

Lava Cast Forest Walk Through Time

landscape and causes abrupt adaptation in the life styles of plants, animals, and people in the area. Sculpturing processes by wind, water, and temperature variations create gradual change over a long period of time. Natural reclamation of a lava flow area can be recognized only after much time has elapsed. Lava Cast Forest reveals natural processes at work to redeem land ravaged by a more violent natural force.

As you walk the approximately one-mile trail through Lava Cast Forest, observe resurgence of various plant species recapturing their existence on the rugged but beautiful lava flow. Portions of three distinct flows, identified as the Lava Cast Forest Flow, the Cascade Flow, and the Forest Road Flow, lie within the Lava Cast Forest Geologic Area. These flows occurred during an eruptive phase along the Northwest Rift Zone.

Had you been standing on this spot about 6,000 years ago at the time of eruption, the scene would certainly not have been as calm and quiet as you see it now. Shut your eyes and imagine standing on this spot during an eruptive "happening." Hot air and the strong scent of sulphur (which smells like rotten eggs) inhibit breathing ability. Hear the sound of lava surging to the surface and the crackling sounds of trees being snapped off, pushed along, or burned up as the lava engulfs everything in its path. Open your eyes. Envision a sea of lava working its way through the forest, trees being pulled along with the currents or splinters starting as hot, molten lava touches flammable material.



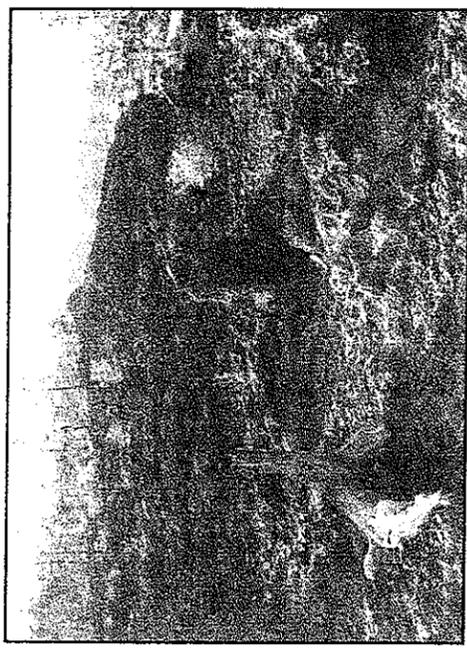
A Lava Landscape
Photo by Chris Sabo

The lava trees and tree molds you are about to see are irreplaceable. Please help to preserve and protect them for others to enjoy. Take only pictures and leave only footprints in this Lava Cast Forest Geologic Area.

Multiple Molds
Photo by Chris Sabo

You are welcome to keep the trail guide as a reference and memento of your visit. If you do not wish to take it with you, please return it to the receptacle at the end of the trail so that it may be recycled.

Enjoy your walk through this enchanting landscape.



TRAIL ACCESSIBILITY: For most of its mile-long distance, Lava Cast Forest Interpretive Trail is quite flat. Physically challenged individuals, however, need to be aware of hairpin turns located on ascending and descending slopes toward the end of the trail.

Getting Acquainted

Welcome to Lava Cast Forest. Enter a fascinating living museum of volcanic landscapes. Lava Cast Forest Geologic Area, established in 1942 by USDA Forest Service, envelops an area of approximately five square miles. The ecosystem consists of ponderosa and lodgepole pines, white fir, shrubs, and grasses. Even before the volcanic activity which produced the Lava Cast Forest over 6,000 years ago, this land looked very similar to what you see today. Newberry Volcano, located to the south and east, erupted along a series of fissures on its northwest flank, sending smooth-textured pahoehoe lava onto the surface through many vents located along the fissures. Lava surged through the ancient forest, engulfing everything it encountered.

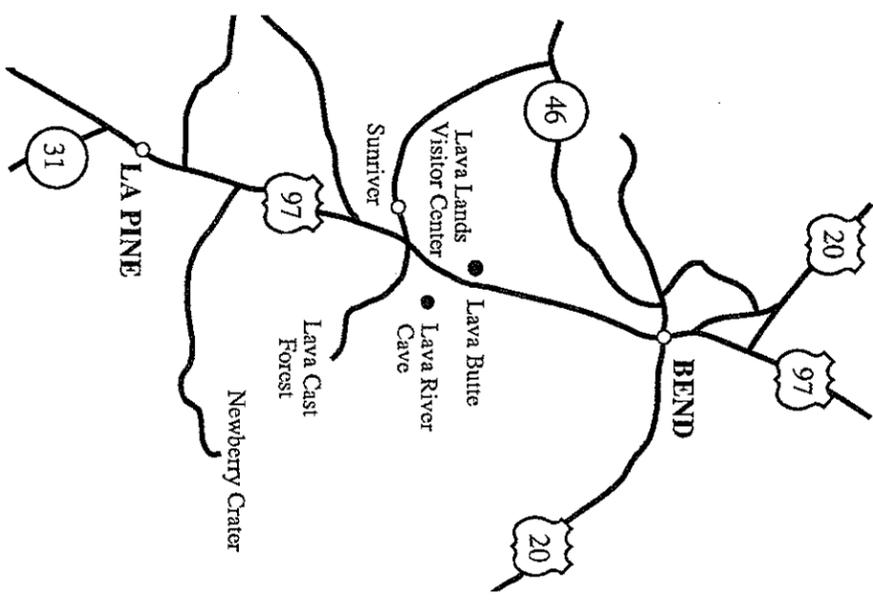
Get a first-hand look at nature's ongoing struggle of reclamation by walking the one-mile trail. Discover a new dimension in our earth's volcanic history. Open your trail guide to the inside trail map and interpretive information about specific geologic features along the trail. The numbered sections of your trail guide correspond to stakes marking some of the more extraordinary volcanic features found in Lava Cast Forest. Walking time is about 45 minutes for most people. Skateboards, bicycles, etc., are not permitted on the trail. For your convenience, benches are strategically placed beside the trail.

Behind the Scenes

For millions of years, Central Oregon has been the scene of abundant volcanic activity. Strong forces, tremendous pressures, and the movement of tectonic plates beneath the earth's surface have created cracks and lines of weakness in subsurface rock. Magma stored in underground reservoirs could then gradually work its way toward the surface, forcing apart or melting subsurface rock on its journey upward. On the surface, visible proof of this action is manifested in fissures and vents occurring along areas of weakness in the earth's crust. When pressures become too great and resistance can no longer be maintained, magma is vented onto the surface to become part of today's landscape. The landforms you see as you travel around Central Oregon are of volcanic origin. The ash you walk on, the magnificent peaks of the Cascades seen in the distance, the interior of a lava tube, and the more than 400 cinder cones on Deschutes National Forest—all have had a common beginning as hot magma under the earth's surface.

Newberry Volcano has been one of the most prolific sites of volcanic activity. Hundreds of vents are located on its sloping sides and several series of fissures lead in different directions away from the central part of the mountain. A prominent one is known as the Northwest Rift Zone. Lava Cast Forest and Lava Butte formed along this system of fissures and each of the 400-plus cinder cones associated with the volcano is situated along one of these lines of weakness.

Processes work changes in the appearance of Central Oregon's volcanic landscape today as they have done for centuries. Occasional eruptive activity occurs, the most recent having been the Big Obsidian Flow in the caldera of Newberry about 1300 years ago. Volcanic activity of course, creates an immediate visible alteration to the



cover photo by Chris Sabo

People Serving People

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Fissures-Lava Highways
Fissures containing a series of vents extend almost seven miles in a north-westerly direction. This line of weakness in the earth's crust originates at East Lake in the caldera of Newberry Volcano. At this trail stop, Newberry Volcano occupies the entire skyline. Fissures should not be confused with cooling cracks clearly visible from here.

Three-In-One
Three trees came from this single stump. The holes join at the base.

"Two"getherness
Proof that two trees once grew together remains in the half-molds. Generally, the open side faces downhill and indicates lava flow direction. The holes extend 10 to 15 feet under the lava into soil which once supported the vanished forest.

Ageless Wonders
Tree molds were formed as lava spilled through the pine forest, flowing against the upstream side of the tree trunks. Lava Cast Forest derives its name from the concentration of these features. A more accurate explanation, however, defines a cast as having filled a mold, while a mold is formed around an object such as a tree.

Lava Lake
Liquid pahoehoe lava poured out of a series of vents beyond the tree line. Supply exceeded drainage, and a large lake formed where you now stand. As the eruption subsided, downflow drainage occurred, decreasing lake depth to 10-15 feet.

A Lava Log
When lava surged through the stands of pine, some trees were pushed over by its force. Trees that were snapped off were carried away. Others remained, anchored by their roots. Horizontal molds show this feature.

A Sea of Lava
From this rock rim, notice an isolated forested island, or "kipuka," surrounded by an expansive sea of lava. The island contains a cluster of much older cinder cones completely encircled by the younger lava. Your rocky perch is a remnant of an even older lava flow.

Molten Momentum
During flood stage, the lava current moved a clump of trees to where you see the jumbled pattern in the mold behind stake #12. Lava, reheated by the burning trees, dribbled into the space between the original mold and charred wood. This pattern is often mistaken for bark impressions.

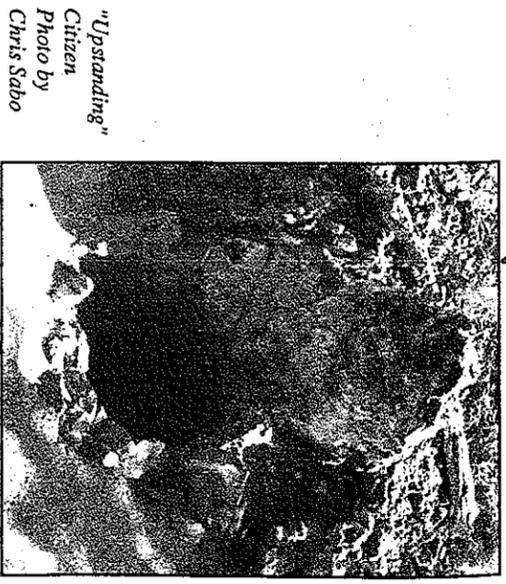


Treading Through Time
Photo by Chris Sabo

There's Life In Dead Trees
A downed tree has lost its struggle for survival. In death as in life, it is useful as a refuge, food, and "Animal Inn" to animals, birds, and insects. The wood gradually decays and assists in making new soil which will support a future forest.

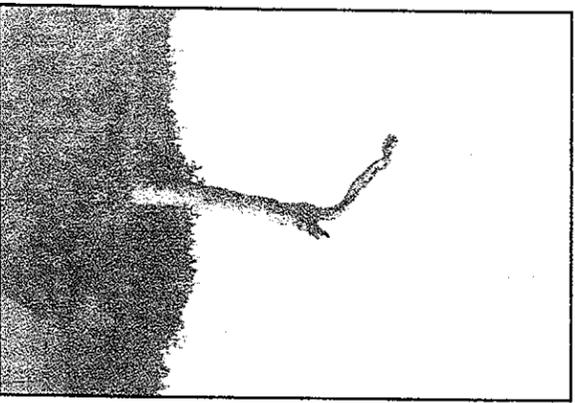
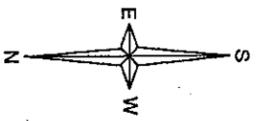
Struggle to Survive
Wild currant, rock penstemon, and Indian paintbrush are common residents of this arid climate. Visit Lava Cast Forest in early summer when the purple penstemon and red-orange paintbrush combine with the black rock to create a sight to stir the human spirit.

An Emerging Plant Community
Hot molten lava flowed through the pine forest, surrounding or covering most existing life in its path. Present plants, rooted in wind-deposited ash, demonstrate nature's ability to re-vegetate the lava flow area.



"Upstanding"
Citizen
Photo by
Chris Sabo

A Sentinel to Time
The large ponderosa pine before you is about 300 years old. Under ordinary living conditions, ponderosas can live 300-350 years. Compare size, height, and general appearance to those trees out on the flow. All trees are approximately the same age.



A Lonely Vigil
Photo by
Chris Sabo

Still Have Questions?

Good! Lava Lands Visitor Center, three miles north when you return to Highway 97, has professional staff to help you in your quest to further understand the volcanic landscape of central Oregon. Plan to spend time viewing video presentations and displays which show some of nature's most violent forces, as well as other fascinating phenomena in this area. While at the Center, walk a choice of two very distinctive trails, make your acquaintance with some native wildlife, or enjoy a picnic. You may want to drive up to the top of 500-foot Lava Butte for a 360-degree view of spectacular scenery, walk the Crater Rim Trail, or visit a fire lookout.

Parking Lot