

## Naturalist Activities Enrich Your Visit

**H**eaded for Paradise or Sunrise? There's more!! Take a moment to explore all the possibilities in enjoying the Northwest's greatest mountain. With so much to see and do and so little time to do it in, how will you plan your time at Mount Rainier?

There is no "best way" to visit the park. It depends on your time and interests.

Plan to stop early at one of the park visitor centers for detailed information and assistance in making the most of your time. You will find helpful rangers willing to answer questions on wildlife, flower blooms, glaciers, human history and other features of the park. They also provide current information on roads, weather, trails, camping, and local attractions. Backcountry hikers should consult a ranger at either the Longmire or White River Hiker Centers. At the Visitor Centers, ask about a schedule of activities that enhance your personal interests.

Park Naturalists offer walks and hikes to provide you the opportunity to better understand and appreciate the many different aspects of the mountain environment.



Short guided walks are offered to waterfalls and magnificent old-growth forests at Longmire/Cougar Rock and Ohanapecosh. Subalpine meadows are featured in programs at Paradise and Sunrise. Illustrated campfire programs presented at Cougar Rock, Ohanapecosh, and Ipsut Creek campgrounds and at Paradise Inn, focus on significant resources of the park. Old-fashioned talks around the campfire are held at White River Campground. The programs vary each evening and could touch upon wild-

life, glaciers, wildflowers, mountain climbing, powers of nature or the volcanic origins of the Mount Rainier landscape. Refer to the pull-out schedule of activities on pages 3 through 6 of this guide or check park bulletin boards for specific details.

Stretch your legs and learn a new facet of park natural history on your own while walking one of the park's five self-guiding nature trails. They are located at Longmire, Paradise, Ohanapecosh, Sunrise and Carbon River. □

## Summer Field Seminars

**I**f you have several days to invest at Mount Rainier and you want more depth than the short term ranger-led activities can offer, consider joining a seminar. Educational seminars in the field offer an exhilarating learning experience.

Immerse yourself in the intricacies of the old-growth forest, explore glaciers, geology, and volcanoes; let your creative spirit soar through nature writing and photography, delve into the beauty of wildflowers, attune yourself to birds and elk.

All seminars are conducted in the field, and most involve moderate hiking. Participants should be in good physical condition and be prepared to spend full days outside. Seminar tuitions range from \$65.00 to \$100.00 for these three day adventures.

The Pacific Northwest Field Seminars is a non-profit program sponsored by the Pacific Northwest National Parks and Forests Association in cooperation with the National Park Service and U.S. Forest Service.

For information on seminar subjects, dates, and how to register please call Pacific Northwest Field Seminars at (206) 569-2211 ext. 295; or ask a ranger at any visitor center. □



### A TRAVELER'S COMPANION TO MT. RAINIER NATIONAL PARK



TEXT BY ROBERT STEELQUIST • PHOTOGRAPHY BY PAT O'HARA

## Hot Off The Press!!!

A brand new book, A Traveler's Companion to Mount Rainier National Park, has just been published by the non-profit Pacific Northwest National Parks & Forests Association to help you enjoy the park. Author Bob Steelquist and photographer Pat O'Hara guide you through the park with various stories of the mountain, its forests and meadows, wildlife, and human history of the area. Use it as a trip planner to schedule features you want to visit, use it as a road guide to the Mount Rainier story, or use it as a keepsake to help you remember your visit. Look for "The Traveler's Companion" at all visitor center, museum, and Hiker Center book sales displays.

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# General Information and Services

## ■ Hiker Information

If you are planning a backpacking trip, be sure to stop at the Hiker Center at Longmire. Located in the log and stone building beside the flagpole, the Center features a display of 30 popular hikes and information on Minimum Impact Camping. Rangers on duty will be happy to answer your questions, assist with trip planning, and issue backcountry permits.

Camping at Camps Muir and Schurman, as well as all nights at other trailside camps, is available on a first-come, first-served basis. For additional information, write: Backcountry Desk, Mount Rainier National Park, Tahoma Woods, Star Route, Ashford, WA 98304, or call (206) 569-2211 and ask for the Backcountry Desk.

## ■ 24 Hour Information

For information on Mount Rainier National Park, tune your AM radio to 1610KHz, in the area of the Nisqually Entrance. Also, you may dial (206) 569-2343 for up-to-date information on park roads, trails, facilities, and weather, 24 hours a day.

## ■ Golden Passports

Three Golden Passports are available to park visitors. The Golden Eagle Passport costs \$25 and entitles the holder and all persons in the same vehicle to unlimited entrance to federal fee areas throughout the calendar year. Golden Eagle Passports are sold at the park's entrance stations. The Golden Age Passport is issued to U.S. residents 62 years or older; the Golden Access Passport is for those with physical disability. Both are lifetime passes providing free entrance to the national parks for you and all persons in your vehicle, plus a 50% reduction in camping fees. The Golden Age and Golden Access passports are available free at all visitor centers, the Carbon River Ranger Station, and park headquarters.

## ■ Take Pride In America

"All Americans should take pride in their outstanding public lands and historic sites that belong to everyone..."—President Reagan. Please protect Mount Rainier so future generations may enjoy the same privileges you have today.



## ■ Books and Maps Enhance Visit



Books and maps are available for sale at all park visitor centers as well as the Hiker Information Centers, Longmire Museum, and Carbon River Entrance Station. The selection includes handbooks that will prove valuable in your outdoor explorations, books about park history and climbing, and maps that will enhance your enjoyment of the park from road and trail.

These outlets are operated by the Mount Rainier Branch of the Pacific Northwest National Parks & Forests Association, a non-profit organization benefitting the naturalist programs in the national parks and forests of the Pacific Northwest. This paper is an example of these benefits. We invite you to become a member of the Association. To learn about the advantages of membership in the Pacific Northwest National Parks & Forests Association, inquire at any visitor center.

Inter-Denominational Christian Services (Sponsored by A Christian Ministry in the National Parks)



Cougar Rock Campground Amphitheater	Sunday 9 a.m. & 7 p.m.
Paradise Inn Lobby	9:30 a.m.
Paradise Inn Balcony	7:30 p.m.
Ohanapecosh Campground Amphitheater	9 a.m. & 7 p.m.

## Roman Catholic Mass

Eatonville	
Our Lady of Good Counsel	10 a.m.
Morton—Sacred Heart	10:30 a.m.
Packwood	Saturday
Presbyterian Church	5 p.m.

*Celebrate*



Mount Rainier National Park will be celebrating the Centennial of Washington State in 1989. Watch for announcements in future issues of Tahoma and Snowdrift.

**Safety** is more than a word to the wise! The natural environment of Mount Rainier National Park presents some special challenges for people seeking an enjoyable visit.



■ **While Driving**—remember that mountain roads are narrow and winding, with short sight distances. Park speed limits are lower for these and other reasons. Wild animals and park visitors often dart into vehicle paths. Rocks and trees seem to "jump out" onto roadways at every curve. Snow and rain cause slippery road conditions at any time of year. Drivers sometimes pay closer attention to the scenery than to road conditions. For your safety and the protection of park animals and trees—please slow down and park in pullouts to enjoy the scenery. At a slower pace, you just might enjoy the park more. Now, isn't that what you came for?

■ **Protect Your Valuables** "Don't be a victim," says Park Ranger John Jensen. Vacationers generally are in a relaxed frame of mind, and don't practice the same precautions against thievery as they might at home. Unfortunately, thieves visit Mount Rainier along with the good folks. Rangers urge locking everything of value in the car's trunk, or putting it out of sight, and locking all doors and windows. Purses, billfolds, cameras and other valuables can be prizes for a thief.

■ **What is Falling on Your Head?** Beware of rocks, snow avalanches, and debris falling on trails and rolling onto roadways. Climbers wear hardhats for safety. All of us should keep a sharp watch for what is dropping from overhead.



■ **Watch your step!** Park trails are steep and full of rocks and other hazards. Slips, and falls from small boulders, can mar a vacation just as quickly as a flying leap over a 1000 foot cliff.



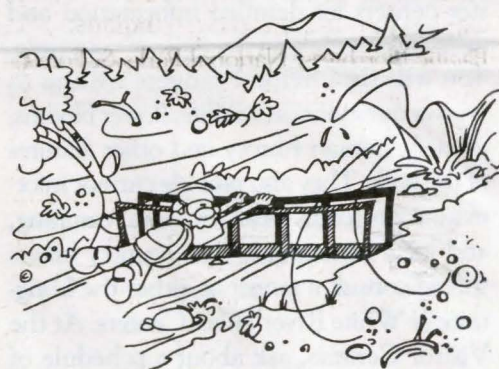
■ **Be Careful Near Streams!** Everyone knows that park streams have slippery rocks and that streams rise and flow faster later in the day because of snow melt. But, few people are aware of the greatest danger of stream crossing—Jokulhlaups.

Jokulhlaups—an Icelandic word pronounced "yo-kul-h-loips"—are flash floods of water that burst from glaciers and race down narrow valleys moving trees, boulders, and other objects lying within their path.

At Mount Rainier, jokulhlaups leave us a legacy of twisted trails and highway bridges amid boulder-strewn streambeds. They can affect human activity where trails or roads cross the stream valleys. This happened at Kautz Creek where a flood buried the roadway under twenty feet of mud and rock in 1947. Several jokulhlaups obliterated the Tahoma Creek Trailhead in 1986 and 1987. For this reason the Tahoma Creek Trailhead is closed until a suitable alternate route can be constructed.

People who have witnessed jokulhlaups at Mount Rainier say that the flood waves arrive with local winds and the smell of freshly killed vegetation. The floods sound like freight trains as they travel downvalley at speeds of 9 feet per second or more.

Most Jokulhlaups occur during late summer or fall, and in late afternoon or evening. If you intend to observe flood damage at Tahoma Creek or Kautz Creek, be alert. If you hear the onrush of the flow, see the dust cloud upvalley, or feel a sudden change in valley winds, move up hill away from the stream instead of up or down stream. Don't be caught near the streambed. Please heed park regulations regarding travel near flood-prone areas.

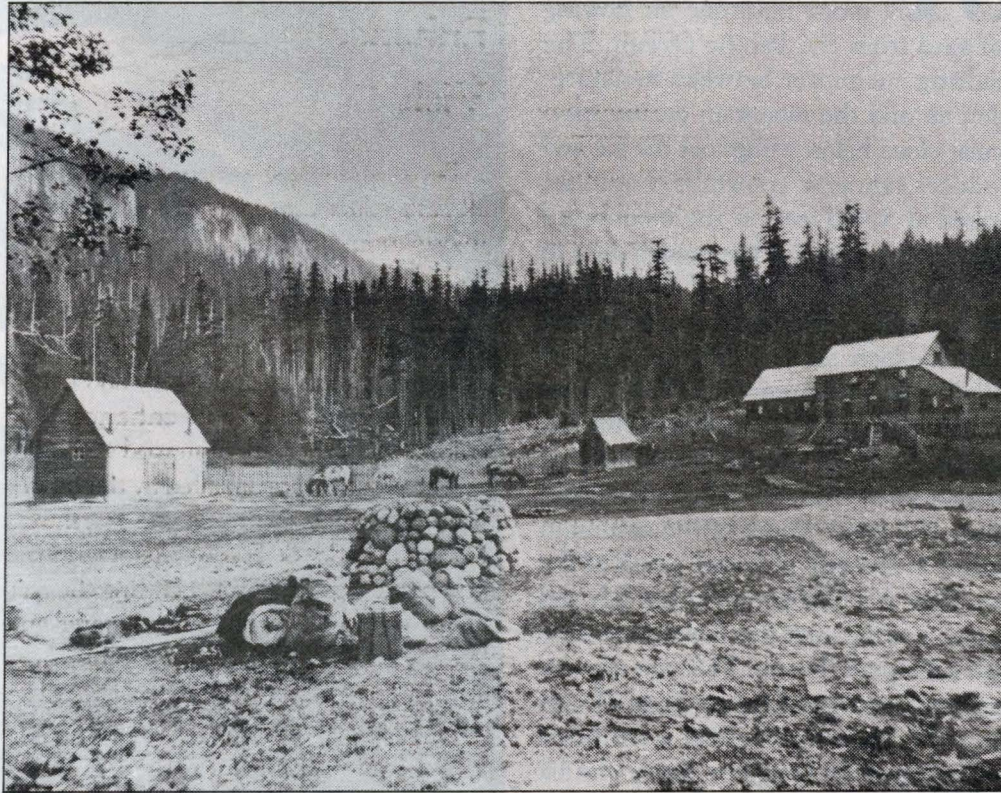


■ **Before You Drink the Water, BEWARE!** The gushing mountain streams and springs of Mount Rainier may be beautiful to look at and delicious to drink from, but too often the waterways are home for some nasty little creatures that can give you less than pleasant memories. Unfortunately, micro-organisms like Giardia have been brought to Mount Rainier by humans. These organisms remain here harbored in native animal populations. Contrary to historic claims, Longmire Mineral and Ohanapecosh hot spring waters are NOT safe to drink. Rather than "curing what ails you," water from these springs could cause severe intestinal upsets. Please drink water only from treated, piped water systems.



# Longmire/ Cougar Rock

James Longmire discovered the meadow and mineral springs that now bear his name in 1883. His family built the Longmire Springs Hotel and Baths and extolled the healthful qualities of the mountain air and mineral water. As more people were attracted to Mount Rainier, the hotel provided them a place to rest and a base from which to explore the area. The Longmires also guided their guests to the Paradise flower meadows, the summit, and other parts of the mountain. With the establishment of Mount Rainier National Park in 1899, Longmire grew to be the center of park activity before the later development of Paradise.



So overwhelming is the presence of Mount Rainier that too little attention is paid to the park's encircling forest. Douglas-fir, Western Redcedar and Western Hemlock soar more than 200 feet above

mossy, fern-draped valley floors. Here and there, the forest opens into a lush green meadow. There is a closeness, a solitude, in this forest that imparts a welcome feeling of seclusion. □

The Longmire Museum, one of the oldest national park museums, continues to intrigue people through exhibits of geology, wildlife, history and Indians. While early visitors walked merely to reach the park, today's visitors enjoy both short and long hikes on the park's 300 miles of trail. One can circle the mountain on the 90-mile Wonderland Trail or stroll along a gentle path for minutes or hours. Variety is found at practically every turn of the trail, certainly with the changing slope and exposure of the land.

**?** **Longmire Museum:** 9 a.m.—6 p.m., daily. Historic exhibits of geology, natural history, early park exploration and Northwest Indians. The Pacific Northwest National Parks & Forests Association offers books, maps, and slides for sale.



**National Park Inn:** lodging and gifts, 8 a.m.—10 p.m. daily. Dining room hours 7 a.m.—7 p.m., daily, provided by Mount Rainier Guest Services, Inc.

**Gas Station:** open 9 a.m.—7 p.m., daily. Located near the National Park Inn. Operated by Mount Rainier Guest Services, Inc.

**Sunshine Point Campground and Picnic Area:** located 6 miles west of Longmire and 1/4 mile east of the Nisqually Entrance. The campground has 18 sites for tents and trailers. Individual campsite fees are \$5 per night per site, year round.

**?** **Longmire Hiker Information Center:** 8 a.m.—6 p.m., Sunday through Thursday; 8 a.m.—7 p.m., Friday; 7 a.m.—7 p.m., Saturday. Backpackers can obtain permits for overnight trips and hiking information. The Center is located in the lobby of the large log and stone building beside the flagpole.

**Trail of the Shadows** Self-guiding Trail: 30 minutes, 1/2 mile. A trip around the Longmire Meadow, featuring both the natural environment and remnants of the Longmire Springs Hotel operation.

■ **Behind The Scenery:** Inquire at the Hiker's Center for dates and times. Discover the wonders and problems hidden in Mount Rainier's backcountry. Join a Ranger for a 1/2 day or day hike to an alpine meadow, cascading waterfall, or majestic old-growth forest. Check at the Longmire Museum or Hiker's Center for details. Participants should wear sturdy hiking shoes and provide their own transportation and lunch. Meet at the flagpole in front of the Longmire Hiker Information Center.

■ **Carter Falls Walk:** 10 a.m., daily. 2 hours, 2 miles. Explore the lowland forest along the beautiful, cool Paradise River. Meet at the bulletin board by the Ranger Station at Cougar Rock Campground.

■ **Children's Program:** 10 a.m., Saturday and Sunday. 2 hours, 1/2 mile. Children 6-11 years old are invited to join a Park Naturalist for a short walk and nature activities. Fun Guaranteed!!! Meet at the Cougar Rock Campground Amphitheater.

■ **Mineral Springs Walk:** 2 p.m., daily. 20 minutes, 1/4 mile. Enjoy a stroll to the mineral springs and discover why visitors have stopped at Longmire since 1885! Meet at the start of the "Trail of the Shadows" across the road from the National Park Inn.

**▲** **Cougar Rock Campground:** located 2 1/2 miles from Longmire on the Paradise Road. It contains 200 campsites for tents and trailers, with 5 group sites. Only the group sites can be reserved. Individual campsite fees are \$6 per night per site on a first-come, first-served basis; group sites cost \$1 per night per person. Campground open to mid-October.

**⌘** **Cougar Rock Picnic Area:** located across the road from the campground.

## Information and Services

## Naturalist Walks and Programs



■ **Campfire Program:** 9 p.m. (July 1-August 6); 8:30 p.m. (August 7-September 5), nightly. 45 minutes. Enjoy Mount Rainier through films and slide programs presented each evening by a Park Naturalist at the Cougar Rock Campground Amphitheater. Program titles are posted on the campground bulletin board.

# Paradise

**M**ount Rainier reaches into the atmosphere to disturb great tides of moist maritime air flowing eastward from the Pacific Ocean. The resulting encounter between moisture-laden air and the mountain creates spectacular cloud halos, wrings out the air, and produces fantastic snowfalls. Paradise, located at 5,400 feet on the mountain's south slope, commonly has enough snow to reach the third floor gable of the Paradise Inn. Record snowfalls have occurred several times, the most recent being the winter of 1971-72 with a total snowfall of 1,122 inches (93 1/2 feet). It is not uncommon to visit Paradise on the 4th of July and find tunnels cut through snowbanks to reach the buildings. While the upper slopes of the mountain remain in the grip of winter much of the year, there is a brief period in late July and August that the snow free slopes come alive with subalpine flowers. This riot of color attracts thousands of people from all over the world. The name Paradise is attributed to members of the Longmire family who felt the area is what "Heavenly Paradise" must be like. □



## Information and Services

**? Henry M. Jackson Memorial Visitor Center:** 9 a.m.—8 p.m., daily. Exhibits on animals, glaciers, geology, wildflowers, and mountain climbing. A half-hour audio-visual program is shown on the hour and half-hour, 10 a.m.—7 p.m., daily. This schedule may be preempted for an afternoon program of special interest presented by a Park Naturalist. Consult the activity boards or inquire at the information desk for details. The Pacific Northwest National Parks & Forests Association provides books, maps, and slides for sale at the sales area adjacent to the information desk.

**🚶 "Nisqually Vista" Self-guiding Trail:** 1 hour, 1.2 miles. Walk where the clouds go and see how weather shapes the landscape, plants, and animals of these high country meadows. Excellent views of Mount Rainier and the Nisqually Glacier may be enjoyed on this walk.

**🍴 Food Services, Showers, and Gifts:** available in the Henry M. Jackson Memorial Visitor Center, 9 a.m.—7 p.m. daily.

**🧗 Rainier Mountaineering, Inc.:** operates the Guide House at Paradise, 9 a.m.—5 p.m., daily. Summit guided climbs, climbing instruction, and equipment rentals are available.

**🛏️ Paradise Inn:** open daily for lodging; dining room open, 7 a.m.—9 a.m., 12 noon—2 p.m., 5:30 p.m.—8:30 p.m.; Sunday Brunch: 11 a.m.—2:30 p.m.; gift shop 8 a.m.—9 p.m.; Provided by Mount Rainier Guest Services, Inc.

**🏕️ Paradise Picnic Area:** located 1/4 mile below Jackson Visitor Center.

## Naturalist Walks and Programs



■ **Alta Vista Walk:** 10 a.m. daily. 2 hours, 1 1/2 miles. Discover the beauty and natural history of the Paradise area. Meet the Park Naturalist at the Jackson Visitor Center flagpole.

■ **Alpine Ecology Hike:** 10:30 a.m., Saturday and Sunday (July 2—September 4). Approximately 6 miles, 3-4 hours. Discover the fragile beauty of the land above the trees in this day hike with a Park Naturalist. Bring lunch, water and proper clothing for sudden weather changes. Moderate hiking with a 1,600 foot elevation gain. Meet at the Jackson Visitor Center flagpole.

■ **Flower Walk:** 11 a.m. & 2 p.m., daily. 1 hour, 1 mile. Explore the subalpine flower fields on this easy walk along trails through Paradise meadow. Meet at the Jackson Visitor Center flagpole.

■ **Map Talk:** 12:30 & 3:30 p.m., daily. Join a Park Naturalist twice daily for a discussion of the formation of Mount Rainier's landforms and other topics. Talks are presented at the Relief Map in the Jackson Visitor Center lobby.

■ **Nisqually Vista Walk:** 2:30 p.m., daily. 1 1/2 hours, 1 1/4 miles. Discover the geology and glaciers of Mount Rainier on this easy walk to an excellent view of the Nisqually Glacier. Meet at the Jackson Visitor Center flagpole.

■ **Mount Rainier's Future:** 3 p.m., daily. 30 minutes. Slide program in the Jackson Visitor Center auditorium. Learn highlights of work and research being done to manage and protect the park's resources for both you and future generations to enjoy.

■ **Evening Stroll:** 7:30 p.m., daily. 1 hour, 1/2 mile. Meet the Park Naturalist in the Paradise Inn Lobby for an easy evening stroll in Paradise Valley. This is an excellent time for photography and wildlife.

■ **Evening Program:** Paradise Inn, 9 p.m., daily. 1 hour. These illustrated programs explore a variety of subjects on Mount Rainier. Titles are posted in the Jackson Visitor Center and Paradise Inn.

# Ohanapecosh

Examples of the old growth forest seen by settlers in the Pacific Northwest are few in number today. But the Ohanapecosh River Valley is one place where old growth forest remains. Here you can walk back in time among stately Douglas-fir, Western Hemlock and Western Redcedar, 500 to 1,000 years old. The self-guiding nature trail in the Grove of the Patriarchs is an excellent place to experience the sublime qualities of the old forests.

The sparkling clear water of the Ohanapecosh River stands in stark contrast to the brown, milky streams originating from active glaciers. Flowing from an inactive glacier and snowfields, the Ohanapecosh River reflects the green of the forest and the blue of the sky. Only a mile from Ohanapecosh Campground, the river cascades as beautiful Silver Falls.

Early settlers to the Cowlitz Valley were attracted to Ohanapecosh by the hot springs that bubble from the ground. A complete resort with cabins, bathhouses and other facilities was developed around the springs. Today the buildings and baths are gone, but the shallow springs remain. The Hot Springs self-guiding trail, "Life Systems: The Forest and Hot Springs of Ohanapecosh," describes the beauty and history of this interesting area.

Ohanapecosh Campground has 200+ campsites but no group sites and is open from late May to late October. It is a good place for campers wishing to visit both Paradise and Sunrise. Paradise is 21 miles and Sunrise is 30 miles from Ohanapecosh. Both locations offer excellent views of Mount Rainier and many miles of trail that invite your exploration. □



White River

Information and Services

Naturalist Walks

**? Ohanapecosh Visitor Center:** 9 a.m.—6 p.m., Sunday through Thursday; 9 a.m.—9 p.m., Friday and Saturday. Exhibits feature animals, old growth forest, and local history. The Pacific Northwest National Parks & Forests Association provides books, maps, and slides for sale.

**“Life Systems” Self-guiding Trail:** 30 minutes. ½ mile. Explore the forest and hot springs of Ohanapecosh on this walk starting at the visitor center.

**A Box Canyon Picnic Area:** located between Ohanapecosh and Paradise on the Stevens Canyon Road.

**Ohanapecosh Campground:** 200+ campsites, but no group sites. Camping fee \$6 per site per night on a first-come, first-served basis. Campground open to late October.

## Information and Services



■ **Grove of the Patriarchs Walk:** 10 a.m., Friday & Sunday. 2 hours, 2 miles. Enjoy a quiet walk along the Ohanapecosh River through an ancient forest to the Grove of the Patriarchs. Meet at the Ohanapecosh Visitor Center and carpool to the trailhead.

■ **Silver Falls Walk:** 10 a.m., Monday through Thursday, and Saturday. 2 hours, 2 miles. Explore the lowland forest along the Ohanapecosh River enroute to the beautiful Silver Falls. Linger in the area after the walk or return with the Park Naturalist. Meet at the bulletin board by the bridge at loop “B” in Ohanapecosh Campground.

■ **Children’s Program:** 10 a.m., Saturday. 2 hours, ½ mile. Children 6-11 years old are invited to explore the hidden beauty of the Ohanapecosh Campground old growth forest with a Park Naturalist. Meet at the Ohanapecosh Visitor Center.

■ **Ohanapecosh History Walk:** 10 a.m., Sunday. 1 hour, ½ mile. Discover the history of Ohanapecosh; CCC Camp, Hot Springs Resort, Forest Museum, and more, on a Naturalist-led walk through the Ohanapecosh Campground. Meet at the Ohanapecosh Visitor Center.

■ **Campfire Programs:** 9 p.m. (July 1-31); 8:30 p.m. (August 1—September 4). 45 minute program, nightly. Discover Mount Rainier through a slide program presented each evening by a Park Naturalist at the Ohanapecosh Campground Amphitheater. Program titles are posted on the campground and visitor center bulletin boards.

## Naturalist Walks and Programs



Information and Naturalist Programs



# Sunrise/ White River

Situated at 6,400 feet in the northeastern part of Mount Rainier National Park is the area called Sunrise. Sunrise is a place of breathtaking vistas and the intriguing beauty of fragile subalpine vegetation. From Sunrise Point, the massive, four and one-half mile long Emmons Glacier and the summit crater rim can be seen, along with the Goat Rocks Wilderness Area and Mount Adams to the south and Mount Baker in the distance to the north. As you turn the corner at Sunrise Point and drive through subalpine meadows toward Sunrise, Mount Rainier's full size and mass take on their true perspective.

Sunrise is in the "rain shadow" of Mount Rainier. The 14,410 foot mountain forms an effective barrier to moisture-laden air coming from the Pacific Ocean. The flow of air is disrupted by the mountain, causing it to pile up in the form of clouds and lose the bulk of its moisture over the mountain's south and west slopes. The reduced moisture levels at Sunrise complement the



fertile, but fragile, volcanic soil to produce flower meadows different from those at Paradise. Be sure to stop at the rustic log Visitor

Center to learn about these differences and gain an excellent introduction to the special world of Sunrise. □

## Information and Services



**Sunrise Visitor Center:** 9 a.m. - 6 p.m., Monday-Friday; 9 a.m.-7 p.m., Saturday and Sunday. The center features exhibits on the ecology of the park's subalpine and alpine environments. The Pacific Northwest National Parks & Forests Association provides books, maps, and slides for sale.



**White River Hiker Information Center:** 8 a.m.-4:30 p.m., Monday through Thursday; 8 a.m.-9 p.m., Friday; 7 a.m.-7 p.m., Saturday and Sunday. Backpackers can obtain backcountry permits for overnight trips and hiking information in the ranger station at the White River Entrance.



**"Sourdough Ridge" Self-guiding Trail:** 1 hour, 1/2 mile. A moderate walk through flower fields rich in color to a panoramic viewpoint of four volcanic peaks.



**Sunrise Lodge:** 10 a.m.-6 p.m., Monday through Friday; 10 a.m.-7 p.m., Saturday and Sunday. Food service and gift shop. Provided by Mount Rainier Guest Services, Inc.

## Naturalist Walks and Programs



■ **Sunrise Potpourri:** 2 p.m.-4 p.m., Daily. 30 minutes, 1/2 mile. Discover the beauty and grandeur of Mount Rainier, the Emmons Glacier, and the history of Sunrise during naturalist-led walks that start from the Sunrise Visitor Center on the hour and half hour. Each short walk features a different topic. Go on one, or stay for the afternoon.

■ **Children's Program:** 10 a.m., Saturday. 2 hour, 1/2 mile. Ages 6-11, meet at the White River Campfire Circle.

■ **Glacier Walk:** 9:30 a.m., Saturday. 3 hours, 2 1/2 miles. Discover the glacial story of Mount Rainier, view the Emmons Glacier and the glacial features of the mountain. Meet at the White River Campfire Circle.

■ **Flower Walk:** 10 a.m., Sunday. 2 hours. Enjoy a morning walk with a Park Naturalist exploring the lush subalpine meadows of Mount Rainier. Meet at the Sunrise Visitor Center.

■ **Campfire Programs:** 8 p.m., Wednesday through Saturday, (July 1-31); 7:30 p.m. (August 1-September 4). Explore the beauty, geology and history of Mount Rainier around a campfire at a 45-minute program presented by a Park Naturalist at the campfire circle in White River Campground. Program titles are posted on the campground bulletin board and Sunrise Visitor Center.

# Carbon River

Do you like to discover special, out-of-the-way places? Carbon River is such a place in Mount Rainier National Park.

Carbon River lies in the Northwest corner of the park. Even a brief visit will take a day and require travel via state and local roads that wind through the surrounding countryside. Only 1 1/2 miles of road in

the Carbon Valley are paved. The remainder of the road to Ipsut Creek Campground and the road to Mowich Lake are gravel.

The Northwest part of the park is well worth the effort required to get there. The abundant moisture and mild climate of the deep Carbon River Valley combine to produce the only true rain forest in the park.

The self-guiding "Carbon River Rain Forest Trail" at Carbon River Entrance is a nature trail to help you understand this unique environment. A 3 1/2 mile trail from the Ipsut Creek Campground to the Carbon Glacier provides one of the park's closest views of an active glacier. The road to beautiful Mowich Lake treats you to outstanding views of the "other side of the mountain." □

## Information and Naturalist Programs



■ **Ipsut Creek Campground:** 31 sites, with 2 group sites. Only the group sites can be reserved. Camping fee for individual sites is \$5 per site per night, on a first-come, first-served basis.



■ **Picnic Tables:** located at Falls Creek, 2 miles from the entrance, and in the Ipsut Creek Campground.



■ **"Carbon River Rain Forest" Self-guiding Trail:** 20 minutes, .3 mile. Rain forests seldom occur far from coastal areas; thus, the forest that grows in this valley is special. Explore the only true inland rain forest at Mount Rainier along this trail.

■ **Campfire Program:** 9 p.m., Friday & Saturday, (July 1-July 30); 8:30 p.m. (August 5-September 3). 45 minutes. Naturalists present slide-illustrated campfire programs in the campfire circle in Ipsut Creek Campground. Program titles are posted on the campground bulletin board.

## Help Spotted Owls

The lowland forest of Mount Rainier National Park is some of the last "old-growth" in the Pacific Northwest. Here Douglas-fir, Western Hemlock and Western Redcedar are over 1,000 years in age. These trees were old when ships reached the North Pacific coast and the wagon trains brought settlers into Puget Sound.

The Spotted Owl demands old-growth forest for its existence and is listed as a threatened species in both Washington and Oregon. It is estimated that a pair of spotted owls need from 1,000 to 3,000 acres of old growth forest for feeding and protection from predators. They feed on small mammals, birds, insects and reptiles that live in the old growth forest.

Mount Rainier National Park is conducting a study on habitat use by spotted owls. Volunteer field research assistants will call owls, record locations, and locate nests. Owl pairs will be radio collared to be tracked nightly for activities in the summer and fall. Gifts of time, material and money are needed to carry out this research. If you are interested in assisting, contact the Park Superintendent or inquire at any of the visitor centers. □

## Meadows Need Restoration and Care



National Park Service rangers and resources managers will be working hard this summer on several projects to restore severely impacted meadows. At Paradise, they will be stabilizing and revegetating trail switchbacks at Golden Gate and will be replanting native vegetation in the old Paradise Campground. Resource managers will be delineating the route at Panorama Point on the Skyline Trail. Throughout the backcountry, rangers will be removing improper campsites and rehabilitating eroded social trails. Please do your part by staying off the meadows, and walking only on constructed walkways. A personal pledge of minimum impact will assure that future generations find the same thrilling experiences which we enjoy today. □

## Wildlife and Lunch



Seeing wild animals is an important part of a visit to Mount Rainier National Park. As National Parks are preserved for their natural values and processes we ask that you observe but do not feed the wildlife. Both birds and mammals are affected in many ways by well-meant handouts. Birds are sensitive to the availability of food because they must eat about the equivalent of their body weight each day.

Small mammals such as chipmunks and golden-mantled ground squirrels all pass the winter hibernating. These animals require specific foods to fatten themselves for their long sleep. Our food does not supply the right fats and protein for these animals. In addition, rodents do bite and may carry rabies and bubonic plague.

Bears quickly learn to associate people with food when offered handouts. Leaving food out or intentionally feeding bears can lead them to damaging tents and vehicles, and injuring people.

The animals in the park are wild and should remain that way. We must be content to observe and appreciate them, rather than trying to intrude in their natural lives. □

## Alpine Habitats Being Destroyed

Fellfields are the rock-strewn, arctic-like areas located just below the ice-cap in many parts of Mount Rainier. While appearing as mere rocky slopes, the fellfields actually support 42 species of plants. Of these plants, 20 do not occur below 7,000 feet elevation, 30 have geographic ranges limited to the Pacific Northwest, and only 5 species will establish themselves in stone-free soil.

Heath meadows are generally found below the fellfields and represent plant communities that are estimated to be more than 7,000 years old. They feature dominant heather species that are endemic to the Pacific Northwest. On Mount Rainier, heath meadows may extend up to 8,000 feet elevation, much higher than in other locations in this region.

Despite their harsh climatic conditions, both fellfields and heath meadows are extremely delicate areas. Disturbing the rocks in the fellfields results in the loss of plants and their habitat. While the removal of stones to construct a tent pad completely destroys the vicinity, even the scuffing of one's boots is enough to destroy individual plants and make conditions unsuitable for their growth. Cutting switchbacks and generally walking off the trail in the heath meadows stimulates erosion that removes the fine particle soil and destroys the heather plants themselves. Saving the fellfields and heath is simply, but urgently, achieved by eliminating these adverse impacts and treading lightly in high places. □

## Biodiversity Helps Us All

Mount Rainier National Park is no longer a natural island in a sea of other uses; rather the park is connected through its species to the rest of the world. Park managers are learning that economic, social, and political decisions made outside the park can very seriously affect ecologic conditions within the park. The park may list migratory species as being present part of the year, but some of these same species may travel thousands of miles in the "off" season to Central and South America where they may find restricted habitats. It has been estimated that 15 to 20% of all species in tropical forests could be lost this century if clearing practices continue.

Migratory species are indicators of changing habitat conditions around the world. As their numbers continue to decline, we may find it more difficult to preserve the resources in our parks. Helping to preserve habitats in tropical rainforests might be an effective way to save Mount Rainier for future generations. Forest tree species help control the oxygen/carbon dioxide balance in the atmosphere, and concurrently the temperature world wide. Migratory animal species are also important in plant pollination here on the mountain.

We are not only stewards of all species who provide us beauty and enjoyment, but we are also consumers of the food, medicines, and chemicals they provide. Diversity of species and habitats provides us a cushion should one of the 8 genera of plants we depend upon for 75% of our food be wiped out by disease or disaster. National parks such as Mount Rainier are natural refuges for species diversity-diversity which someday could mean the difference between our demise or survival. We treat our park with respect, so perhaps we can carry that respect home and extend our actions to provide a better world for all species. □

## "There's Something in the Air!"

Mount Rainier National Park is famous for its massive glacier system and the storm clouds that drop snow and rain. But lately there has been more than clouds blocking the stunning view of Mount Rainier. Like other National Parks, Mount Rainier's pristine air is being affected by sources outside of its boundaries.

National Park Service employees have been monitoring park air quality since 1982. It is disturbing to find six different types of pollutants in the "pristine" mountain air. The pollutants include sulfates, nitrates, ozone, organic carbon, heavy metals, and particulates. These pollutants affect visibility and cause acid rain and fog which have potential biological effects on plants and animals in the park.

The major source of summertime fine particles is vegetative burning. Nearly 50% of the suspended particle mass affecting visibility appears to be related to slash burning. Industrial and natural sources of sulfates comprise the second highest source of pollutants. Vegetative monitoring has

## Waste Not, Want Not!!

If you are one of the 20,000 backpackers or 8,000 climbers who use the backcountry of Mount Rainier National Park, WE NEED YOUR HELP! These large numbers of people are bringing a serious problem into the wilderness: the disposal of human waste and consequent loss of water quality.

If you stay at trailside camps while backpacking, please use the pit toilets provided. For cross-country campers, it is best to select a screened spot at least 300 feet from any water source. Dig a hole approximately 7" deep to stay within the biological decomposing layer. After use, cover the hole with soil and duff to blend in with the surroundings.

Climbers pose a more complex problem as cold temperatures and ultra-violet radiation severely limit microbial decomposition at high elevations. The 12,000 pounds of human waste left each year along the climbing routes stays there indefinitely! The best course of action is to use the toilet facilities and privacy screens provided at the major climbing camps. Climbers who pick their own high camps should carry human waste bags to pack out their waste to a collection station. □



Solar outhouse at Camp Muir

found raised concentrations of sulfur in lichens, ferns, oregon grape, and alders in the southeast corner of the park which is nearer to industrial sources for sulfates. Park employees are assisting researchers to monitor acid fog and ozone. These pollutants are believed to have caused damage to forests in other National Parks such as the Great Smoky Mountains and Sequoia/Kings Canyon. Ozone in the lower atmosphere results primarily from a chemical reaction of automobile emissions. Raised levels of ozone are often found at higher elevations where plants and animals are more susceptible to stress.

What can you do to preserve Mount Rainier's air quality? Car pool or take the bus when next visiting to cut down on the amount of automobile emissions especially during the summer when warmer temperatures produce more ozone. Walk more in the park instead of driving your car short distances. Re-use or recycle paper, glass, and aluminum to reduce the number of sanitation fills and industrial sources of pollutants coming from outside the park.

With your help, future generations will be able to see the fabulous scenery and unique ecosystems of Mount Rainier National Park. □

# John Muir Climbs the Mountain



This year marks the 100th anniversary of John Muir's climb of Mount Rainier on August 22, 1888. Muir was 50 years old at that time, so 1988 marks

the 150th anniversary of his birth. In celebration of these events, Mount Rainier National Park offers Muir's own account of his historic ascent of the mountain:



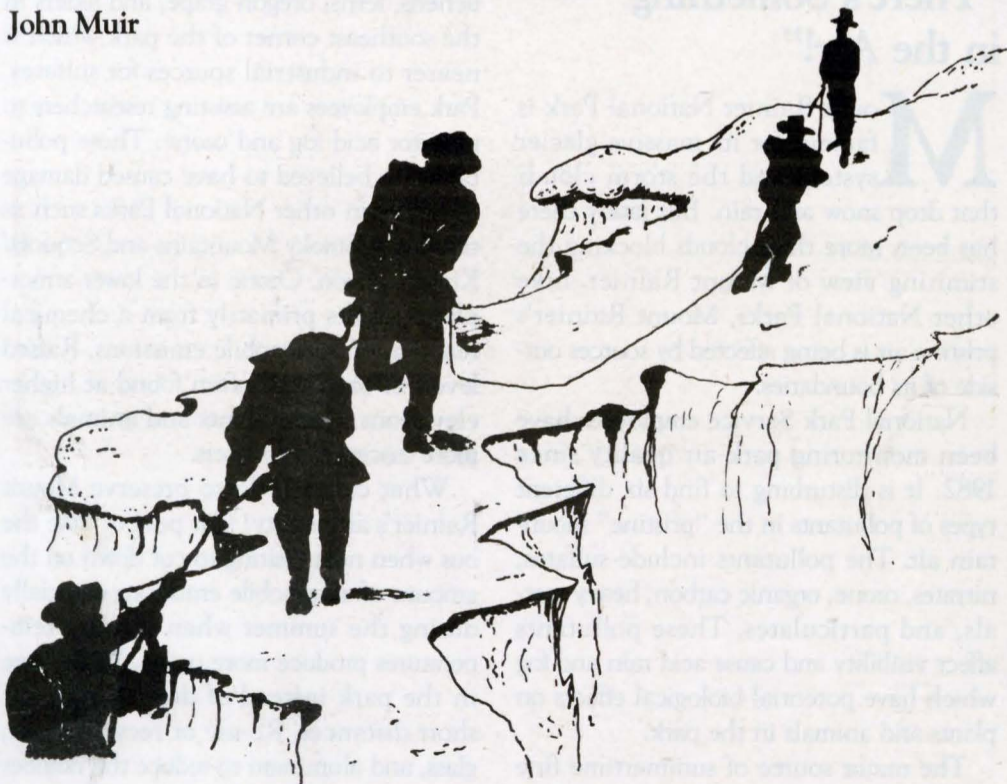
John Muir

The grandest excursion of all to be made hereabouts is to Mount Rainier, to climb to the top of its icy crown. I gained the summit from the south side, in a day and a half from the timberline, without encountering any desperate obstacles that could not in some way be passed in good weather. I was accompanied by Keith, the artist, Professor Ingraham, and five ambitious young climbers from Seattle. We were led by the veteran mountaineer and guide, Van Trump, of Yelm, who many years before guided General Stevens in his memorable ascent,...

We arrived at the Cloud Camp [now called Paradise] at noon, but no clouds were in sight, save a few gauzy ornamental wreaths adrift in the sunshine. Out of the forest at last there stood the mountain, wholly unveiled, awful in bulk and majesty, filling all the view like a separate, new-born world, yet withal so fine and so beautiful it might well fire the dullest observer to desperate enthusiasm. Long we gazed in silent admiration, buried in tall daisies and anemones by the side of a snowbank. At noon next day we left camp and began our long climb. At night, after a long easy climb over wide and smooth fields of ice, we reached a narrow ridge, at an elevation of about ten thousand feet above the sea, on the divide between the glaciers of the Nisqually and Cowlitz. [This area has since been named Camp Muir.] Here we lay as best we could, waiting for another day... About four o'clock we were off, and climbing began in earnest. At length, after gaining the upper

extreme of our guiding ridge, we found a good place to rest and prepare ourselves to scale the dangerous upper curves of the dome. Here every one of the party took off his shoes and drove stout steel caulks about half an inch long into them, not having made use of them until now so that the points might not get dulled on the rocks ere the smooth, dangerous ice was reached. Thus prepared, we stepped forth afresh, slowly groping our way through tangled lines of crevasses... It was nerve-trying work, most of it, but we made good speed nevertheless, and by noon all stood together on the utmost summit. We remained on the summit nearly two hours, looking about us at the vast maplike views, comprehending hundreds of miles of the Cascade Range, with their black interminable forests and white volcanic cones in glorious array reaching far into Oregon. The descent was accomplished without disaster. The view we enjoyed from the summit could hardly be surpassed in sublimity and grandeur; but one feels far from home so high in the sky, so much so that one is inclined to guess that, apart from the acquisition of knowledge and the exhilaration of climbing, more pleasure is to be found at the foot of mountains than on their frozen tops. Doubly happy, however, is the man to whom lofty mountaintops are within reach, for the lights that shine there illumine all that lies below."

Excerpted from Muir's article "Washington and Puget Sound," in *West of the Rocky Mountains*, John Muir, ed., Philadelphia, Running Press, 1976.



Muir's party on Mount Rainier

The wide, smooth snowfields which Muir ascended on his journey to his high camp have now been named for him. The Muir Snowfield is a popular day climbing

route for summer mountain trekkers. Muir's camp at 10,000 feet has become the most popular stopover point for summit climbing attempts. □



Camp Muir