



VOLCANO REVIEW Summer 2011

www.VolcanicLegacyByway.org

Volcanic Legacy Community Partnership

101 E. Alma St. Ste 100-I
P.O. Box 832,
Mt. Shasta, CA 96067
1-530-926-5439
1-866-722-9929
info@volcaniclegacybyway.org



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What is the Volcanic Legacy Scenic Byway?

The Volcanic Legacy Scenic Byway is a distinctive American journey brimming with tales and treasured places. Spanning from Lake Almanor in Northern California to Crater Lake in Oregon, this volcano to volcano drive reaches over seven national forests in just 500 miles. A destination unto itself, the numerous natural, scenic, cultural, and historical attributes of national significance have earned this scenic byway the All-American Road status.

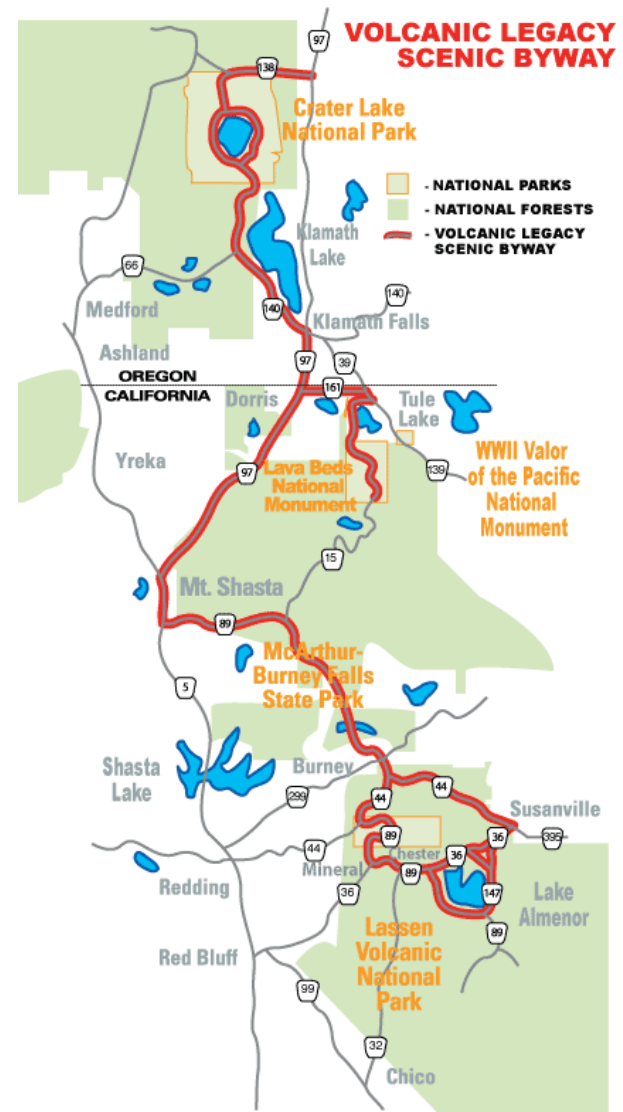
Some of the crown jewels of the Scenic Byway have been shaped by a long history of fire and ice where geologic wonders remain as peaks, valleys, and underground conduits today. Lassen Peak, Mount Shasta, the Medicine Lake Shield Volcano, and Crater Lake make their home as the southern portion of the Cascade Range.

Whereas Lassen Peak is the most active volcano within this range--erupting as recently as 1915--Mt. Shasta is the second highest volcano, towering at 14,162 feet, after Mt. Rainier. The Medicine Lake shield volcano, affectionately known as "the sleeping giant", is low and broad and the largest volcano in the Cascade Range. Crater Lake formerly stood as Mount Mazama before its "soufflé-like" collapse, and is now considered the deepest lake in the country and the seventh deepest lake in the world. These geologic pillars are just a few of the highlights that anchor a world of scenic beauty, outdoor recreation, wildlife, and history.

In and around these volcanoes are a kingdom of outdoor recreation amidst the waterfalls, lakes, rivers, wildlife, trees and flowers. From hiking, backpacking, fishing, bicycling, rafting, golfing and tennis in the fair weather months to a

plethora of winter activities such as skiing, sled-dogging, snowmobiling, ice skating, dog-sled rides, and birding in the winter time, there is something for everyone in every season.

The **Volcanic Legacy Community Partnership** is the non-profit entity whose goal is to highlight the Volcanic Legacy Scenic Byway. For a free map and brochure, call 1-866-722-9929 or email info@volcaniclegacybyway.org



"The Volcanic Legacy Scenic Byway Experience—A two-state, five-hundred mile journey through the Pacific Northwest."

VOLCANO REVIEW Events along the Scenic Byway

Sun-Mon May 29-30--Memorial Weekend Craft Fair—Downtown. Call Roy White at 530-585-2430.
Chester, CA

Sun May 29--Sculpture Garden Service-
2pm. The Living Memorial Sculpture Garden.
Call 530-938-2218 for details.
<http://www.weedlmsg.org/>
Weed, CA



June

Sun June 5--McCloud Flea Market
The largest flea market in Siskiyou County. Downtown McCloud. Call McCloud Chamber 530-964-3113
McCloud, CA

Fri-Sun June 10-12--Railroad Days
Call Dunsmuir Chamber 530-235-2177
www.dunsmuir.com
Dunsmuir, CA

Sat June 18--29th Annual Mile High
Start & Finish location for all 3 levels of bike rides at Chester Park. Call Christine Bradley at 530-258-2426.
www.milehigh100.com
Chester, CA

Sat June 25--21st Annual Tribute to the Trees
Classical music concert/fundraiser for Dunsmuir Botanical Gardens. Dunsmuir Recreation District at (530) 235-4740 or (530) 235-2177.
www.dunsmuirbotanicalgardens.org/treesconcert.html
Dunsmuir, CA

Thur-Sun June 30-July 4--Independence Day Celebration—Downtown. Burney Chamber at (530) 335-2111
www.burneychamber.com/calendar.html
Burney, CA

July

Sat-Sun July 2--Paul Bunyan Blues Festival
Westwood Chamber 530-256-2456.
Westwood, CA

Sat-Mon July 2-4--Independence Day Celebration—Downtown. Call 1-800-926-4865 for details.
www.mtshastachamber.com
Mt. Shasta, CA

Mon July 4--30th Annual Fourth of July Craft Fair
Call Carol or Rita with the Lions Club at 530-259-4257 or 530-259-5851.
Chester, CA

Thur-Sun, July 7-10-- 57 Annual Weed Carnevale Bel Air Park. Call Weed Chamber at 530-938-4624.
www.weedchamber.com
Weed, CA

Sat July 30--Shasta Yama Festival
Japanese drum/music event.
www.shastayama.org
Mt. Shasta, CA

August

Sat August 6, Fall River Valley Wild Rice Festival
530-336-7362
Fall River Mills, CA

Sun August 7--Summit Century Bike Ride
www.shastasummitcentury.com
Mt. Shasta, CA

Sat Aug 27--Rollin' Weed Show and Shine
Call the Weed Chamber. 530-938-4624 downtown
<http://www.weedchamber.com/events.php>
Weed, CA



September

Thurs-Sun Sept 8-11, 2010--Tulelake-Butte Valley Fair
Call 530) 667-5312
www.tbvfair.com/
Tulelake, CA

October

Sun, October 10--Heritage Days-12-4pm,
McArthur-Burney Falls Memorial State Park
530-335-2777
www.parks.ca.gov/
Burney, CA

Sat-Sun, Oct 8-9--Bizz Johnson Trail Rails to Trails Festival, Hand Car Races, and Marathon
<http://bizzjohnsontrail.com/>
http://www.coastaltrailruns.com/bizz_johnson.html
Susanville CA

Our Parks

Our Parks and Wildlife Refuges preserve history, natural beauty, and wildlife. With 4 National Parks, 2 State Parks, and many Wildlife Refuges, it is hard to know where to start first.

NATIONAL PARKS

Lassen Volcanic National Park
Mineral, CA 96063
(530) 595-4480
www.nps.gov/lavo

Lava Beds National Monument
Tulelake, CA 9(530) 667-8100
www.nps.gov/labe

WWII Valor in the Pacific National Monument, Tule Lake Unit
Tulelake, CA (530)260-0537
www.nps.gov/tule

Crater Lake National Park
Crater Lake, Oregon (541)594-3000
www.nps.gov/crla



STATE PARKS

McArthur-Burney Falls Memorial State Park
Burney, CA 530-335-2777

Castle Crags State Park
Castella, CA 530-235-2684

US WILDLIFE REFUGES

Klamath Basin Nat. Wildlife Refuges
4009 Hill Road
Tulelake, CA 530-667-2231
www.fws.gov/klamathbasinrefuges/



VOLCANO REVIEW — Learn more about the Volcanoes on the Byway

FUNFACTS

Did you know all four types of volcanoes existing on planet earth can be found within the Volcanic Legacy?

A **strato-volcano or composite volcano** is typically a steep-sided, symmetrical cone of large dimension built of alternating layers of lava flows, volcanic ash, cinders, blocks, and bombs and may rise as much as 8,000 feet above their bases. Examples include **Mount Shasta**, in the Shasta-Trinity Forest and **Brokeoff Volcano** found in Lassen Volcanic National Park (LVNP). **Mount Mazama**, where Crater Lake now sits, is an example of a collapsed strato-volcano.

Shield volcanoes, in contrast, are more gently sloping and built almost entirely of fluid lava flow, resembling an inverted warrior's shield. The Lava Beds National Monument sits on the Northern portion of the **Medicine Lake Shield Volcano**. **Prospect Peak** is another example found at LVNP

A **cinder cone**, the simplest type of volcano, is a steep-sided volcano formed by the explosive eruption of cinders that form around a vent. Aply named, **Cinder Cone** a fairly young volcano found at LVNP.

A **plug dome** is a steep-sided, rounded mound formed when viscous lava wells up into a crater and is too stiff to flow away. It piles up as a dome-shaped mass, often completely filling the vent from which it emerged. **Black Butte**—often mistaken for Mt. Shasta on cloudy days—and Lassen Peak are examples of this type.

VOLCANO GLOSSARY

Volcano: A vent (opening) in the surface of the Earth through which magma erupts; it is also the landform that is constructed by the erupted material.

Magma: Molten rock containing liquids, crystals, and dissolved gases that forms within the upper part of the Earth's mantle and crust.

Lava: The term used for magma once it has erupted onto the Earth's surface. Molten rock that erupts from a vent or fissure.

Caldera: A large, usually circular depression at the summit of a volcano formed when magma is withdrawn or erupted from a shallow underground magma reservoir. The removal of large volumes of magma may result in loss of structural support for the overlying rock, thereby leading to collapse of the ground and formation of a large depression. Crater Lake is a caldera that filled up with water.

Lava Tubes: During long-lived eruptions, lava flows tend to become "channeled" into a few main streams. Overflows of lava from these streams solidify quickly and plaster on to the channel walls, building natural *levees* or *ramparts* that allow the level of the lava to be raised. Complex lava tubes can be found at Lava Beds National Monument and in the Hat Creek area such as Subway Cave.

Source: USGS

An Interview with Geologist Dr. William Hirt

Most of the volcanoes are currently dormant on the Volcanic Legacy Scenic Byway. Do you have any idea when any of them could erupt? Potentially, any of the young High Cascade volcanoes in this region (Lassen Volcanic Center, Mount Shasta, Medicine Lake volcano, Mount Mazama) could begin to erupt at any time. Based on the number of eruptions that each has produced during the past 4,000 years, however, Mount Shasta and the Medicine Lake volcano are probably more likely than the others to erupt in the not too distant future (hundreds to thousands of years).

How do earthquakes act as a precursor to volcanic eruptions?

As magma (partially molten rock) and the gas it releases rise through the brittle upper crust they exert pressure on

the surrounding rocks. When this pressure exceeds the strengths of the rocks they fracture and the resulting shock waves are detected as earthquakes. We know that magma can sometimes push crustal rocks aside without fracturing them, however, as it has done when it formed the "bulge" that has risen near South Sister in Oregon. Although earthquakes are one way to detect magma moving into the upper crust, we use them in conjunction with other measurements (ground uplift, gas release, hot spring temperatures) to try to figure out whether magma will reach the surface and erupt or not.

Can you explain why Mt. Shasta's glaciers are growing, when most around the world are declining?

Two things cause glaciers to grow: cool temperatures and abundant snowfall. Work by Ian Howat and his colleagues at

U.C. Santa Cruz shows that as Earth gets warmer both temperature and precipitation increase in the Mount Shasta area. Higher temperatures cause more ice to melt in the summer, but they also warm the Pacific Ocean and cause more precipitation (rain and snowfall) in the winter. Right now, the increase in snowfall is building Mount Shasta's glaciers faster than the increase in temperature can melt them and so the glaciers are growing. In the Sierra Nevada, however, temperature is already the dominant factor and glaciers there are shrinking. Howat's work suggests that in several decades temperature will become the dominant factor in the Mount Shasta region as well. When that happens, the mountain's glaciers will also begin to shrink.

An Interview conducted between Allison Scull and Geologist, Dr. William Hirt, College of the Siskiyous Professor — Published in the Jefferson Monthly, June 2009 as part of a cover story entitled "A Brief History of Fire and Ice along the Volcanic Legacy Scenic Byway"

VOLCANO REVIEW: Visitor Resources National Forests, Chambers and Visitors' Bureaus

OUR NATIONAL FORESTS

Fremont-Winema National Forests

Headquarters

1301 South G Street
Lakeview, OR 97630

(541)947-2151

TDD 1-800-445-6728

www.fs.fed.us/r6/frewin/

Klamath National Forest

Supervisor's office

1312 Fairlane Road

Yreka, CA 96097-9549

(530) 842-6131

TDD 530- 841-4573

klamathinfo@fs.fed.us

www.fs.fed.us/r5/klamath

Lassen National Forest

Supervisor's Office

2550 Riverside Drive

Susanville, CA 96130

(530) 257-2151

TDD (530) 257-6244

www.fs.fed.us/r5/lassen

Modoc National Forest

800 West 12th Street

Alturas, CA 96101

(530) 233-5811

TDD (530) 233-8708

www.fs.fed.us/r5/modoc

Plumas National Forest

Supervisor's Office

159 Lawrence Street

PO Box 11500

Quincy, CA 95971-6025

Tel: (530) 283-2050

Fax: (530) 283-7746

TDD 1-888-822-3119

www.fs.fed.us/r5/plumas

Shasta-Trinity National Forest

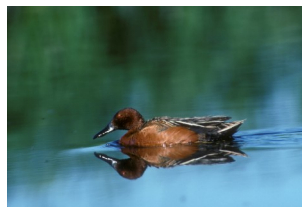
3644 Avtech Parkway

Redding, CA 96002

(530) 226-2500

TDD (530) 226-2490

www.fs.fed.us/r5/shastatrinity



CURRENT ROAD CONDITIONS

Northern California

Cal-Trans

1-800-427-7623

www.dot.ca.gov/cgi-bin/roads.cgi



Southern Oregon:

Oregon Department of

Transportation

503-588-2941

www.tripcheck.com

CHAMBERS OF COMMERCE & VISITORS' BUREAUS

listed from the southern entrance of the Volcanic Legacy from Northern California to Southern Oregon

In Northern California:

Lake Almanor Area

Chamber of Commerce

529 Main Street

Chester, CA 96020

1-800-350-4838 (530)258-2426

www.lakealmanorarea.com

Plumas County Visitors' Center

550 Crescent St. Quincy, CA 95971

1-800-326-2247 (530)283-6345

www.plumascounty.org

Lassen County

Chamber of Commerce

75 N. Weatherlow

Susanville, CA 96130

(530) 257-4323

www.lassencountychamber.org

Westwood Area

Chamber of Commerce

PO Box 1247

Westwood, CA 96137

(530) 256-2456

www.westwoodareachamber.com

Burney Chamber of Commerce

36879 Main Street

Burney, CA 96013 (530)335-2111

www.burneychamber.com

Mt. Shasta Chamber of Commerce and Visitors' Bureau

300 Pine St. , Mt. Shasta, CA 96067

1-800-926-4865 (530)926-4865

www.mtshastachamber.com

McCloud Chamber of Commerce

McCloud, CA 96057

{530} 964-3113

www.mccloudchamber.com

Dunsmuir Chamber of Commerce and Visitors' Center

5915 Dunsmuir Ave,

Dunsmuir, CA 96025

1-800-dunsmuir (530)235-2177

www.dunsmuir.com

Weed Chamber of Commerce

34 Main St., Weed, CA 96094

1-877-938-4624 (530)938-4624

www.weedchamber.com

Butte Valley

Chamber of Commerce

Dorris, CA 96023

(530)397-2111

www.buttevalleychamber.com

Tulelake Chamber of Commerce

Serving Tulelake, Klamath Basin,

Lava Beds Nat'l Monument, and

Medicine Lake

800 S. Main St., Tulelake, CA 96134

www.tulelakecalifornia.org

Shasta-Cascade Wonderland

Serving Northern California at large

1699 Hwy 273, Anderson, CA 96007

www.shastacascade.com

1-800-474-2782

In Southern Oregon:

Discover Klamath

Serving the Southern Oregon area

surrounding Crater Lake and

Klamath Falls.

205 Riverside Drive

Klamath Falls, OR

1-800-445-6728

www.discoverklamath.com

