

VOLCANO REVIEW

A VISITOR'S GUIDE TO MOUNT ST. HELENS NATIONAL VOLCANIC MONUMENT



Mount St. Helens National Volcanic Monument: Preserved to Change

The real treasure of the Mount St. Helens National Volcanic Monument is not the volcano or the surrounding landscape; it lies in the idea that this monument should be protected so that nature can work at its own pace to renew the land. Most protected areas are managed to keep them as they once were so that future generations will have an experience similar to what early visitors to the site would have had. Mount St. Helens National Volcanic Monument was set aside in the hopes that the next generation will have an experience markedly different than the one we have today. The Forest Service has worked hard to protect this valued place while ensuring public safety and providing recreational, educational and research opportunities. This precarious task can only be successful through partnering with our local communities. Join us in helping to provide a unique experience for future generations by sharing nature's monumental achievements at Mount St. Helens National Volcanic Monument.

Photo by Gavin Farrell

U.S. Forest Service



Gifford Pinchot National Forest

WELCOME

There is a lot going on at the Monument this summer. Several projects funded by the American Recovery and Reinvestment Act of 2009 are nearing completion. This summer we will see enhanced interpretive signage, improvements to barrier free trails and the first amphitheater at Johnston Ridge Observatory.

We apologize for any inconvenience projects may cause but hope you realize that these investments in the future are designed to enrich visitor experience for years to come.

We are also excited about the volunteer opportunities that are available through our not-for-profit partner, the Mount St. Helens Institute. We invite you to join us and volunteer for a day, a weekend or a summer to help care for visitors, trails and facilities around the volcano. With the help of our dedicated partners and volunteers, we will strive to make your visit memorable and enjoyable.



Tom Mulder, Monument Manager

Help Us Share the Wonder of Mount St. Helens

The Mount St. Helens Institute (MSHI) is a not-for-profit partner of the Mount St. Helens National Volcanic Monument. We help provide science education, conservation and recreation activities. Come explore the volcano with us! We offer field seminars, inspiring hikes, guided climbs, evening lectures and other events aimed at deepening your understanding of the Pacific Northwest's natural

processes and its cultural past. We also offer a variety of volunteer opportunities. Join us as a volunteer for a day, a weekend work party to improve trails or wildlife habitat or for an exciting summer-long volunteer experience.

Join us and become a Member today!

For further information please visit our website:

www.mshinstitute.org or contact us:

Email: info@mshinstitute.org, Phone: (360) 449-7883



Mountain Stewards on the summit after a successful Mount St. Helens Institute's guided climb, Summer 2010.



Your Help is needed to Raise Funds to Support Scientific Research, and Maintain and Enhance Exhibits at the Mount St. Helens National Volcanic Monument

MSHI raises funds to support scientific research and to share information with the public. We assist with creation, maintenance and enhancement of new exhibits at Johnston Ridge and other monument sites. We need your financial help to do our work! To find out more about our work and to contribute on-line visit our website: www.mshinstitute.org

Online Information:

Mount St. Helens Visitor Information: www.fs.usda.gov/mountsthelens
Eruption Geology and Monitoring: <http://vulcan.wr.usgs.gov/Volcanoes/MSH/>

Take Care of Your Pet and Help Protect the Monument

To protect plant and animal life and provide for visitor safety, pets are prohibited at all recreation sites and trails within the monument's restricted area (*see yellow shaded section of map on page 7*). Pets are permitted only in designated pet areas and must be on a leash. Lack of shade and summer heat can endanger pets left in cars. For the safety and comfort of your pet, please arrange to leave your pet at home. Contact any Forest Service office for information on where it is safe and legal to bring your pet.



J. Voelker, USGS

Pine Creek Information Station

Pine Creek Information Station was reopened in 2009 through an innovative partnership of not-for-profit agencies, local government and community action groups. The Forest Service, partners and community members have worked diligently to reinvigorate the historical Pine Creek Station. Serving over 18,000 visitors a year between Memorial Day and Labor Day, Pine Creek Information Station now provides informational and interpretive services, restrooms, book store and is a vital link between local communities and the Mount St. Helens National Volcanic Monument. The Gifford Pinchot National Forest gratefully acknowledges the collaborative efforts of: Mount St. Helens Institute, Skamania County, Skamania County Chamber of Commerce, Skamania County Sheriff's Office, Skamania County Fire District 6, Discover Your Northwest, Cougar Area Trail Seekers, North County EMS and the Swift Communities Action Team.

Help Protect Mount St. Helens

In 1982, Congress established the 110,300 acre Mount St. Helens National Volcanic Monument to provide for scientific research, education, and recreation.

- Stay on paved areas and designated hiking trails.
- Do not disturb or remove any natural feature.
- Do not feed the animals.
- Keep pets on a leash and in designated pet areas.

The Volcano Review is produced by Discover Your Northwest in cooperation with the U.S. Forest Service – Published May 2011

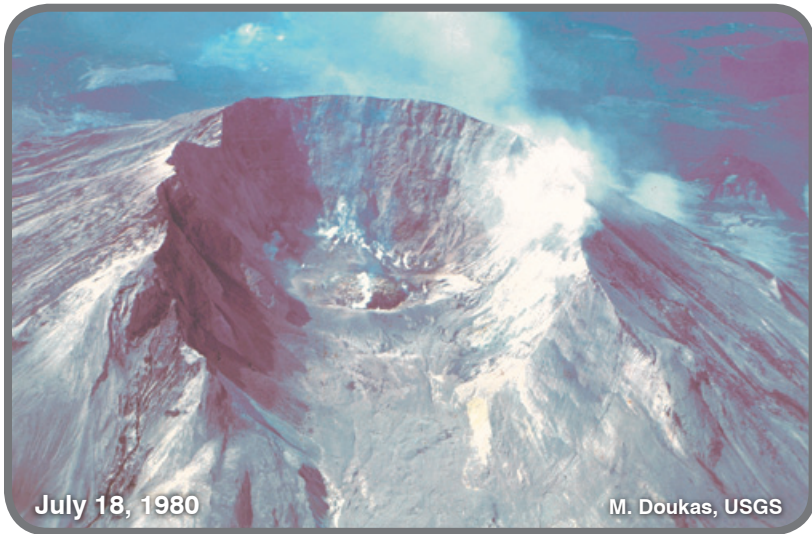
DYNW is a not-for-profit organization that operates bookstores at parks and forests throughout the Pacific Northwest. Proceeds are used to fund interpretive programs, this newspaper and much, much more. To order books, videos, posters and other educational materials visit www.discovernw.org or contact:



Discover Your Northwest
10600 NE 51st Circle
Vancouver, WA 98682
Phone: (360) 891-5214
FAX (360) 891-5195

WELCOME TO A LIVING LANDSCAPE

Unique Circumstances Nurture GLACIAL GROWTH



Amazing things happen here! In the last three decades few events have been more awesome than the growth of one of North America's youngest glaciers in the throat of an active volcano. Birthed as a consequence of conditions created by the May 18, 1980 eruption and unexpectedly pushed from its cradle by the lava dome growth of 2004 – 2008, Crater Glacier's story is as astonishing as the forces of rock, ice and gravity that produced it. This youthful glacier attracts international attention as it both forms and advances while most glaciers are experiencing rapid melting.

Mount St. Helens' pre-eruption summit was cloaked by 11 glaciers and smaller perennial ice fields. When the May 18, 1980 eruption beheaded the volcano, it removed 70 percent of the glacial ice. Without a summit high enough for snow to accumulate year to year, the 8 surviving glaciers began to thin. However the same eruption that destroyed glaciers set the stage for Crater Glacier to form. The crater that formed during the May 18, 1980 eruption collects annual snowfall like an immense bowl. In addition, snow that collects on the steep crater walls avalanches onto the crater floor. Loss of snow by melting is relatively slow because of shading by the south crater wall and the insulating effects of layers of rock debris that avalanche onto the glacier from the crater walls. Year after year, snow accumulation exceeds melting by the remarkable amount of about 25 feet (8 meters) on average. Rock debris that was initially at the glacier surface becomes buried. Over time, the weight of successive annual layers compresses the snow into dense crystalline ice which, like glacier ice everywhere on Earth, flows like an extremely thick liquid. In regions where the glacier surface is steep, cracks, or crevasses, form as the ice flows downhill. Layers of rock debris within the glacier make the ice stiffer—and thus make it flow slower—than clean ice.

In late September 2004, an energetic series of earthquakes heralded the re-awakening of Mount St. Helens. The surface of the glacier began to crack and bulge as magma worked its way upward. On October 1, 2004, a small explosive eruption blew a hole in the ice and sent a jet of steam and ash into the atmosphere. A week later, scientists observed a process never witnessed before: a spine of hot rock pushing its way upward through a glacier. Over the next several months, a series of lava spines squeezed out of the vent that had appeared on October 1, 2004. Concerns arose that the hot lava spines would rapidly melt glacial ice and create dangerous concrete-like slurries called mudflows, but a very different process actually occurred: the lava spines, which cooled rapidly at the surface, behaved like gigantic bulldozers and shoved the ice aside. Caught between the jaws of a vise—one being the crater wall, the other being the lava spines—the glacier became halved in width and doubled in thickness. The glacier snouts began to advance rapidly as well, at a rate of as much as 3 feet (1 meter) per day. The growing lava spines eventually split Crater Glacier into two separate arms, but by May 2008, the two arms had rejoined and completely encircled the lava domes in the center of the crater. As of the beginning of 2011, ice had reached the head of Loowit Creek and was close to the head of Step Creek.

While nearly all glaciers in the Cascades have been shrinking, Crater Glacier has grown owing to a unique set of circumstances. As ice advances out of the crater breach and to lower elevations, the melt rate will increase and eventually balance snow accumulation. In the meantime, come to Johnston Ridge Observatory and have a ringside seat for one of the greatest shows on Earth.

We Invite You to Explore and Help Protect One of Nature's Youngest and Most Dynamic Landscapes

The Mount St. Helens National Volcanic Monument was established by Congress in 1982 to protect natural features and processes and provide access for recreation, research and education. The monument has become an internationally renowned laboratory for the study of earth processes and ecosystem recovery following large-scale disturbance. The quality and duration of data collected here since the 1980 eruption is unparalleled and the volcano continues to attract scientists, teachers and students from around the world.

As you explore, look for evidence of the 1980 eruption and observe plants and animals that are thriving in a forest shattered by volcanic eruption.

As you enjoy the wonder of nature's recovery, please help us protect life's fragile foothold. Stay on developed roads, viewpoints and trails and have a very safe and enjoyable visit.



PLANNING YOUR VISIT



Climbers on the south crater rim with Mt. Adams in the distance.
(South side, Forest Road 83)

Climbing Mount St. Helens

Climbing permits are required for travel above 4,800 feet (tree line) year round. Between April 1st and October 31st a fee of \$22 is charged for each permit. Starting February 1st, permits are sold in advance, online, through the Mount St. Helens Institute at www.mshinstitute.org, on a first-come-first-served basis. Climbers should be aware that in rare instances rock and ash from small explosive eruptions can reach the crater rim. Visit the climbing website for detailed information about volcanic hazards, safety equipment and how to purchase a climbing permit on-line: www.fs.usda.gov/goto/climbingmsh.

Mount Margaret Backcountry

Trails in the Mount Margaret Backcountry climb over 2,000 feet in elevation and may be snow-covered until mid-summer. Eight designated campsites are available at four lakes and four ridge top locations, some with crater views. Backcountry permits are required for overnight camping. They are available by advance reservation only, either by mail or in person, at Monument Headquarters in Amboy, at Johnston Ridge Observatory and at the Cowlitz Valley Ranger Station. Camping is limited to designated campsites only (maximum of four people per campsite). Pets, pack stock and fires are prohibited.

For current updates and permit information please visit: www.fs.usda.gov/goto/backcountry.



A backpacker looks north into the Mount Margaret Backcountry.

Berries, Mushrooms and Other Special Forest Products

Edible berries, mushrooms, firewood, bear grass and other vegetative resources are termed Special Forest Products (SFP). To allow natural recovery and ecological processes, SFP's may not be removed from within the Mount St. Helens National Volcanic Monument. Check with your nearest Forest Service office for permits and locations in the surrounding national forest where SFP's may be removed.

School Groups

Teachers, registration for field trips is online, easy, and is required! Our website will help prepare you and your students for your visit to Mount St. Helens. You will find online registration forms, suggested itineraries, downloadable lesson plans and descriptions of ranger-led programs. Also included are descriptions of our sites, driving times, maps and directions. www.fs.usda.gov/goto/teacherscorner.

Your Fees Help Support the Monument

Interpretive services and facilities on the west side of Mount St. Helens are supported by your purchase of a Monument Pass. Passes are \$8 per adult (youth 15 and younger are free). Passes are required at the Johnston Ridge Observatory and adjacent trails. Monument Passes can be purchased at Johnston Ridge Observatory. On the northeast and south sides of the monument a National Forest Recreation Pass is required at designated sites. The cost is \$5 per vehicle per day. Annual passes are \$30. Passes are sold at Forest Service offices and at self-service pay stations around the monument. Details at:

- www.fs.usda.gov/goto/msh/monumentpass
- www.fs.usda.gov/goto/msh/passespermits

Purchase Your Interagency Annual Pass at Mount St. Helens and Help Support Your National Volcanic Monument

Fees from pass sales are used to provide the services and facilities that you enjoy during your visit. An Interagency Annual Pass is available for \$80 and has two signature lines. At per person fee sites it admits the pass holder and up to three additional visitors. Interagency Annual, Senior, and Access passes are available at monument and Forest Service offices. The passes are honored nationwide at Forest Service, National Park Service, BLM, Bureau of Reclamation, and US Fish & Wildlife Service sites charging entrance or standard amenity fees. Information about the interagency annual pass program is available at:

- www.fs.usda.gov/goto/msh/passespermits

The U.S. Forest Service is an equal opportunity provider and employer.

Contact Information

Emergency (Police, Medical, and Fire) Dial 911

Forest Service Offices

Mount St. Helens National Volcanic Monument and District (Amboy) (360) 449-7800
www.fs.usda.gov/mountsthelens

Johnston Ridge Observatory (360) 274-2140

Cowlitz Valley Ranger Station (Randle) (360) 497-1100

Gifford Pinchot National Forest Headquarters (Vancouver) (360) 891-5000
www.fs.usda.gov/giffordpinchot

Mt. Adams Ranger Station (Trout Lake) (509) 395-3400

Other Resources

Mount St. Helens Visitor Center at Silver Lake (360) 274-0962
<http://parks.wa.gov/interp/mountsthelens/>

Climber's Register (at Lone Fir Resort, Cougar) (360) 238-5210

National Recreation Reservations (Federal Campgrounds) (877) 444-6777
www.recreation.gov

PacifiCorp (campgrounds at reservoirs south of Mount St. Helens) (503) 813-6666
(see Recreation, Washington) www.pacificorp.com

Washington State Parks (360) 902-8844
www.parks.wa.gov/parks

Mount St. Helens Institute (360) 449-7883
www.mshinstitute.org

Discover Your Northwest (360) 891-5214
www.discovernw.org

Mount St. Helens Forest Learning Center (360) 414-3439
www.weyerhaeuser.com/sthelens

Washington State Tourism (800) 544-1800
www.experiencewashington.com

School Group Registration and Information www.fs.usda.gov/goto/teacherscorner

HIKING AND CAMPING NEAR MOUNT ST. HELENS



Crater and valley north of the volcano as seen from the Boundary Trail east of the Johnston Ridge Observatory.

West side (State Route 504)	Round Trip	Elevation Change	Description
Birth of a Lake Trail #246 (E) SR504, Trailhead is located at Coldwater Lake Picnic Area.	0.6 miles	2490 feet to 2475 feet	Paved trail explores 1980 landslide deposit and developing life in a lake that was dammed-up by the 1980 eruption.
Eruption Trail #201 (E) Trailhead is located at Johnston Ridge Observatory viewing plaza.	1 mile	4200 feet to 4300 feet	Paved trail explores 1980 eruption impact on ridge. View shattered trees and amazing crater and valley views.
Hummocks Trail #229 (M) SR504, Trailhead is ¼ mile south of turnoff to Coldwater Lake.	2.4 mile loop	2520 feet to 2400 feet	View hill-sized chunks of shattered volcano, ponds and river-carved canyon on 1980 landslide deposit.
Lakes Trail #211 to Coldwater Trail #230 (MD) SR504, Trailhead is located at Coldwater Lake Boat Launch.	9.0 miles	2700 feet to 5200 feet	Explore blowdown and developing forest. At 4 miles, end of lake makes a good turn around point. Continue ½ mile to junction with Coldwater Trail 230.

East side (Forest Road 99)	Round Trip	Elevation Change	Description
Meta Lake Trail #210 (E) Forest Road 99, 0.1 miles west of junction of Road 99 with Road 26.	0.6 mile	3620 feet to 3640 feet	Paved trail explores blowdown forest and sparkling lake. View forest that survived eruption under thick snowpack.
Independence Pass Trail #227 (M) Forest Road 99, 1½ miles south of Cascade Peaks.	0.5 mile	4040 feet to 4680 feet	Trail climbs (¼ mile) to ridge top view of Mount St. Helens, Spirit Lake, and the blown down forest.
Windy Ridge Sand Ladder (M) North end of the Windy Ridge Viewpoint Parking Lot.	0.5 mile	4070 feet to 4270 feet	Climb 368 steps to hilltop view of Spirit Lake and crater. Use caution as loose pumice can make for unstable footing.
Harmony Trail #224 (MD) Forest Road 99, 2½ miles north of Windy Ridge Viewpoint. Off-trail travel, pets and bikes are prohibited.	2 miles	4100 feet to 3400 feet	Trail descends steeply to Spirit Lake (this is only trail to shoreline). View the effects of lateral blast and “tidal” wave formed as landslide slammed into lake.
Truman Trail #207 and Willow Springs Trail #207A (MD) Forest Road 99, trailhead at south end of Windy Ridge parking lot. Off-trail travel, pets and bicycles prohibited.	11 miles	4200 feet to 3600 feet	Trail follows old road into Spirit Lake basin. Wooden posts mark path across boulder-filled floodplain. Willow Springs Trail (0.8 mile) connects with Loowit Trail 216 and other loop opportunities.



Sand ladder stairway at Windy Ridge Viewpoint. Barren gray area visible along trail is result of damage from off-trail travel.



Visitors can crawl through the cast of an ancient tree at Trail of Two Forests.

South side (Forest Road 83)	Round Trip	Elevation Change	Description
Trail of Two Forests #233 (E) Forest Road 8303, ½ mile E of Ape Cave.	0.25 mile	1860 feet to 1885 feet	Boardwalk guides you across 1,900 year old lava flow and tree casts that record an ancient forest consumed by lava.
June Lake Trail #216B (M) Forest Road 83, trailhead is 7 miles north of junction with Forest Road 90.	3.2 miles	2700 feet to 3400 feet	Trail climbs along rushing stream before reaching lake nested between basalt cliff and 1,900 year old lava flow. Lake offers ideal lunch stop before continuing ¼ mile to junction with Loowit Trail 216.

Campgrounds	# sites	\$ Fee	⚖	♿	🏠	🛖	🏕	🚰	🚻	🚰
Highway 503 & FR 90										
Cresap Bay *	73	yes for all sites	20	●	●	●	●	●	●	●
Cougar	60			●	●	●	●	●	●	●
Beaver Bay *	78		5	●	●	●	●	●	●	●
Swift	93		6		●	●		●	●	●
Lower Falls	42		4	●		●			●	●
Lewis River Horse Camp	9			●					●	
Forest Road 81										
Kalama Horse Camp	17	yes	2	●					●	
Merrill Lake	7	yes	6		●	●		●		●
Forest Road 25										
Iron Creek **	98	yes	12	●		●			●	●
Forest Road 23										
Tower Rock **	22	yes								●
State Route 504										
Sequest State Park***	90	yes	many	●			●		●	●

* Reservations are required: Call (503) 813-6666. ** Reservations are accepted: Call (877) 444-6777.
*** Reservations are accepted: Call (888) 226-7688.

KEY:

(E)=EASIEST
Users require limited skill and encounter few challenges.

(M) = MORE DIFFICULT
Users require some skill and experience more challenging terrain.

(MD) = MOST DIFFICULT
Users require a high degree of skill and experience.

Plants grow by the inch,
and die by the foot...
Please stay on the trail.



The landslide released trapped magma and gas, producing a sideways explosion (**lateral blast**) of hot rock and ash killing trees up to 17 miles north of the volcano.

EXPLORE THE THREE SIDES OF MOUNT ST. HELENS

Westside: State Route 504

Mount St. Helens Visitor Center at Silver Lake



T. Linch

Located 5 miles east of Interstate 5, the center offers exhibits on the 1980 eruption and area history, ranger talks, walk-through model volcano, movie, bookstore and wetland boardwalk trail. The center is operated year round by Washington State Parks and has a \$5 per adult, \$2.50 per youth (7-17 years) (0-6 years old are free), and \$15 per family (2 adults plus children 7-17 years old) admission fee. Open daily 9:00 a.m. to 5:00 p.m., from May 1 to September 30, 2011. Call ahead for winter hours (360) 274-0962.

Johnston Ridge Observatory

View the lava dome and growing glacier from a visitor center overlooking the crater and learn how the landscape was reshaped by the 1980 eruption. The center offers: live seismographs, geologic exhibits, 16-minute movie, ranger-talks, and bookstore. Open from 10:00 a.m. to 6:00 p.m.; mid-May through October (closed in winter). Pets are not allowed at viewpoints or on trails. A Monument Pass (wrist band) is required and available here.



Coldwater Lake Recreation Area



Visit a lake that was formed when water backed up behind a natural dam created by a massive landslide during the 1980 eruption. Coldwater Lake offers restrooms, public telephone, picnic area, paved interpretive trail and boat launch (electric motors only). Fishing requires a WA state license. Access is via small boat, float tube, and at two designated water access points along the Lakes Trail.

Northeast Side: Forest Road 99

Blown-Down Forest and Spirit Lake Viewpoints

Experience the full impact of the 1980 lateral blast and years of natural recovery as you drive through miles of standing-dead and blown-down forests. View Spirit Lake and the immense floating log mat that is slowly sinking to the lake bottom. Forest Road 99 is generally accessible after snow melts (late June through October; closed in winter) and offers viewpoints, trails, and a gift shop/bookstore. Park Rangers provide engaging talks at Windy Ridge and other viewpoints as well as guided hikes at Meta Lake seven days a week during July and August. A Northwest Forest Pass is required for each vehicle; see page 7 for purchase locations.



Jim Hughes, USFS

Southside: Forest Road 83

Ape Cave, Trail of Two Forests, and Lava Canyon

Ape Cave, the third longest lava tube in North America, has moderate to difficult terrain, a constant 42 degree F temperature and is open for self-guided exploration year-round; although often inaccessible by car during winter months. Warm clothes, sturdy shoes and at least two light sources per person are recommended. Pets are not allowed in the cave. From late June until early September lantern rentals, a bookstore and Ranger guided cave tours are available. **Due to the spread of white-nose syndrome in bats, do not use equipment or clothing in western caves that has been used in caves east of the Mississippi River.**



Pat Leeson

Lower section of Ape Cave lava tube.

Visit the Trail of Two Forests and follow the boardwalk across a 1,900 year old lava flow that consumed an ancient forest leaving casts of old growth trees in its path.

The Lava Canyon Trail explores an area scoured by mudflows during the May 18th eruption. The trail begins as a paved, barrier free trail and quickly changes to a more challenging trail including a 1.4 mile loop with an exciting suspension bridge. DANGER – Stay on this trail. Lava Canyon has steep drops and big waterfalls. People that left the trail were swept over the falls to their deaths.

A Northwest Forest Pass is required for each vehicle; see page 7 for purchase locations.

Driving Times (Hours: Minutes)	Ape Cave	Lava Canyon	Pine Creek Information Station	Windy Ridge	Randle	Mount St. Helens Visitor Center	Coldwater Lake Recreation Area	Johnston Ridge Observatory
Ape Cave	N/A	0:15	0:30	1:45	1:45	1:30	2:30	2:45
Lava Canyon	0:15	N/A	0:45	2:00	2:00	1:45	2:45	3:00
Pine Creek Infor- mation Station	0:30	0:45	N/A	1:15	1:15	1:45	2:45	3:00
Windy Ridge	1:45	2:00	1:15	N/A	1:15	2:45	3:45	4:00
Randle	1:45	2:00	1:15	1:15	N/A	1:30	2:30	2:45
Mount St. Helens Visitor Center	1:30	1:45	1:45	2:45	1:30	N/A	1:00	1:15
Coldwater Lake Recreation Area	2:30	2:45	2:45	3:45	2:30	1:00	N/A	0:15
Johnston Ridge Observatory	2:45	3:00	3:00	4:00	2:45	1:15	0:15	N/A
Portland/ Vancouver	1:30	1:45	1:45	3:00	2:30	1:15	2:15	2:30
Seattle	3:30	3:45	3:45	3:45	2:30	2:00	3:00	3:15
Carson	1:30	1:45	1:00	2:15	2:15	2:45	3:45	4:00
Woodland	1:00	1:45	1:15	2:30	2:30	0:45	1:45	2:00
Mt. Rainier National Park	2:45	2:45	2:15	2:15	1:00	2:30	3:30	3:45

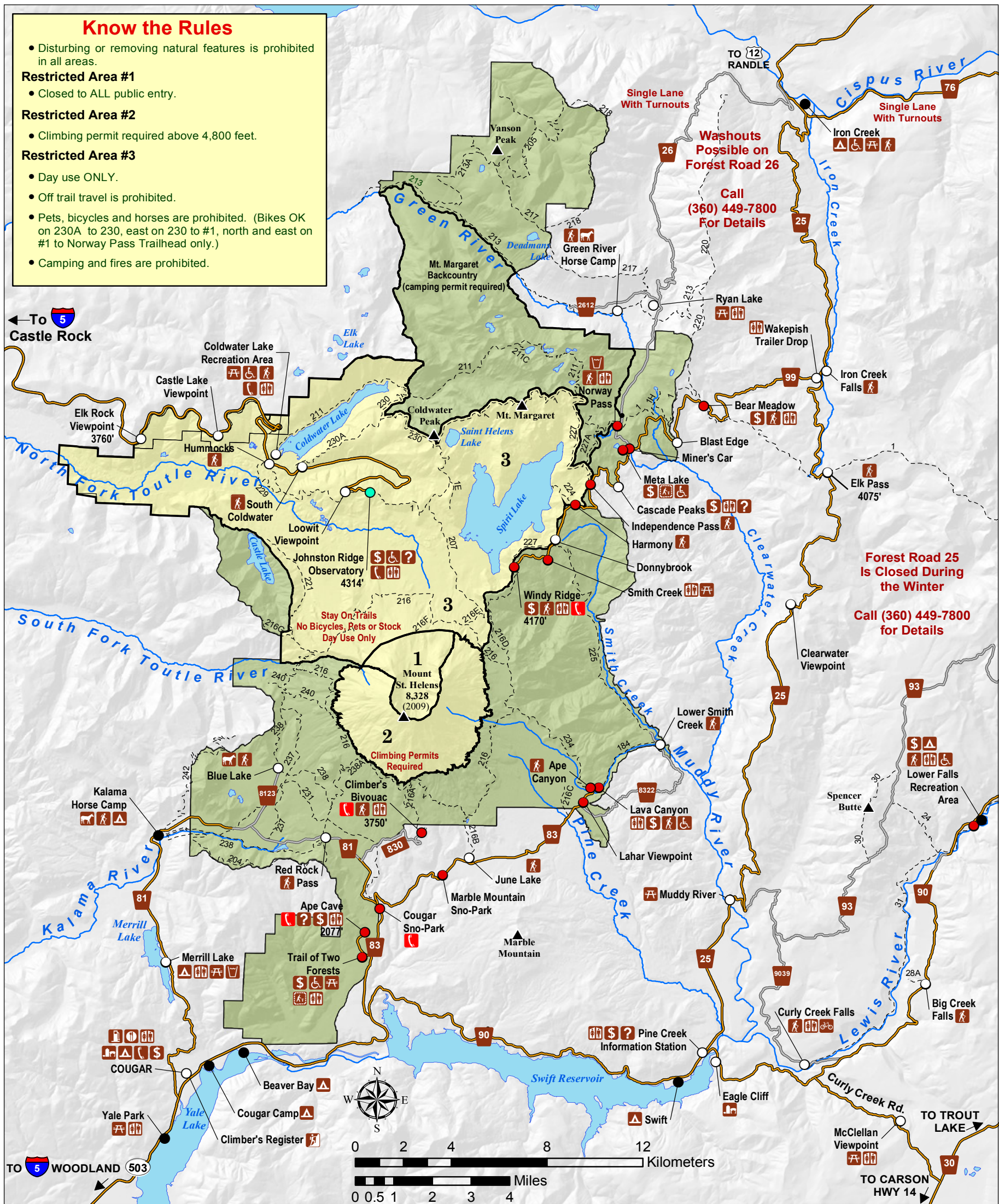


MOUNT ST. HELENS NATIONAL VOLCANIC MONUMENT



Know the Rules

- Disturbing or removing natural features is prohibited in all areas.
- Restricted Area #1**
- Closed to ALL public entry.
- Restricted Area #2**
- Climbing permit required above 4,800 feet.
- Restricted Area #3**
- Day use ONLY.
 - Off trail travel is prohibited.
 - Pets, bicycles and horses are prohibited. (Bikes OK on 230A to 230, east on 230 to #1, north and east on #1 to Norway Pass Trailhead only.)
 - Camping and fires are prohibited.



For updated information:
<http://www.fs.usda.gov/mountstheleens>
or call (360) 449-7800

Elevations are in feet

- | | | | | |
|---------------------------------------------|--------------|--------------------|------------|------------------------|
| Mount St. Helens National Volcanic Monument | Information | Trail Access | Restrooms | Fuel |
| Restricted Area | Passes Sold | Picnic Area | Water | General Store |
| Restricted Area Boundary | Barrier Free | Interpretive Trail | Food | Emergency Call Box |
| Free Use Site | Campground | Telephone | Horse Area | Trail |
| Recreation Day Pass Required | | | | |
| Monument Pass Required | | | | |
| Campground with Fee | | | | |
| | | | Paved Road | Unimproved/Gravel Road |

Cement-like slurries of glacial melt water and boulders called **lahars** scoured and buried streams draining the volcano.



MOUNT ST. HELENS VICINITY

