep as the snow melts from their rocky. hiah elevation dens. They often are seen sunning themselves on the rocks or peacefully feeding on nearby plants. Observers can often approach very near marmots, but one step too close will send them scurrying back into the safety of the rocks where they can watch until the danger is past.

The pika, or cony, lives in similar rocky places. He has short round ears, no tail, and is only a fraction of the size of the marmot. In the summer he harvests a pile of grasses and other plants and stores them near his den to feed on during winter. He can often be seen darting over the rocks, collecting material for his hay pile.

Raccoons are common at Mount Rainier and often make nui-



Golden-mantled Ground Squirrel



Chipmunk

sances of themselves in populated areas by visiting camps and begging for food. They may become used to people and may bite fingers if they are offered something to eat by thoughtless visitors.

Almost every viewpoint and campground is well populated by chipmunks and golden-mantled ground squirrels. These rodents are similar in some ways. The golden-mantled squirrel is much larger and the stripes on his back go only to his shoulders, while the chipmunk's stripes run to the end of his nose.

A number of elk live in the park but they avoid the regions where there are people. Hikers sometimes report seeing them, particularly on the east side of the park. Coyotes, foxes, bobcats, martens, and weasels are present but seldom seen. The cougar, or mountain lion, has been seen in the park but it is not known how many remain today. The timber wolf once roamed these mountains but because of his conflict with man has been exterminated.

Many interesting birds may be seen at Mount Rainier. At Paradise and Sunrise the Clark's nutcracker has become a bold beggar. The Oregon jay will sometimes land on a person's hand when there is food for the taking. Both are noisy and able camp robbers. Chickadees and juncos are among the more common smaller birds. Woodpeckers and sapsuckers make their homes in the deep forest. At almost any elevation a hiker may hear a low, booming sound like a distant drum. This is the call of the dusky grouse. It often seems close at hand but the grouse may turn out to be a considerable distance away. At higher elevations the grouse-like ptarmigan puts on a display of camouflage, changing colors of his feathers from dark in summer to white in winter. A person can almost step on this well-disguised bird before he is aware of its presence. Of the larger birds, ravens and hawks of several varieties are often seen circling high overhead. Very rarely an eagle can be seen soaring high above its mountain home.

Clark's Nutcracker



Ptarmigan in Summer Camouflage

Oregon Jay



Sooty Grouse

NPS Photos







Mount Rainier from Puget Sound (Warre)

Photo Courtesy NPS

HISTORY

Man's history of Mount Rainier starts with the ancient Indian inhabitants. Several tribes occupied the surrounding territory. Although there were no permanent settlements known within the park, hunting parties and groups gathering berries and other plants for food undoubtedly made temporary camps near the base of the mountain. Legends of the Indians indicate that they regarded the summit of the mountain, which they called Tahoma, a place to be feared even though the slopes were generous hunting grounds. This feeling of respect and awe for the great mountain certainly has not diminished to the present day.

White men may possibly have first seen Mount Rainier from a distance in one of the early voyages that brought Spanish and English explorers along the coast. The first recorded sighting was entered on May 8, 1792 in the log of Captain Vancouver of the English Navy as he sailed in Puget Sound. It was he who named the mountain for a friend, Admiral Peter Rainier. Admiral Rainier never saw the peak which bears his name.

English and American explorers and fur traders began to penetrate the Oregon and Washington territory in the early 1800's. Outposts slowly appeared and had a precarious existence. In 1818 the area was placed under a joint occupancy agreement between the United States and England with both holding equal rights in the region.

In May, 1833, Fort Nisqually was established near the present location of Tacoma. Shortly thereafter, Dr. William Frazer Tolmie, a Scotsman and an able botanist was stationed at the fort. In August 1833, Dr. Tolmie organized the first trip by a white man into what is now Mount Rainier National Park. He was accompanied by five Indian companions. They approached the northwest side of the mountain and climbed Hessong Rock. In later years, the name Tolmie Peak was given to a nearby peak in honor of this early explorer.

Settlers continued to trickle into the northwest in these early years. Finally, in 1846 an agreement between the United States and Great Britain established the present day boundary between the United States and Canada.

Stories of adventure along the Oregon Trail are well known. Settlers increased and farms and settlements began to dot the terrain within sight of Mount Rainier. The Indians, unhappy over the usurping of their land by the newcomers, and the settlers, anxious to protect their new homes, often engaged in warfare. More protection was needed by the settlers; therefore, Fort Steilacoom was established in 1849 not far south of Fort Nisqually. Still, hostilities were not brought to an end until 1858.

To the new settlers Mount Rainier must have been a beacon. There are apparently several early climbs of the mountain. The "Columbian," a pioneer newspaper in the region, reported in 1852 that four men, Bailey, Ford, Edgar, and Shaw, climbed Mount Rainier. Another climb almost escaped notice until a story was told by an Indian named Alec Saluskin, who recalled many years later that two white men came into the camp of the Yakima in 1855 and asked to be led to the mountain. Days later, and high up the mountain slopes, the two left Saluskin and continued on toward the summit. They returned later to tell of steam vents at the top and a lake in the summit crater. Saluskin left them there and returned to his home. The names of the climbers are not known.



Longmire's Hotel and Mineral Springs.

Photo Courtesy NPS

The first well known attempt to climb Mount Rainier was in July 1857. Led by Lt. August V. Kautz, the group included Dr. R. O. Craig, four soldiers and a Nisqually Indian guide named Wapowety. Lt. Kautz and his party did not reach the summit but were turned back by high winds and bitterly cold weather after reaching a high elevation.

The summit had a pair of visitors in August 1870 when Hazard Stevens and Philemon Van Trump completed the climb. From the lower slopes their climb appeared easier than it was. When Stevens and Van Trump set out they expected to return in a short time. After climbing much longer than they had anticipated and reaching the summit they found descent impossible because of approaching night and bad weather. On many a mountain they would have faced freezing death but they discovered steam vents at the summit. Even though it was not a comfortable night they did survive to descend the following day and tell of their triumph.

Among the early settlers in Washington State was a family named Longmire. James Longmire helped search for a road route over the Cascades to the east. He helped guide Stevens and Van Trump and later Emmons and Wilson to the mountain and in 1883 made the summit climb himself. On his trip he discovered the mineral springs on the southwest side of the volcano. Soon he returned to establish a hotel and resort that was the first settlement within what is now Mount Rainier National Park. Sightseers began to come—slowly at first—but enthusiasm spread quickly.

By 1890 the mountain was becoming well known, partly because of a dispute over its name. The Indian name, *Tahoma*, or *Tacoma*, was preferred by many, while Rainier was favored by others. The argument was finally settled with the retention of the name given by Captain Vancouver.

As tourists came in ever-increasing numbers depredations and vandalism occurred in disturbing proportions. Finally a movement was started by individuals and organizations to set aside this magnificent land as a national park. In 1899 Congress agreed and Mount Rainier was established as the United State's fifth national park.

Although Mount Rainier had become a national park there was no administrative body in charge of protecting the area until 1904 when the United States Forest Service was given the responsibility. In 1910 the first superintendent was appointed.

In 1906, the first road into the alpine area was begun. It was completed enough for an automobile to reach Paradise Valley by 1911, but the public did not drive on it until 1915.

Tent camps were set up in summer in the Paradise area from the late 1890's until 1915. The earliest camp known as "Camp of the Clouds" was located near Alta Vista. In 1897 John Reese took over the operation and moved the camp slightly. It was renamed "Reese's Camp" and continued as such until the Rainier National Park Company was organized and construction of Paradise Inn was begun in 1915.

By 1916 there were 12 national parks with a variety of administrations. The nation recognized the need to place all the parks under a single bureau devoted to them alone and in August of 1916 the National Park Service came into existence in the Department of the Interior.



Deep forest road near Nisqually entrance.

WHAT TO DO

Mount Rainier National Park offers countless attractions to the outdoor-minded visitor. Even for a person who can only drive through the park and stop at the easily accessible view points the scenery is reward enough.

There are four visitor centers in the park. At Longmire a small museum houses a collection of photographs of the early history of the area. Indian artifacts of the region are on display as are exhibits on geology and park wildlife. A naturalist is on duty at this center and visitors entering the park through the Nisqually Entrance on the southwest are wise to stop for information about the area. At this museum, as at others, there is an excellent relief model of the park.

At Longmire, a half-mile long self-guiding nature trail, known as "The Trail of the Shadows," leads visitors beside the mineral springs discovered by James Longmire in 1883. One of the buildings constructed by the Longmires is located here. The trail goes through some of the deep woods of the lower forests. It is an easy trail, well presented by means of a self-guiding booklet. At Paradise, in the auditorium of the visitor center, excellent presentations on the story of Mount Rainier are given at regular intervals. The exhibit rooms contain displays of the various park features. The uppermost floor is an observation deck that gives a 360° view of some of the most rugged and beautiful scenery in the world.

A concessioner operates a cafeteria and a gift shop in the Paradise Visitor Center. A guide service is available for those who wish to do some mountain climbing.

Paradise is close to timberline at 5,400 feet. Clumps of trees leave open meadows where wildflowers grow in summer and paint the mountain with color. Trails in the meadows afford excellent views and every visitor should enjoy this beautiful area by taking at least a short walk. A trail to the north of the Paradise Visitor Center leads to the Nisqually Glacier Vista. This trail is about one mile round trip and offers one of the most magnificent views of an active glacier anywhere (see page 11).

The Paradise Ice Caves are reached over a six mile trail, round



View from Longmire.



Paradise Visitor Center.

trip, starting from this same area. As with all longer trails, hikers should be prepared for snow and rocky terrain and should understand that more effort is required to negotiate this high mountain path. Posted precautions should be closely observed or serious difficulties could result. Those who can safely negotiate this trip will be rewarded by seeing one of the most unusual and spectacular features of the park. When the snow melts over the thinning roof a spectacular blue light filters through several feet of ice.

At Ohanapecosh, a visitor center has been built in the deep forest. The story of the northwest forests and their ecology is presented here. The beautiful Ohanapecosh River flows nearby through the giant woods. Trails along the river take the visitor to Silver Falls and to a group of large, old trees well named The Patriarchs.

Sunrise, at 6,400 feet on the northeast side of the mountain is the highest visitor use area. Views of the Emmons Glacier and the White River Valley are excellent. The visitor center museum presents the geological story. Like Paradise, nearby trails interlace the mountain meadows which become flower fields in summer.



View from Pinnacle Peak Trail.



View of White River and Emmons Glacier from Sunrise.

Campgrounds have been developed in several localities in the park and they are popular. At Cougar Rock, near Longmire, is a large campground; another is at Ohanapecosh. There are campgrounds along Carbon River, White River, and at Nisqually Entrance. Information on each camping area is available at entrances and visitor centers. They operate on a first-come, first-serve basis with limits on how long visitors can stay.

Naturalist-led nature walks are conducted from various starting points in the park in summer. Evening naturalist programs are given regularly at various campgrounds and visitor centers in the summer. Schedules and topics are posted on bulletin boards and all visitors are invited to attend.

There are hundreds of miles of trails in Mount Rainier National Park and all offer adventure and beauty. The Wonderland Trail is worthy of particular mention. It is 90 miles long and circles Mount Rainier. It traverses deep canyons, crosses rushing steams, rises above timberline and always offers exciting views. The trail occasionally crosses a road and by arranging his transportation a hiker can take portions of the trail which suit his fancy or make the entire trip in segments. Free permits are required for all backcountry camping.



Fishing is allowed in the park under federal regulations similar to those of the state. No license is required, but certain areas are restricted and fishermen should become acquainted with the regulations before wetting a line. Like all national parks, Mount Rainier is a wildlife refuge and hunting is not allowed. Animals are free to roam their natural habitats without undue danger from man.

Mount Rainier is a mecca for mountain climbers from novice to professional. Climbing schools are conducted for all degrees of proficiency. There is a feeling that permeates the ad-

Crevasse

venturous soul as he stands in view of Mount Rainier that makes climbing the giant cone an irresistible attraction. But scaling Mount Rainier is an adventure full of hazards. The National Park Service advises all climbers to have gained proficiency in climbing or to have attended a recognized climbing school. Summit climbing is done in parties of two or more and all climbers must register with the park rangers. These are precautions for the safety of the climbers.

Every year hundreds of climbers follow the footsteps of Stevens and Van Trump, and every successful climber comes away with a feeling of triumph and elation that is impossible to describe in words. Looking from the top of the giant mountain out over hundreds of miles of natural beauty, the old and hackneyed phrase "climbing a mountain just because it is there" seems to make wonderfully good sense.



Climbers high on the east side of Mount Rainier.

This, then, is a brief story of Mount Rainier National Park. As an American it is yours to own and to use for whatever pleasures you find here. The only requirement is that you leave it undamaged so that those who follow may also enjoy its unspoiled beauty. This is the mission of the National Park Service.

You are cordially invited to visit and revisit your spectacular mountain at Mount Rainier National Park.





View from Fairy Pool.



NATIONAL PARKS OF WASHINGTON STATE



