



The Tahoma News

September 4 - December 31, 2007

The National Park Service cares for special places saved by the American people so that all may experience our heritage. Mount Rainier National Park is a source of inspiration, providing boundless opportunities for exploration, solitude, and contemplation.

Partners in Recovery

by Kevin Bacher, Volunteer Program Manager

When heavy rainfall and flooding washed out roads, campgrounds, and trails all over Mount Rainier National Park last November, the park's phones and e-mails lit up with messages from people who wanted to help the park recover.

"I have been visiting Mount Rainier since I moved to Washington in 1983", said Jean Millan, of Seattle. "I decided that it was time for me to give back some of myself to the park which has given me so very much joy, peace, and serenity over the years."

To respond to these deeply felt offers of help, Mount Rainier National Park formed a partnership last winter with the Student Conservation Association (SCA), a nationwide volunteer organization dedicated to the stewardship of public lands. A fourteen member "Mount Rainier Recovery Corps" joined the park, living in the historic Longmire Campground and working alongside park staff to recruit and coordinate teams of volunteers on projects throughout the park.

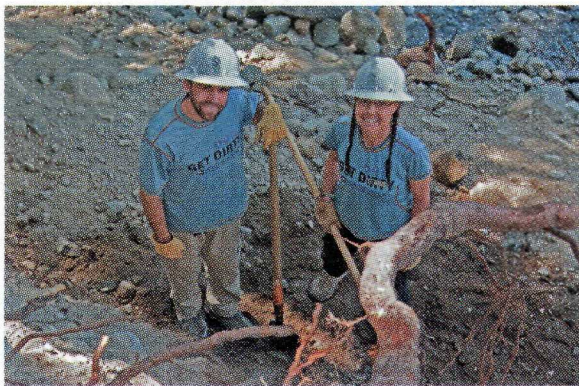


Photo courtesy John Choa

Volunteers working on the Wonderland Trail reroute near Cougar Rock on National Trails Day, June 2, under the direction of SCA's Mount Rainier Recovery Corps.

Additional SCA interns were hired to help with restoration planning and documentation, biological surveys, and the park's geographic information system. Teams of urban youth helped with trail repairs through SCA's Conservation Land Corps.

All told, about 80 people served in assignments ranging in length from two weeks to five months. By the end of July 2007, through the leadership of SCA's Recovery Corps and the Washington Trails Association more volunteers worked on projects at Mount Rainier than in 2006. (continued on page 4)



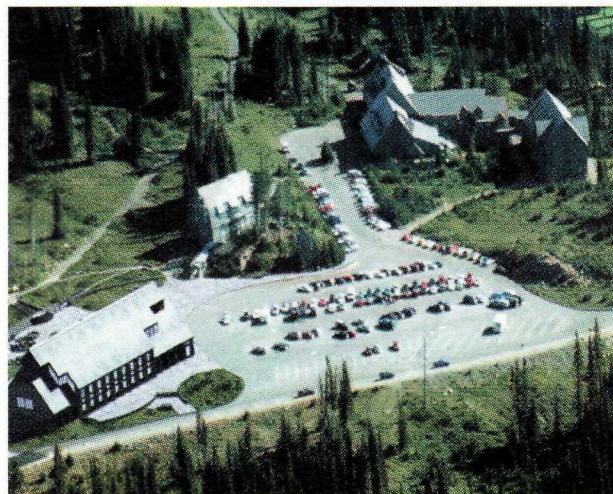
Construction of the new Paradise Visitor Center.

Restoring Paradise

A new visitor center is taking shape at Paradise. At the construction site, walls are going up and the steeply pitched roof, necessary for shedding heavy snow loads, will be enclosed by winter. Construction crews will continue work on the interior of the building throughout winter.

The building is designed in the rustic park architecture style typical of the early 1900s with features similar to the Paradise Inn. The visitor center is being built over the original location of the former Paradise Camp building reflecting the historic landscape.

The new visitor center will be much smaller and significantly more sustainable than the existing Henry M. Jackson Visitor Center which no longer meets present-day fire, safety, or accessibility standards, and is extremely expensive to operate and maintain. The rustic design of the new building is compatible with the park's National Historic Landmark District. (continued on page 2)



Artistic rendering of Paradise after completion of the new visitor center.

Welcome

...to Mount Rainier National Park! I always look forward to winter snows, spring waterfalls and summer wildflowers. Autumn, a time of change and preparation, also bestows a cornucopia of color, sights and sounds to experience throughout the park.



**Superintendent
Dave Uberuaga**

The changing vine maples, Sitka Alder, Mountain Ash and other plant species highlight the ridges and lowland forests with brilliant yellows, oranges and reds. Autumn rains and cooler temperatures create optimal growing conditions for a variety of edible and toxic mushrooms. Bugling and whistling can be heard in the valleys and across meadows as fauna prepare for the winter season.

November 2006, the late autumn rains continued for 36 hours overwhelming the rivers and drastically changing some of the landscape. The permanent and seasonal staff, alongside many volunteers, have been dedicated to rebuilding damaged roads and trails, preserving the landscape and protecting our historic landmarks. These efforts will continue throughout the fall season and into next year.

Rehabilitation of the Paradise Inn and construction of the new Paradise Visitor Center will continue, until completion in 2008. As winter approaches, campgrounds, visitor centers and roads will close. Thus, during the fall season, the park prepares for winter in much the same way as the natural environment does.

I encourage everyone to discover the gifts, the sights and the sounds, that autumn shares at Mount Rainier National Park.

Dave Uberuaga, Superintendent
Mount Rainier National Park

2 Paradise Construction

What is all the activity at Paradise? Why is the current visitor center being replaced? When will the Paradise Inn open?

2-3 Road History & Travel

Why are Mount Rainier's roads included in a National Historic Landmark District? When are the roads closing for the winter?

6 Sustainability

What does sustainability mean? What are Mount Rainier's sustainable practices? How do your choices at home affect the park?

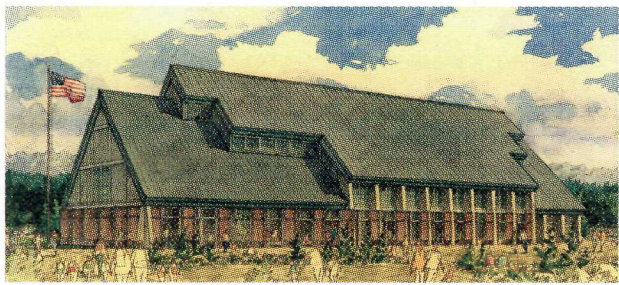
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Restoring Paradise



Artistic rendering of the new Paradise Visitor Center.

(Continued from page 1)

Construction of the new facility began last summer with completion expected in fall 2008. What will happen to the existing visitor center at Paradise? It is scheduled for demolition after opening of the new visitor center.

The Paradise Inn, which opened July 1, 1917, was built in 1916 using massive timbers and glacial boulders to blend the building with its natural surroundings. Today, the Inn is a National Historic Landmark and is a contributing feature to the park's National Historic Landmark District.

It was determined that the structure needed extensive rehabilitation to enable it to remain intact for the enjoyment of future generations. Rehabilitation includes earthquake retrofitting, the addition of a foundation, stabilization of the grand chimneys and hearths in the main lobby and dining hall, and upgrading guest rooms to be compliant with the Americans with Disability Act.

Rehabilitation of the Paradise Inn began last summer with visitor use scheduled to resume summer 2008. Reservations for the Paradise Inn for summer 2008 will begin in early December 2007. Reservations are currently available for the National Park Inn at Longmire which is open year round. For reservations contact Guest Services Incorporated at 360-569-2275.

Visiting Paradise During Construction



Rehabilitation of the historic Paradise Inn.

Construction efforts are up and running at Paradise this year during rehabilitation of the Paradise Inn and construction of the new Henry M. Jackson Visitor Center. The current visitor center is open during construction and continues to provide book and gift sales, dining at the Grill, nature walks and interpretive activities. Come on up to hike the meadows, climb the mountain (stop by the Jackson Visitor Center at Paradise for climbing information and a climbing permit), or to enjoy the fall colors and the unbeatable backdrops of Mount Rainier, its glaciers, and the Tatoosh Range.

Construction needs combined with winter conditions will significantly reduce parking in the immediate Paradise area. For an enjoyable visit please consider the following information prior to driving to Paradise:

Mount Rainier's Historic Roads

by Susan Dolan, Park Historical Landscape Architect

A Historic Road System

Mount Rainier National Park has one of the largest collections of historic roads in the national park system. Built between 1906 and 1957, the more than 100 miles of park roads are listed on the National Register of Historic Places.

The roads are significant for their rustic style of design and their role in the first master plan of the park, the first master plan of any national park. In 1997, almost all the roads of Mount Rainier National Park were designated a National Historic Landmark District, along with most of the park's developed areas, such as Longmire, Paradise and Sunrise.

Together, the system of infrastructure at Mount Rainier represents the best surviving example of a national park's built environment designed and constructed between the First and Second World Wars. During the period 1918 to 1941, America's first national parks were master planned and designed in the rustic style, a distinctive style using natural materials and forms to evoke the character of the park environment. Eventually, the rustic style came to be thought of as the National Park Service design style.



The Carbon River joins the Carbon River Road during the November 2006 flood

Rustic Road Design

Great care was taken in the original design and construction of the roads to make them blend in, and appear less intrusive in the park landscape. Landscape architects from the National Park Service and engineers from the Bureau of Public Roads (the predecessors to the Federal Highway Administration) designed bridges, tunnels, guardwalls and even culverts of stone to compliment the surrounding scenery.

Road features were designed in the rustic style, quite distinct from the modern design of roads that began in the 1950s. In many ways, the method of construction of Mount Rainier's roads had more in common with 19th-century wagon roads than the modern highway system we have today.

Some road guardwalls were built by the Civilian Conservation Corps (CCC), a Federal government program within the War Department during the Great Depression, to put young, unmarried men to work. The many miles of stone features along the roads were built with great masonry craftsmanship, and are part of the CCC's legacy in the park.

The Road to Carbon

The 4.9 mile Carbon River Road, in the northwest corner of the park, is a cultural landscape within the National Historic Landmark District. It was designed in 1915 and constructed over 4 years between 1921 and 1924.

The Carbon River Road was surveyed and built prior to the development of the first master plan in 1928, nonetheless, it played a significant role in park planning. The concept of this river road influenced plans to develop a series of roads that would circumnavigate the mountain, just below the glacier line. This strategy, which was soon abandoned due to budget constraints and rugged topography, was referred to as the "Around the Mountain Road" plan.

Historically the Carbon River Road extended approximately 3 miles beyond Ipsut Creek Campground to Cataract Creek, near the terminus of the Carbon Glacier. This segment of road was abandoned due to maintenance related issues associated with flood damage.

The changing channels of the Carbon River often overwhelm the historic Carbon River Road with water and debris. The November 2006 flood was a dramatic example of the river's ability to alter the landscape. Sections of the road have been washed out. It is closed to motor vehicle traffic but hikers and bicyclists can journey up the Carbon River Road to explore its historic design and view the flood damage.

The best time to visit Paradise is on weekdays, early or late in the day.

If visiting on a weekend or holiday plan to arrive at Paradise by 9:00 a.m. for the best parking opportunities.

Consider exploring other areas of the park or outside of the park during construction.

Information on visiting Paradise is available at entrance stations, visitor centers and on the park website at www.nps.gov/mora.

Thank you for your patience during our efforts to restore Paradise.

Construction Schedule subject to change

Paradise Inn	
Construction Complete	April 2008
Open to Visitors	May 2008
Visitor Center	
Construction Complete	Aug. 2008
New Exhibits Installed	Sept. 2008
New Visitor Center opens	Oct. 2008
Existing Visitor Center	
Demolition	Fall 2008

Accessibility

Most comfort stations, visitor centers, picnic areas, and designated campsites are accessible or accessible with help for wheelchair users. Accessible lodging is available inside the park and in local communities. In the Jackson Visitor Center at Paradise, written information, exhibits, and scripts for uncaptioned audiovisual programs are available. The Kautz Boardwalk Nature Trail is accessible. The new Paradise Visitor Center is designed for accessibility. TDD: (360) 569-2177

Road Closures and Winter Driving

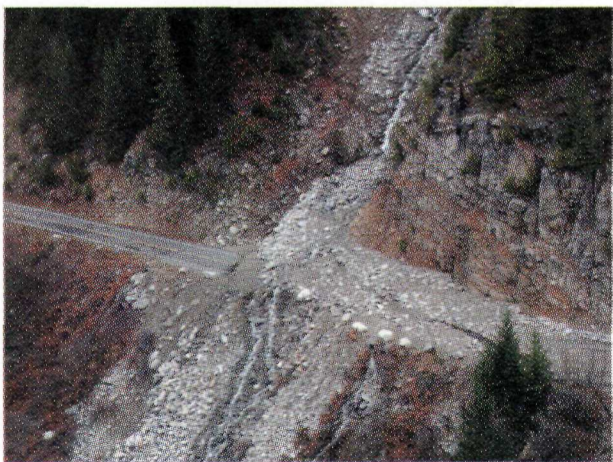
As autumn progresses toward winter and storms bring increasing amounts of rain and snow to Mount Rainier, some roads will close for the season. Look for most roads to reopen in May or June.

Sunrise Road closes at the junction with White River Campground Road every night beginning in mid-September. It reopens each morning as conditions permit. Overnight parking is not allowed at Sunrise during nightly closures. The entire road will be closed for winter at the SR410 junction on October 10, or earlier with the first heavy snowfall.

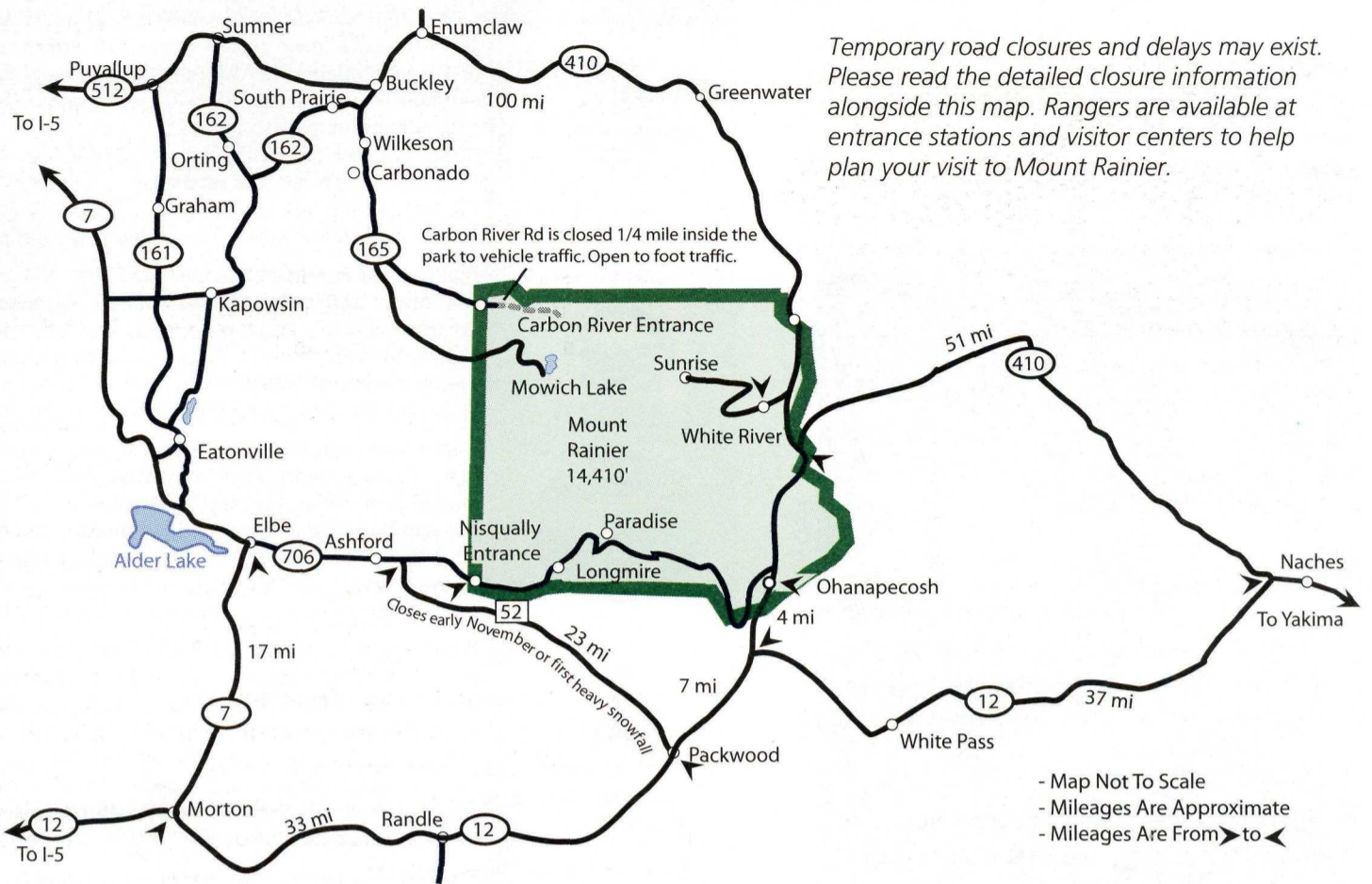
SR410 from Cayuse Pass to Naches is usually closed by the Washington State Department of Transportation (WSDOT) in late November. SR410 from Cayuse Pass to the northeast park boundary closes in early December. Call 1-800-695-ROAD for current status.

SR123, historically known as the Eastside Highway, was severely damaged in multiple locations by the November 2006 flood. Road construction, north of Stevens Canyon, has been underway. The road will reopen to Cayuse Pass and SR 410 in early to mid-September and will close in early December or with the first heavy snowfall.

Stevens Canyon Road from the Grove of the Patriarchs to Backbone Ridge, will temporarily close to all traffic on September 4 for approximately 3 weeks. During the closure the large slide at MP 16.0 will be repaired. Barriers will stop eastbound traffic at Backbone Ridge, and westbound traffic at the gate above the Grove of the Patriarchs. Once safe access is reestablished, estimated to be late September, the road will reopen. It will close for winter on November 1 or with the first heavy snowfall. Please consult a ranger for current road closures.



A landslide on Steven's Canyon Road.



Temporary road closures and delays may exist. Please read the detailed closure information alongside this map. Rangers are available at entrance stations and visitor centers to help plan your visit to Mount Rainier.

- Map Not To Scale
- Mileages Are Approximate
- Mileages Are From to

Stevens Canyon Road will be closed between Backbone Ridge and Grove of the Patriarchs, for approximately three weeks beginning September 4. Use Hwy12 and FS52 (Kernahan/Skate Creek Road) to access the east or west areas of the park. Check with a park ranger for current road status and alternate route directions.

Mowich Lake Road will close October 8, or with the first snowfall.

Nisqually Entrance to Longmire remains open throughout winter except during extreme weather.

Longmire to Paradise. Due to ongoing construction at Paradise this winter, parking will be limited. The road closes nightly from mid-October through winter. It reopens the following morning or when snow removal activities allow.

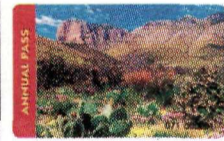
Carbon River Road to Ipsut Creek Campground is closed to vehicles but is accessible on foot or by bicycle. Parking is available at the ranger station.

Poor visibility and reduced traction present driving hazards during winter. Shady areas and bridge surfaces can be treacherously icy even when other sections of roadway are not. Stay alert! Use caution.

State law requires that you carry tire chains at all times when driving in the mountains. Chains and/or traction tires may be required in the mountains at any time during winter. Check current road status and traction requirements at an entrance station or visitor center.

Looking for that perfect gift? How about a pass to our nation's treasures?

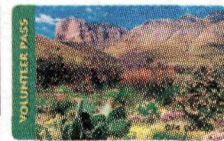
The Interagency Annual Pass



This pass entitles access to, and use of federal recreation sites that charge entrance or standard amenity fees.

The Interagency Annual Pass costs \$80 and is valid for 12 months from purchase date. Available at any Mount Rainier entrance station.

The Interagency Volunteer Pass



This new pass is for anyone who volunteers 500 hours or more at federal recreation sites after January 1,

2007. The pass is free and is valid for 12 months from issue date. Contact Volunteer Program Manager Kevin Bacher at (360) 569-2211 ext. 3385 to learn about volunteer opportunities at Mount Rainier National Park.

The Mount Rainier Annual Pass

If you only plan to visit Mount Rainier National Park, consider the Mount Rainier Annual Pass. It costs \$30 and, like the Interagency Annual Pass, is good for 12 months from the purchase date. The Mount Rainier Annual Pass is available at any Mount Rainier National Park Entrance station.

A Great Gift Idea!

Stop, Look and Listen for the Signs of Winter

The colors that arrive in the fall are a reminder that the cold and snow of winter is coming. The air chills and the days grow shorter. Animals recognize the changes and prepare for winter.

As people exchange summer wardrobes for warmer clothes, many mammals grow a thicker coat of fur to protect and warm them in fall and winter. Other animals, like frogs, will burrow into the sides of streams or woody debris for protective shelter. Many birds migrate away from the mountain while others stay and stash bits of food here and there for retrieval at a later date.

Listen in the autumn for the rutting call of the bull elk. Commonly referred to as bugling, the sound may echo through a valley for miles. Listen for a marmot whistling from a distance across a meadow. It is preoccupied with finding enough food to keep its body healthy for a winter's sleep. Follow the sound of a pika's "eee" rising from a rocky slope as it plays hide and seek with you, all the while filling it's winter habitat with food shares.

Breathe the sweet smell of bear scat on the trail, dropped by a bear after eating huckleberries. Stop, look and listen in Autumn for the signs of a colder season yet to come.

Partners in Recovery

(continued from page 1)

Their accomplishments have been significant. More than half of the trail work parkwide has been completed by volunteers. Work crews continue to assist with rerouting the Wonderland Trail along Stevens Creek. Because of their dedication the historic 93 mile Wonderland Trail has reopened for hiking in its entirety.



Lois and Clyde Ambacher, volunteers since 1985.

Photo courtesy John Choa

Volunteers have restored campgrounds and backcountry cabins, patrolled trails and educated visitors, restored habitats and assisted with search and rescue operations. They've built the foundation of a robust and exciting volunteer program that will continue to benefit Mount Rainier and its visitors long after the damaged trails have been rebuilt.

Flood recovery and many other important projects will continue throughout the fall and in years to come. Follow the progress, and find out how you, too, can become a partner in park stewardship, on our website at www.nps.gov/mora/supportyourpark/vip-blog.htm.

Why I Volunteer...



"When I'm asked why I volunteer," says George Coulbourn, a volunteer patrol ranger in the Carbon River area of Mount Rainier National Park, "I respond that... having spent many rewarding days in the park

I felt that I had arrived at a good time for pay back. Doesn't work. ... The volunteer gets more than he gives, and the harder he tries, the more he gets."

Volunteers like Coulbourn help in every area of the park. Short-term volunteers spend a day at a time rebuilding trails or restoring historic campgrounds. "Meadow Rovers" hike the trails at Paradise and Sunrise as their schedules permit, assisting visitors and educating them about the importance of staying on trails. Long-term volunteers lead interpretive walks and curriculum-based education programs.

Whether you have a day or a year, there are opportunities for everyone! Hundreds of people take advantage of the volunteer program and walk away with a richer connection to their national park. To find out how you can join our team, and for a calendar of current opportunities, visit our website at www.nps.gov/mora/supportyourpark/volunteer.htm.

Park Partners

Who's responsible for protecting Mount Rainier National Park? Everyone! Here are some people who deserve special thanks:

 <p>UserFee Project Your Fee Dollars at Work Entrance fees were used to produce this exhibit.</p>	<p>Visitors Like You! Just by paying the entrance fee, you make a difference. Eighty percent of the fees collected at Mount Rainier are kept in the park, while twenty percent are made available to other parks in need. Your money is helping several projects right now:</p> <ul style="list-style-type: none"> • Rehabilitating park trails • Meadow restoration at Sunrise and Reflection Lakes • Upgrading exhibits and media • Rehabilitating picnic areas <p>As you explore the park, look for signs of your fees at work!</p>
	<p>Northwest Interpretive Association NWIA operates bookstores in the park's visitor and information centers. As a nonprofit organization benefitting educational programs in the national parks and forests of the Pacific Northwest, NWIA plays an important role in making interpretive and educational publications available to travelers. It also funds special interpretive projects in the areas it serves. For more information or membership, call (360) 569-2211, ext. 3320, or visit NWIA on the web at www.nwpubliclands.com.</p>
	<p>Volunteers Each year more than 85,000 volunteers donate over 3,000,000 hours of service in the national parks. They come from every state and nearly every country in the world to help preserve and protect America's natural and cultural heritage for the enjoyment of this and future generations. At Mount Rainier National Park, 924 volunteers contributed a total of 43,844 hours in 2006. We express our deep appreciation to them and to all who are volunteering in 2007! If you are thinking about volunteering, contact Volunteer Coordinator, 55210 238th Avenue East, Ashford, WA 98304, (360) 569-2211 ext. 3385.</p>
	<p>Washington's National Park Fund Every year millions of people visit Washington state's spectacular national parks: Mount Rainier, North Cascades, and Olympic. Since 1993, Washington's National Park Fund has connected people to parks and inspired contributions of time, talent and money. The Fund helps ensure that visitors have high quality, memorable experiences by sponsoring educational, trail and wildlife projects. By securing funding from individuals, corporations, foundations and businesses, the Fund supports park restoration, enhancement and preservation. For information about how you can help Washington's national parks, call 206-770-0627 or visit www.wnfp.org.</p>
	<p>Student Conservation Association SCA is a nationwide force of high school and college-age volunteers who are committed to protecting and preserving the environment. Through internships, conservation jobs and crew experiences, SCA members are rising to meet environmental challenges while gaining real, hands-on field experience. They complete projects in every conservation discipline - from archaeology to zoology - and everything in between. In January 2007, SCA was named to direct volunteer flood recovery efforts at Mount Rainier National Park. SCA will work collaboratively with park officials to assess backcountry damage caused by last November's torrential rains, devise a restoration strategy, and organize a multi-year volunteer work plan to engage trail coalitions, friends groups, and individual volunteers. For more information about SCA or to get involved visit www.thesca.org.</p>

Know What To Do If You See A Black Bear

Mount Rainier National Park provides habitat and territory for many animal species. Among the largest and most feared are the black bear and the mountain lion. Though you are not likely to see them, if you do meet one of these larger mammals, your best defenses are awareness and knowledge. Be aware of how these animals might respond to your presence and know what to do in the event that you encounter a bear or lion.

Hike in a group rather than alone because groups generate more noise and have more defensive capabilities. Keep children close and in view at all times. Avoid running as it may stimulate the animal's natural instinct to chase. Pets should never be left unattended anywhere in the park or taken on any trail.

Close Encounters With Black Bears

Black bear attacks are extremely rare in the United States and have never occurred in this park. Bears have defensive responses that do not lead to offensive attacks. Be aware and know how to respond to either one.

- Never feed a black bear, either intentionally or by leaving food unsecured.
- Do not approach bear cubs. An adult may be nearby to protect and defend the cubs.
- Increase your distance from the bear, even if it appears unconcerned with your presence.
- Do not run. Back away slowly.
- Talk loudly.
- A defensive bear will appear agitated and will often give visual and vocal warnings like



Black bear (*Ursus americanus*)

swatting or stomping the ground, exhaling loudly, huffing, snapping teeth, or lowering the head with ears drawn back while facing you. This response may escalate to a bluff charge or actual charge.

- If the bear charges and then stops its approach, back away and vacate the area.
- If the approach continues, drop to the ground just before the charging bear makes contact. Tuck into a ball face down with your hands over your neck.

Close Encounters With Mountain Lions

Mountain lions usually do not like confrontation. If you see one, give plenty of space between you and the lion so they can get away. Never approach cougar kittens. Leave the area immediately.



Mountain lion (*Felis concolor*)

- Do not run or turn your back on a lion.
- Make yourself look large, intimidating and in control: stand up tall, open your jacket, yell, throw things.
- Stand in a group with your companions.
- Quickly pick up and hold small children.
- If the lion moves toward you, wave your arms and make noise.
- Back away slowly while facing the animal.
- If attacked, fight back aggressively. Stay standing. Hit as hard as possible especially to the head. Use a stick or rock as a weapon. Throw sand in the eyes. Protect your head and neck.

Report all bear and mountain lion encounters at the nearest ranger or call park dispatch (360) 569-2211 ext. 2334.

Climbing Permits

Each year, approximately 9,000 people attempt to climb Mount Rainier. Nearly half reach the 14,410 foot summit. Climbers attempting a mid-September to May ascent should be aware of winter storm conditions.

Climbing permits are required for travel above 10,000' and/or on glaciers. Climbing information - including fees, routes, and avalanche and weather conditions - is available at ranger stations or on the website at www.nps.gov/mora/planyourvisit/climbing.htm. For recorded route conditions, call (360) 569-6009. Guided climbs and climbing seminars are available through:

Alpine Ascents International (206) 378-1927
International Mountain Guides (360) 569-2609
Rainier Mountaineering, Inc. (RMI) (888) 892-5462



Photo courtesy Daniel Keebler

Wilderness Camping

Wilderness camping permits are required for all overnight stays in the park's backcountry. Permits and backcountry information are available at all wilderness information centers and most visitor centers (see page 8 for locations and hours).

Permits are free, but there is an optional, fee-based reservation system in effect May through September. Backcountry reservations are \$20 per party (1-12 people) for 1 to 14 consecutive nights. Sixty percent of all backcountry sites and zones are available for reservation. The remaining 40% are issued on a first-come, first-served basis on the day the trip begins.

Winter Group Camping

Winter camping at Paradise is permitted when there is sufficient snow (generally mid-December through April). Parties of 13 to 100 must camp in one of the designated group camping areas at Paradise and must pre-register. Please call 360-569-6003 (Monday - Friday, 8 a.m. - 4:30 p.m.) at least 2 weeks in advance. Provide group name, leader name, party size, date requested, and a call-back phone number. Your pre-registered permit will be available for pickup at the Longmire Museum on the day of your arrival to camp.

Leave No Trace

Plan ahead & prepare
Travel & camp on durable surfaces
Dispose of waste properly
Leave what you find
Respect wildlife
Be considerate of others

Fires are for emergency use only; they are not allowed in Mount Rainier's Wilderness

Hiking the Muir Snowfield

The Muir Snowfield, a permanent field of snow, ice and rock outcrops, is located north of Paradise between 7,000 and 10,000 feet in elevation. Thousands of people hike on the Muir Snowfield each year en route to Camp Muir. On a clear day, the hike is spectacular. But when the weather deteriorates, as it often and unpredictably does, crossing the Muir Snowfield can be disastrous.

Don't Become A Muir Snowfield Statistic:

- Avoid the snowfield in questionable weather, especially if you're alone or unprepared. Weather conditions can change suddenly and drastically.
- If you're ascending and clouds or fog start rolling in, turn around and head back to Paradise. If that's not possible, stop moving, dig in, and wait for better weather.
- Without a compass, map, and altimeter, it is extremely difficult to find your way to the trailhead in a white-out. Carry these items and know how to use them.
- Do not attempt to descend from Camp Muir in poor weather. Do not descend on skis or a snowboard in limited visibility — you could quickly become lost.
- When hiking to Camp Muir, be sure to carry emergency bivouac gear so that you can spend the night out if you have to.
- While it may be disappointing to abandon your hike to Camp Muir, remember that the snowfield will still be there in better weather.
- To protect fragile alpine vegetation, hike only on trails or snow.

Hiking Safety Tips

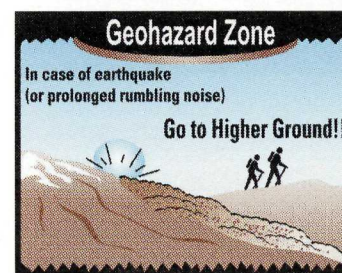
Hikers should always emphasize personal safety whether they journey along the popular trails to waterfalls, and special features, or through the wilderness on backcountry trails. Regardless of where you hike or the length of the trail, being prepared decreases your risk of injury and increases your level of enjoyment. Use the following tips to keep your journey safe.

1. Always check current trail conditions with a ranger at any visitor or wilderness information center.
2. Know the 10 essentials and carry them with you even on a short sightseeing hike.
3. Tell someone your travel plans so they can notify the park if you fail to return.
4. Protect yourself by wearing appropriate outdoor clothing including sturdy footwear.
5. Never hike alone.
6. Mount Rainier's weather can change unexpectedly. Check the weather forecast before leaving home and prior to starting a hike.

Carry the "10 Essentials" and know how to use them!

1. Map of the area
2. Compass
3. Extra food & water
4. Extra clothing (warm!) & rain gear
5. Emergency shelter
6. First aid kit
7. Flashlight or headlamp
8. Sunglasses & sunscreen
9. Pocketknife
10. Matches (waterproof!)*

Mount Rainier: An Active Volcano



Active steam vents, periodic earth tremors, and historic eruptions provide evidence that Mount Rainier is sleeping, not dead.

Seismic monitoring stations around the mountain should provide days or weeks of advance warning of impending eruptions. Other geologic hazards, however, can occur with little warning. These include debris flows and rockfalls.

The more time you spend in an area with geologic hazards, the greater the chance that you could be involved in an emergency event. While most people consider the danger to be relatively low, you must decide if you will assume the risk of visiting these potentially dangerous locations. If you are near a river and notice a rapid rise in water level, feel a prolonged shaking of the ground, and/or hear a roaring sound coming from upvalley — often described as the sound made by a fast-moving freight train — move quickly to higher ground! A location 160 feet or more above river level should be safe. Detailed information is available at park visitor centers or from scientists at the U.S.G.S. Cascades Volcano Observatory, 1300 SE Cardinal Court, Building 10, Suite 100, Vancouver, WA 98661, or visit the U.S.G.S. Cascade Volcanoes website: vulcan.wr.usgs.gov.

Mount Rainier is a Place of Great Beauty and Inspiration.



You may be inspired to take a picture or to get a close-up look at a wildflower. But stop and consider your actions before stepping off the trail. With each step you take onto a meadow, an average of 20 plants are impacted! Even if a plant survives the weight of your footstep, it may be stunted for years. Please remember this when exploring Mount Rainier's fragile meadows and...

Please hike only on maintained trails or on thick patches of snow.

Protect Yourself, Protect Your Park

Mount Rainier National Park was established in 1899 to preserve the natural and cultural resources of this area. To protect yourself and your park, during your visit please follow these rules:

- Keep pets on six foot or shorter leashes. Pets are not allowed in buildings, on trails, or on snow.
- Do not feed or disturb the wildlife.
- Stay on designated trails.
- Make fires only in a fire grill.
- Collecting firewood is prohibited.
- Weapons are prohibited in the park. Firearms transported through the park must be unloaded, broken down, and stored to prevent use.
- Bicycle only on roads, not on trails.
- Camp in designated campsites only. Sleeping in vehicles outside of campgrounds is not permitted.

A Healthy Environment Sustains Life Beyond the Park



I am personally and professionally committed to improving Mount Rainier's carbon footprint. Over the past 15 years we have made significant progress. As we look forward to the National Park Service 100th Anniversary in 2016, Mount Rainier will be a green, energy efficient park operation, and we will engage in global climate change research and education to help create a culture of sustainability.

David V. Uberuaga
Superintendent

Understanding Sustainability

Sustainability is managing and preserving the earth's natural resources so they are passed on to future generations in a healthy and abundant manner. The principles of sustainability are much like those of a dynamic ecosystem in which all elements sustain a balance but adjust to the shifting needs of the whole ecosystem.

At Mount Rainier and in the community where you live, this means that everyone, must contribute to creating a socially, economically and environmentally sustainable balance of the earth's resources for today and the future. Thus, sustainability may require a change in values toward a less consumptive lifestyle but it does not have to lessen the quality of life.

Education Center

The Park Education Center which opened in July 2006 is a structure that demonstrates Mount Rainier's commitment to green building.

The exterior walls are constructed of a polystyrene block system and have an R50 insulation rating, twice the recommended value. Energy efficient windows and skylights maximize the natural light and reduce reliance on electricity for lighting throughout the facility.

Other sustainable elements are recycled and recyclable carpet, dual flush toilets and an in-floor radiant heat system. For more information visit <http://www.nps.gov/mora/forteachers/education-center.htm>.

Air Quality Camera

A web camera at Paradise shows the visibility impairment that may be caused by air pollution. The camera site is located about 23 miles from our primary air monitoring station but current levels of ozone, the visual range, and weather conditions can be viewed at <http://www2.nature.nps.gov/air/WebCams/parks/moracam/moracam.htm>. The digital photos are usually updated every 15 minutes, while air quality values are revised hourly.

Is Mount Rainier Getting "Greener?"

The National Park Service was established in 1916 and mandated to manage its areas in such a manner that future generations will be able to enjoy them unimpaired. With this in mind parks are utilizing sustainable energy and practicing environmental leadership in association with the Greening of the National Park Service program. The program encompasses renewable energy, conservation, green purchasing, recycling, and environmental design.

As glaciers recede and the evidence for global climate change mounts, Mount Rainier has made a serious commitment toward reducing greenhouse gas emissions. The park manages resources in a sustainable fashion for the enjoyment of future generations. Here are a few examples of environment-friendly projects and practices at Mount Rainier.

We conduct environmental analysis on construction and design projects. The park is engaged in a wide variety of planning and construction projects that have the potential to impact park resources including air, water, plants, wildlife, historic structures, etc. To determine what those impacts might be, the park is required to conduct environmental analysis. Resource professionals and other staff engage in collaborative planning to identify the best possible alternatives, with the least possible impacts

We use a hybrid solar energy system in the White River area. The award winning system is a cooperative effort between the National Park Service, Sunwise Technologies, and Bonneville Power. The solar system replaced a generator-only system. It produces 85% of the electricity required for the area reducing the generator supplied energy to 15%! The benefits of the system are reduced fuel consumption, reduced emissions, reduced noise levels and lower operating costs.

Help Mount Rainier Remain Healthy

by Jack Greene, Volunteer

You are connected to Mount Rainier through rivers, atmosphere, and migratory species such as birds, fish, and insects. These animals may travel well beyond park boundaries and might spend part of their year visiting you! What goes into the air and water in one place may end up thousands of miles from where it originated.

You make choices daily that could impact the environment of the park. How you landscape and care for your yard and garden is critical for the global health of wildlife, water and air. The companies that you support through your purchases and the ways you choose to dispose of trash have an effect on life beyond your neighborhood.

Energy efficient planning, green purchasing, recycling, and environmental design for buildings and transportation systems are ways that Mount Rainier contributes to sustaining healthy life beyond its borders. The park conserves energy by using cleaner and renewable forms of energy. The park uses locally produced and salvaged materials. Visitor education through our interpretive programs and other media is another key component to providing sustainability.

We also focus on using new "green" products as they are developed. One of our park generators and all our diesel vehicles now run on special emissions-reducing fuel made with a soybean-based, low-sulfur fuel. Additionally, we have 18 vehicles with a propane fuel option in the park fleet.

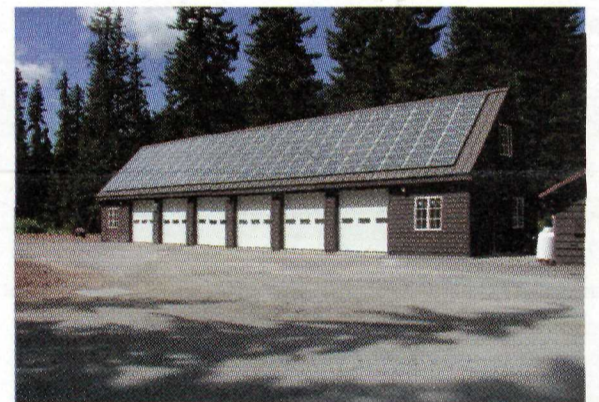
As an ENERGY STAR Partner Organization we are committed to lowering our energy consumption by purchasing ENERGY STAR rated devices



including refrigerators, furnaces, and computers. We use energy efficient lighting including compact fluorescent light bulbs.

We reduce our consumption of resources by reusing and recycling products. In addition to the usual items – aluminum, plastic, glass, paper – we recycle scrap metal, used oil, batteries and a number of other items. We purchase recycled products including plastic bags, picnic tables, and lumber; pre- and post-consumer recycled paper; and automobile products.

For more information about the Greening of the National Park Service program see: <http://www.nps.gov/renew/>.



Solar Energy System at White River

How You Can Help

Beyond turning off lights and other electrical appliances, driving less, and turning down the thermostat in winter and up in summer, here are a few other possibilities.

- Replace your older model appliances with super efficient ENERGY STAR appliances.
- Buy locally produced food. The average food item travels 1400 miles to reach the table of someone living in North America.
- Recycle all you can. Recycling can save tremendous quantities of energy, along with many other natural resources.
- Buy items made from post consumer waste. This supports markets for recycled materials.
- If buying a vehicle, consider one that gets good gas mileage.
- Support businesses that have made a serious commitment to selling and manufacturing products that support a sustainable future.

For more information on the above go to: <http://www.epa.gov/climatechange/wycd/index.html> or <http://www.npca.org/globalwarming/>

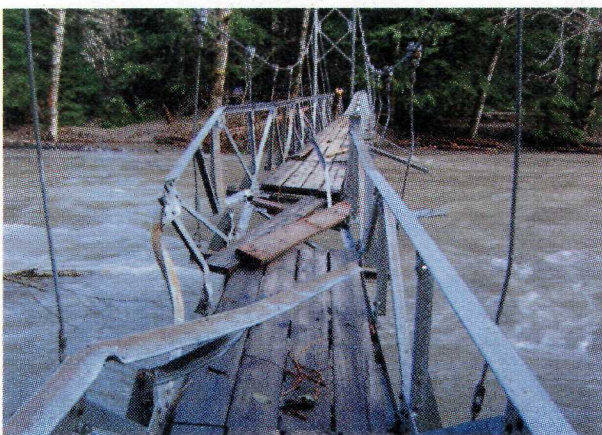
November 2006 Flood Makes History

The flood of November 6 and 7, 2006 was an historical, natural event unlike any other that has been recorded in Mount Rainier National Park's 108 year history.

Long before National Park status, debris flows traveled from Mount Rainier to the Puget Sound. Areas near Tacoma and Seattle are formed of prehistoric debris from the mountain.

In more recent park history (1946-47), a series of heavy snowstorms caused extreme damage to facilities. For two weeks, the main entrance to the park was closed to the public due to the danger of falling trees from sweeping avalanches at higher elevations.

Mount Rainier has experienced many other floods and mudflows that have changed the natural landscapes and threatened the security of structures. None of these events left the park without utilities and roads, a safe entry corridor and damaged campgrounds throughout the four corners of Mount Rainier as has the most recent flood.



Suspension bridge across the Ohanapecoh River to the Grove of the Patriarchs

An obvious reason for the November 2006 history making flood was, of course, scale. The 18 inches of rain recorded at Paradise in 36 hours exceeded all previous records. Record amounts fell throughout other regions of the park.

The snow levels during the storm stayed above 10,000 feet in elevation, with the majority of the precipitation falling as rain. Some existing snow above 7,000 feet melted, adding runoff to the rivers.

As the rain flowed down mountainsides and roads to the main watersheds, it caused extreme soil erosion and slides. It uprooted large areas of trees that eventually caused log jams that redirected water.

This event resulted in the undermining or removal of roadways, campsites and utilities. The flood also



One lane of the road to White River Campground was washed down river.

washed away multiple foot bridges and sections of hiking trails rendering some unsafe for travel.

Another contribution to the flood is a process known as "aggradation", the rate at which the park's glacial riverbeds fill with rock. This occurs as Mount Rainier's glaciers melt. Boulders, rock and silt are captured by the moving glacier and trapped within the frozen ice. All of the embedded material is released into the river as the ice melts. The river gradually tumbles the rock downstream, piling it up here, washing it away there, changing course, seeking the easiest path through the debris. This is why glacial riverbeds are wide and rocky, with the river itself braided into constantly changing channels.

Recent research at Mount Rainier National Park has measured aggradation in most park rivers to occur at a rate of 6 to 14 inches per decade. In comparison, during the November flood, the riverbed where Tahoma Creek flows under the Nisqually Road rose more than four feet.

Due to aggradation, the White River is currently 16 feet above adjacent SR410 in some places. Parts of the historic Longmire Village are 29 feet below the current elevation of the Nisqually River. The river is nearly level with the park road in several places.

Repairs Eliminate Visual Effects of Flood

On a day to day basis when Mount Rainier National Park enjoys the company of thousands of visitors, many dedicated employees and volunteers work to keep it safe and clean. Given the November 2006 flood, these same people urgently responded with pride, determination, sweat and perseverance to reestablish safe access to the park and to preserve the cultural and natural resources.

In order for the park to safely admit visitors, the park roads had to be rebuilt, structures secured and utilities restored. The tasks that began while the flood was in progress mainly dealt with personal safety and the security of property. In the days following the flood, assessment and stabilization turned to recovery efforts as road crews rebuilt sections of the Nisqually Road.

Teams were established to evaluate trails and wilderness conditions. Power and sewer lines were restored. The work that began immediately after the flood and throughout the summer has eliminated many of the visual effects of damage that visitors may expect to see after such an historical event.

As the individual efforts are numerous and hard to recount, the cumulative rebuilding and restoration efforts have resulted in a safe and successful reopening of Mount Rainier National Park. Daily operations continue but many flood-related decisions are still being considered and projects continue to be accomplished.

The best way to view the effects of the flood would be to choose one of the following activities:

1. Observe the following locations as you drive along the road from the Nisqually Entrance to Paradise. Do not stop on the road. Pull over only in designated areas.

- Just beyond the entrance, you will approach a curve that opens to a grand view of the Nisqually River. This is the former site of Sunshine Point Campground and Picnic Area.



A channel of the Carbon River carried away the ground beneath the historic Ipsut Creek Cabin.

With record amounts of water flowing across the landscape into aggraded riverbeds, damage to roads, utilities and structures presented an unsafe environment. Thus the park closed for six months, making the November 2006 flood an historical event.

The road beneath you was completely rebuilt.

- Slow down to 20 mph through the Kautz Creek area and proceed with caution through the area. Notice the lack of water flowing underneath the bridge. Further down you will see the new channel to which Kautz Creek was naturally diverted. This section of road which you are driving on was also rebuilt.
- Along the drive, observe the wide river channel which was cut as the Nisqually River eroded away many trees and redefined the landscape.



The Nisqually Road was washed out along with the former Sunshine Point Campground

2. The visitor centers and wilderness information centers have a collection of photographs that describe the scope of change that occurred during the flood. Browse through the pages.
3. Take a hike! The trail may be covered with sediment deposited from a river or stream. Downed trees or large boulders may be obstacles. The trail may have been cut by water flowing through it. Watch your step and stay safe but observe the changes which resulted from the November 2006 flood.
4. The rivers tell stories of the flood. Examine the braids in the river channel. Look for debris in the river and observe how the river flows around it. Notice changes in the landscape which may have been redesigned by the flood: open areas, deposits, and under cuttings.

Visitor Facility Hours ~ Sept. 4 – Dec. 31, 2007

Visitor Centers

Longmire Museum (360) 569-2211 x3314	September 4 - October 8 9:00 a.m. - 5:00 p.m. daily	Information, exhibits, book sales
	October 9 - December 31 9:00 a.m. - 4:00 p.m. daily	
Jackson Visitor Center at Paradise (360) 569-2211 x6036	September 4 - October 8 10:00 a.m. - 6:00 p.m. daily 7:00 a.m. - 6:00 p.m. Sat through Sept	Exhibits, climbing information & permits, AV presentations, book sales, food service, gifts, showers
	October 9 - December 31 Weekends and holidays, only 10:00 a.m. - 5:00 p.m. Thanksgiving weekend Nov. 22-25 & Christmas Break Dec. 24 - Dec. 28	
Ohanapecosh Visitor Center (360) 569-2211 x6046	9:00 a.m. - 5:00 p.m. daily Closed for the season after Oct 8.	Information, exhibits, book sales.
Sunrise Visitor Center (360) 663-2425	9:00 a.m. - 5:00 p.m. daily Closed for the season after Sept 9.	Information, exhibits, book sales

Wilderness & Climbing Information Centers

Longmire WIC (360) 569-HIKE	7:30 a.m. - 5:00 p.m. daily Closed for the season after Oct 8	Wilderness camping & climbing permits.
Climbing Information Center at the Paradise Guide House	Closed due to construction.	Obtain climbing information & permits at the Jackson Visitor Center.
White River WIC (360) 569-2211 x6030	7:30 a.m. - 4:30 p.m. daily Closed for the season after Oct 8	Wilderness camping & eastside climbing permits.
Carbon River Ranger Station (360) 829-9639	September 4 - September 15 8:30 a.m. - 4:30 p.m. M-Th 7:30 a.m. - 6:00 p.m. F-Sat	Wilderness camping & northside climbing permits
	September 16 - September 29 8:30 a.m. - 5:00 p.m. daily Call for hours after September 29.	

Food & Lodging

For lodging reservations in the park call Mount Rainier Guest Services at (360) 569-2275 or go to www.guestservices.com/rainier

National Park Inn at Longmire	Open year-round Hotel Front Desk 7:00 a.m. - 10:00 p.m.	Lodging, post office, and dining room serving breakfast, lunch, and dinner.
General Store - Longmire	Pre-Ski Touring Season 10:00 a.m. - 5:00 p.m. daily	Groceries, gifts, firewood, and ski rentals
	Ski Touring Season (approx. Nov - April) 10:00 a.m. - 5:00 p.m. Mon-Fri 8:30 a.m. - 6:00 p.m. weekends/holidays	Firewood is also available in Cougar Rock Campground 4pm - 9pm wkends/holiday
Jackson Visitor Center at Paradise - Grill & Gift Shop	September 3 - October 8 11:00 a.m. - 6:00 p.m. daily	Showers in the basement are open during building hours
	October 13 - December 31 Weekends and holidays only 11:00 a.m. - 4:45 p.m. Open Nov 22 - 25 & Dec 24 - 28	
Paradise Inn	Closed for structural rehabilitation. Will re-open May 2008.	
Sunrise Lodge	10:00 a.m. - 6:00 p.m. daily Closed for the season after Sept 9.	Food and gifts, day use only, no overnight lodging

Gasoline, lodging, dining, religious services and recreation equipment rentals are available in local communities. A list of these services is available at park visitor centers and on the park's website.

GAS IS NOT AVAILABLE IN THE PARK



National Park Service
U.S. Department of the Interior

Mount Rainier National Park

Superintendent
Dave Uberuaga

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Park Headquarters
(360) 569-2211
(360) 569-2177 TDD

Website
www.nps.gov/mora



EXPERIENCE YOUR AMERICA™

Explore Mount Rainier From Home!

Learn about park resources, recreation opportunities, facilities, and much more on the web at: www.nps.gov/mora or go directly to one of these website pages:

Education Page

www.nps.gov/mora/forteachers/index.htm
Information on teacher workshops, field trip opportunities and more!

Employment Page

www.nps.gov/mora/parkmgmt/jobs.htm
Great information on jobs within the park.

Nature and Science Page

www.nps.gov/mora/naturescience/index.htm
Learn more about the park's natural resources.

Web Ranger

www.nps.gov/webangers/ Become a Junior Ranger on-line! This website represents parks from across the nation.

The MountainCam!

www.nps.gov/mora/cam/paradise.jpg
View The Mountain from home, work or school.

Flood Pages

www.nps.gov/mora/parknews/november-2006-flooding.htm Learn about the Flood of November 2006 - the changes it made in the park and ongoing repair efforts.

Volunteer Page

www.nps.gov/mora/supportyourpark/volunteer.htm Learn about the parks volunteer program and how you can contribute

History and Science

www.nps.gov/mora/historyculture/index.htm
Historical Nature Notes, Administrative History, Research Catalog, Scientific Abstracts, Archaeology, History, Museum Collections

Drive-in Campgrounds

Campground	Open Dates	Elev.	Sites	Fee	Group Sites	Group Fees	Toilets	Dump Station	Maximum RV/Trailer Length
Cougar Rock*	May 18 - Oct. 8	3,180'	173	\$12	5	\$40-64	Flush	Yes	RV 35'/Trailer 27'
Ohanapecosh*	May 25 - Oct. 8	1,914'	188	\$12	1	\$40	Flush	Yes	RV 32'/Trailer 27'
White River	June 29 - Oct. 1	4,400'	112	\$12	0	N/A	Flush	No	RV 27'/Trailer 18'
Ipsut Creek	Road to campground closed to vehicles (flood damage). Open to walk-in & bike-in use. Wilderness Camping Permit required for overnight stay. No fires or pets allowed. No fee. No potable water.								
Sunshine Point	This camp was washed away during the November 2006 flood. Will not reopen this year or next summer.								

* After September 4th all campgrounds are operated on a first-come, first-served basis. Reservations are required for group sites through October 7. Call (877) 444-6777 up to 6 months in advance or reserve your site on-line at www.recreation.gov.