12. LAVA LOG PILE. During flood stage, a tree clump growing in this area was moved by the lava's force. Some trees closer to the main channel were pushed over, or broken off, while others were uprooted. The destructive pattern can be traced in a mold immediately above the stake. Lava, reheated by burning tree gasses, dribbled into the space between the original cast and charred wood. This pattern is easily mistaken for bark impressions.

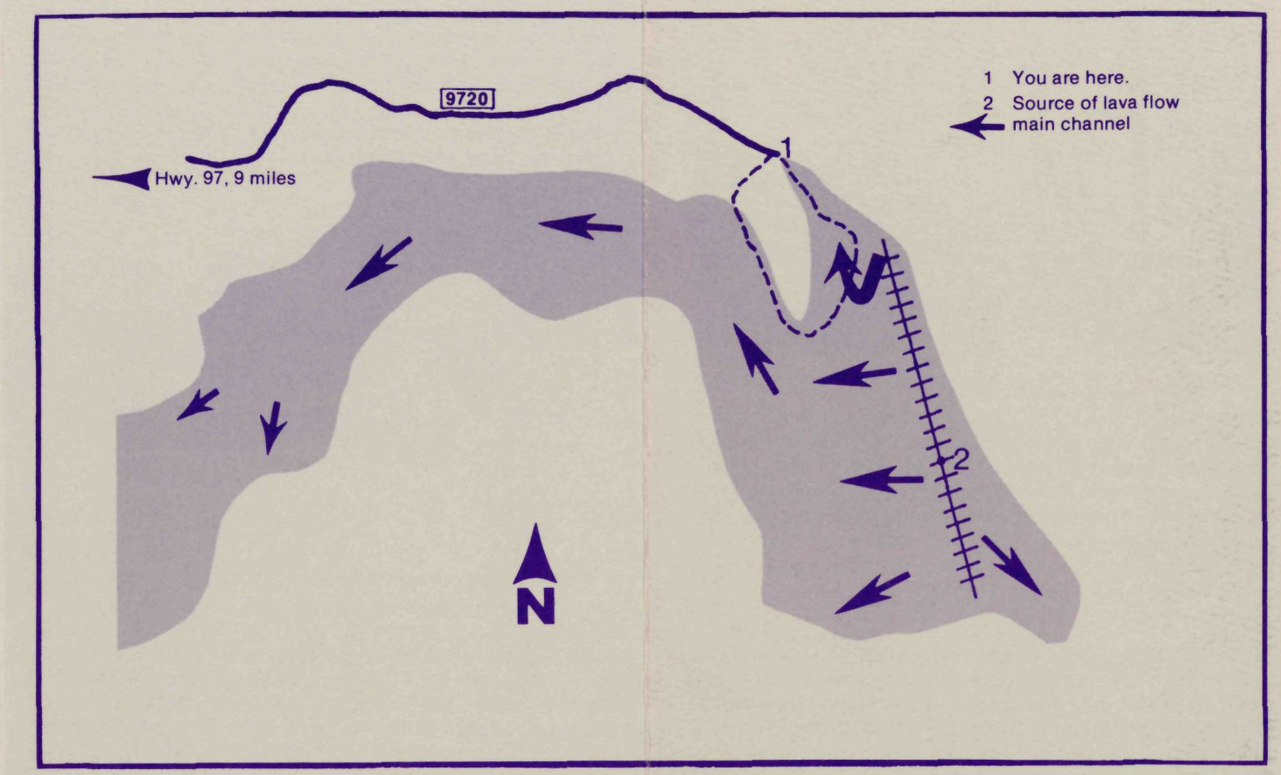
From here, the trail winds past more old lava casts. A short walk through the forest brings you back to your starting point.

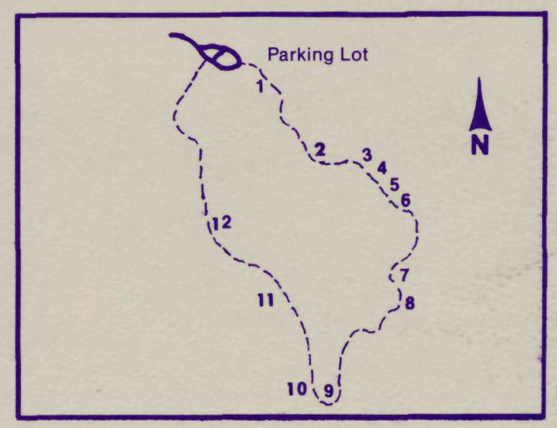
Many other examples of volcanic activity occur on the Deschutes National Forest. Lava Lands Visitor Center, 12 miles northwest of the Lava Cast Forest offers numerous ideas for interesting places to visit.

For more information contact Fort Rock Ranger District, Deschutes National Forest, Red Oaks Square, 1234 N.E. Third Street, Bend, OR 97701.

Printed by Pacific Northwest National Parks and Forest Association.

We hope you enjoyed your walk.





Trail is 1 mile long

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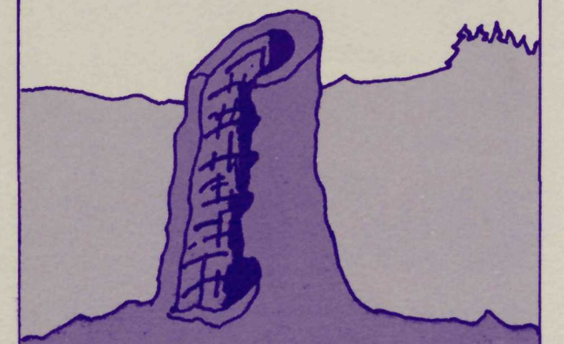
LAVA CAST FOREST

A SELF-GUIDED NATURE TRAIL



United States Department of Agriculture
Forest Service
Pacific Northwest Region
Deschutes National Forest

LAVA CAST FOREST
Self-Guided Nature Trail

The area you are about to visit is a living museum of volcanic landscapes. It is a journey into other times, a wonderland of past and present and maybe a glimpse of the future. This 45 minute tour was designed to show how nature begins repairing the devastation left by volcanic activity. Amazingly, soil and plants do return, sometime in unusual ways.

This brochure tells the story of one of twelve flows that erupted on the north flank of Newberry Volcano about 6,000 years ago. The numbered sections refer to signs along the 0.9-mile trail that takes about 45 minutes to walk. Along the way, benches are placed for you to pause and enjoy the sights and sounds.

You will also see many fine examples of vertical and horizontal tree molds or casts in the lava. The formations are 6,000 years old and are irreplaceable. Please help preserve and protect them so that others can enjoy this trail.

You may keep the booklet for future reference or return it to the box when you leave. Have an enjoyable walk!

1. PONDEROSA PINE. Well over 6,000 years ago, before the lava flow, this land looked much like the area around you. Ponderosa and lodgepole pines, white fir, shrubs, and grasses blanketed the country. Then Newberry Volcano spewed forth at least 12 lava flows covering much of the forest. With the passage of several thousand years, this lava flow may again become a forest. The large ponderosa pine tree, immediately behind the numbered stake, is about 300 years old. Remember this tree when you see the stunted and twisted trees in the lava field. They are all approximately the same age. Beneath the trees in the lava you can see rock outcroppings which are part of even older flows.

2. PIONEER PLANTS. Lava crept over the ground and destroyed all life in its path. Just as our forefathers pioneered the west, life is now being reestablished. Windblown volcanic ash, dust, and seeds gradually collect in the rock crevices. The simpler plants, such as the mosses and lichens, produce organic material so that other plants can grow. This process takes centuries in the harsh climate east of the Cascade Mountains.

3. SHRUBS and other plants started here in the windblown ash of other eruptions. Accumulations of dead leaves and twigs also aided in soil formation and plant growth. Survival in the harsh climatic conditions of the lava flow is difficult at best. The plants you see here are wild currant and rock penstemon. Rock penstemon, particularly adapted to this area, can not survive if watered excessively.

4. SUPPRESSED PONDEROSA PINES. It is one of nature's phenomena and a tribute to the survival struggle that any trees exist in the rugged lava. Trees of similar appearance can be seen at timberline in the mountains where conditions also are very marginal. Scarce water, poor soil, and intense solar radiation deform them into nature's sculptures.

5. A DOWNED LOG shows where a twisted tree lost its struggle for existence. During life, the tree provided shade and organic material to other plants. After death, the wood decayed and improved the soil so other plants may survive. As soils improved, shrubs, plants, and small trees ultimately become a climax or final community. If another eruption occurs the story will begin again.

6. STONE TREES OF THE LAVA COUNTRY. In some places the lava spilled into timber and formed stone trees and strange molds, locally known as the "Lava Cast Forest." Casts formed when lava flowed around the trees slowly cooling to form a hard coating around each tree. Where the flow was rapid, casts did not form. When the lava slowly receded, as a result of downhill drainage, the hardened casts of burned trees stood high above the lava surface. Eventually, the charred wood rotted away, leaving tree casts. Roots of these vanished trees still exist beneath the lava. Radiocarbon dates have been obtained from these roots.

7. TWIN TREE. Evidence that two trees once grew together remains in the half molds. Standing above the lava surface they resemble chair backs. Generally the open side faces down hill and indicates the direction lava flowed. The holes extend into the soil below which supported the vanished forest. These holes are usually 10 to 15 feet deep.

8. THREE TREES once came from this single stump. Notice where the holes join at the base. All lava casts were formed around live trees. The tree sap turned to steam and cooled the lava which kept the tree from burning up completely. A dead tree or log would have burned as the molten lava crept around it.

9. FISSURES. This lava erupted from a fissure, one-half mile long, located, in some places, only a few hundred feet from the trail. Lava along the first half of the trail came from the fissure's north end.

10. HORIZONTAL CAST. Not all stone trees in the lava cast forest are upright. When the lava surged through the stands of pine, some broke off and burned up in the flow. Those held firmly by their roots slowly fell to form the horizontal tree casts we see today.

11. VIEWPOINT. From this rock rim, we see an isolated forested island within the expanse of lava. The island contains a cluster of much older cinder cones completely surrounded by the younger lava. Your rocky perch is a remnant of an even older lava flow.

Like a river during a storm, the lava flow reached flood stage then receded. Flood states are recorded in levees or "bathtub rings" left along the hillsides after the lava drained away.

The Cascade Mountains are in the distance to the right.