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 mud flows 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 or removed campgrounds throughout the four corners of Mount Rainier as has the most recent flood.

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 to the runoff in the rivers.

As the rain flowed down mountain-sides 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 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 and the river is nearly level with the park road in several places.

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.

Rushing Water Changes Mount Rainier

It is hard to imagine that several days of rain in a wet region such as the Pacific Northwest would close a national park for six months. But when copious amounts of water rushed down hillsides and roads and overfilled the rivers within Mount Rainier National Park's boundaries, the end result was a loss of campgrounds, roads, trails and utilities.

Campgrounds

- The Nisqually River breached protective levees to reclaim about five acres of land from the Sunshine Point Campground.
- Erosion caused damage to campsites, the access road and the amphitheater along the edge of the White River.
- A landslide that swept hundreds of feet down to the Ohanapecosh River from Stevens Canyon Road destroyed several campsites at the end of "C" loop in the Ohanapecosh Campground.
- The Carbon River Road washed out, therefore car camping is not available at Ipsut Creek Campground. For 2007, a Wilderness Camping Permit is required for walk-in camping.
- Four backcountry camps were closed. Current openings and backcountry camping permits are available at any visitor or wilderness information center.

Roads

All the main access roads to Mount Rainier National Park incurred loss or sustained damage except for SR410, in the northeast. However, White River did overflow its banks, inundating SR410 for several miles .

- As the Nisqually River swelled it took out 200 yards of the Nisqually Road at Sunshine Point. Rebuilding the road was a priority in order to reopen the park.
- On the Nisqually Road crews have rebuilt embankments to prevent the road from collapsing.
- Kautz Creek changed course about a mile above the bridge on the Nisqually Road and flowed instead through the forest and across the road 200 yards east of the bridge. Two 12 foot diameter culverts were installed to direct the water under the road creating a safe passageway for cars.
- SR123, the major road connecting Ohanapecosh to Sunrise, washed out in four places. One washout, at Milepost 11.5 cuts across both lanes to a depth of 70 feet. Repairs will be extensive. An official opening date has not been announced.
- The Stevens Canyon Road washed out in three places. Due to, a landslide, one lane of traffic is closed at Backbone Ridge.

Trails

Extensive trail damage has been noted around the park and some areas which remained snow covered during the spring are now being evaluated. Stop by a visitor or wilderness information center to see maps and pictures of trail damage and closures.

Damage ranges from sections of trail being obliterated to embankments being undercut. Trees, boulders and other debris may block safe passage. Crews are focused on getting as many trails open as they can , especially the Wonderland Trail.

Most of the 93 miles of the Wonderland Trail, which circumnavigates the mountain, is safe to travel. But due to closures, permits will not be issued in 2007 for people who wish to hike the entire trail.

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Bridges

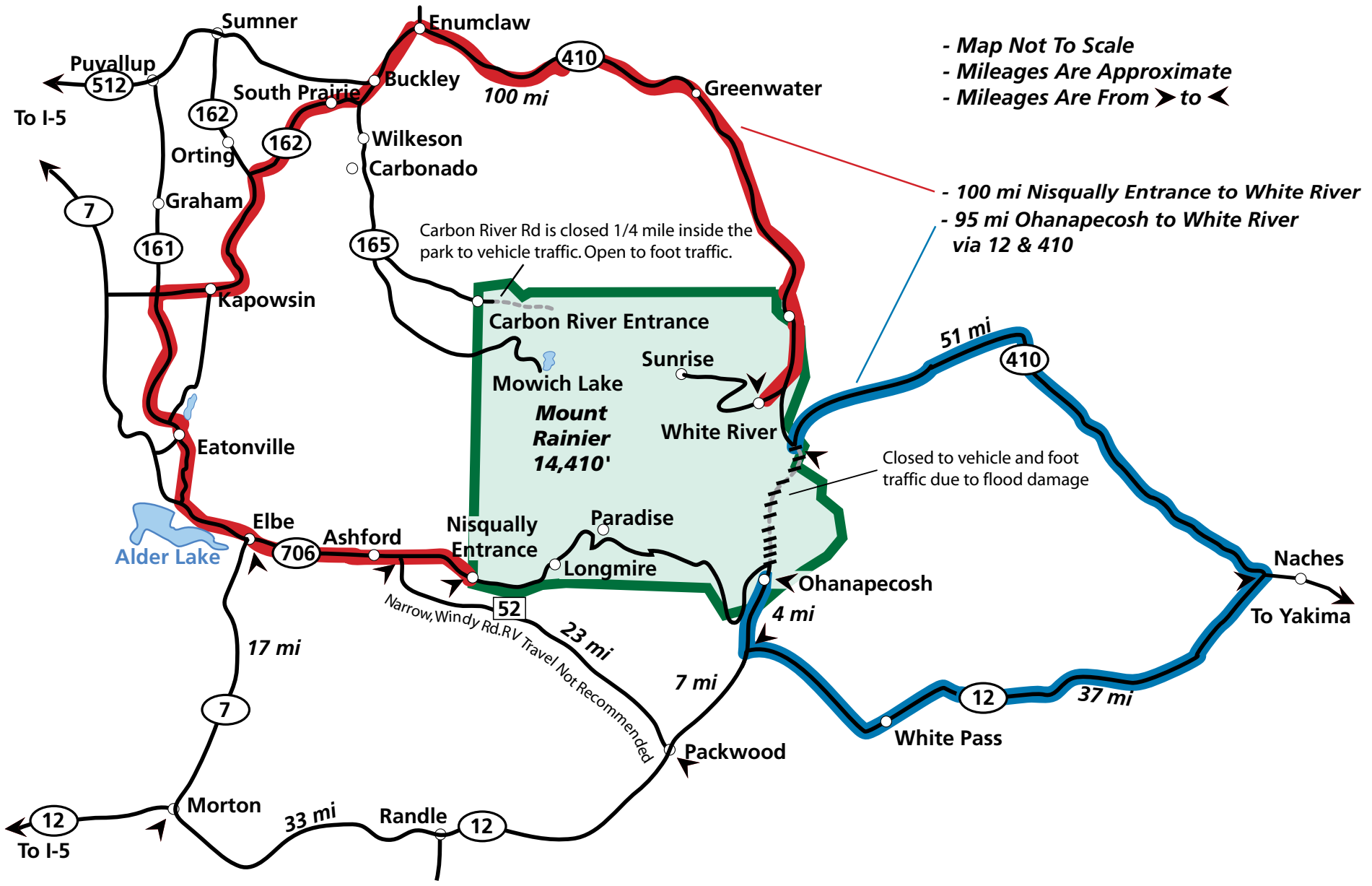
Throughout the spring, trail crews have restored many water crossings. With spring rains and heavy snow melt, hikers need to be mindful of the potential dangers in crossing swift running water (see page 9).

One of four washouts on Highway 123, between Ohanapecosh and White River.

- More than 28 bridges and footlog crossings were damaged or washed away.
- The debris laden Ohanapecosh River destroyed the suspension bridge leading to the island.
- The Tahoma Creek suspension bridge was closed for major repair.

Additionally, the November flood broke the park's main utility lines leaving Paradise and Longmire without sewer, phone, water and commercial power. Water entered the Ohanapecosh Visitor Center. The Kautz Helibase and maintenance yard suffered erosion. Three feet of silt was deposited atop the roots of 1000 year old trees at the Grove of the Patriarchs.

Driving Around Mount Rainier



Plan Ahead, Fuel Up and Take your Time

Visitors can explore all areas of the park, including Longmire, Paradise, Ohanapecosh, Sunrise, White River, Carbon River and Mowich. SR123 north of Steven's Canyon Road and south of SR410 will remain closed for the summer. The above map highlights alternate routes that will require extra time and gas. Plan ahead and drive safely.

- The Carbon River Road to Ipsut Creek Campground is closed to vehicular traffic. Visitors can park 1/2 mile from the entrance gate and hike or bike 5 miles to the Ipsut Creek campground. To stay overnight obtain a backcountry camping permit from the ranger station at the Carbon River entrance.

- Expect delays when driving Stevens Canyon Road. A short section of Stevens Canyon is limited to one lane traffic. Be courteous to other visitors, pay attention to the stop signs, watch for construction crews and emergency vehicles.

- SR123, between Ohanapecosh and SR 410 (Cayuse Pass), sustained significant damage during the storm. Repairs have begun on this road, but it will not be open this summer. Until these repairs are completed, the following routes are suggested for travel from Paradise and Ohanapecosh to Sunrise:

Ohanapecosh to Sunrise/White River
(Southeast corner to northeast corner)

1. Turn right from Ohanapecosh Campground and Visitor Center onto SR123 south.
2. SR123 south ends at Hwy 12. Turn left onto Hwy 12 east towards Yakima.
3. Travel 37 miles to the intersection of Hwy 12 and SR410. (If you enter Naches, you have gone too far). Turn left onto SR410 west.
4. SR410 leads into the park. Follow the signs to White River and Sunrise.

Distance: 95 miles to White River Road from Ohanapecosh.
Approximate driving time: 3 hours

A landslide on Steven's Canyon Road.

Paradise/Longmire to Sunrise/White River
(Southwest corner to northeast corner)

1. From Paradise or Longmire, travel west to the Nisqually Entrance. Exit the park onto SR706 west.
2. In Elbe, SR706 ends and merges with SR7 north.
3. Turn right towards Eatonville at Alder Lake. If you miss the turn then turn right onto SR161 north through Eatonville.
4. The first traffic light north of Eatonville is at Kapowsin Hwy. Turn right onto Kapowsin Hwy.
5. At the four-way stop in Kapowsin, follow Orville Road east.
6. Orville Road intersects with SR162 at a stop sign. Take SR162 towards Wilkeson, Carbonado, South Prairie, Buckley and Enumclaw.
7. Just past South Prairie, SR162 ends and begins as SR165 towards Buckley and Enumclaw.
8. At Buckley, follow the signs for SR410 to Enumclaw. Pay attention because you will need to make two quick right turns.
9. SR410 leads into the park. Once inside the park follow signs to White River and Sunrise.

Distance: 100 miles to White River Road from the Nisqually Entrance.
Approximate driving time: 3 hours

The Mount Rainier Annual Pass and The New National Parks and Federal Recreational Lands Pass Program

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 (described below), is good for 12 months from the purchase date. The Mount Rainier Annual Pass is available at any Mount Rainier National Park Entrance Station.

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. Pass is available at any Mount Rainier Entrance Station.

The Interagency Volunteer Pass
This pass entitles access to, and use of federal recreation sites that charge entrance or standard amenity fees. It is a new type of pass 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 extension 3385 to learn about volunteer opportunities at Mount Rainier National Park.