MORE INFORMATION

The sparsity and spaciousness of Central Oregon's volcanic landscapes creates striking beauty both above and below ground. Newberry National Volcanic Monument, known for its diverse volcanic features, is well named. Large areas are covered by relatively recent basalt lava flows. Great tunnels wind through many of these flows suggesting that awesome forces of nature were once at work. These ancient natural tunnels, called tubes, are one of the area's most interesting secrets. Lava River Cave is an outstanding example of these ancient lava tunnels.

We hope you enjoy your exploration of Lava River Cave. You are cordially invited to visit the other fascinating volcanic features of the Deschutes National Forest. Personnel at Lava Lands Visitor Center, one mile north of the cave, will be glad to suggest points of interest.

Central Oregon abounds with caves of volcanic origins. Listed below are some of the books that are available. Also the offices below can provide additional information. Please be careful and remember...

Leave **nothing but footprints.**
Take **nothing but pictures.**

For more information on caves and caving, contact:

Oregon Grotto Library
13318 N.E. 12th Avenue
Vancouver, WA 98685

Cascade Grotto
P.O. Box 66623
Seattle, WA 98166

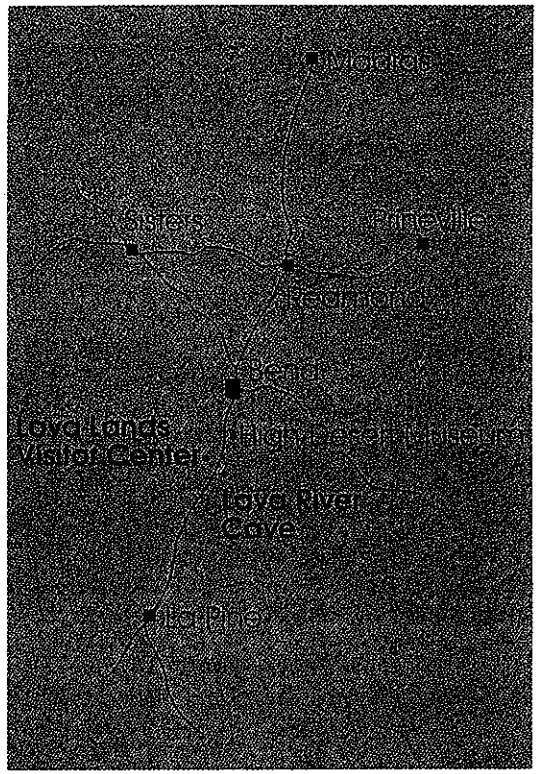
Other Readings for Central Oregon Caves

CENTRAL OREGON CAVES
Charlie and Jo Larson. ABC Publishing, 44pp.

CAVES AND OTHER VOLCANIC LANDFORMS OF CENTRAL OREGON
Guide book of the 1982 NSS Convention, 47pp.

LAVA RIVER CAVE
Charlie and Jo Larson. ABC Publishing, 24pp.

LOCATION OF CAVE



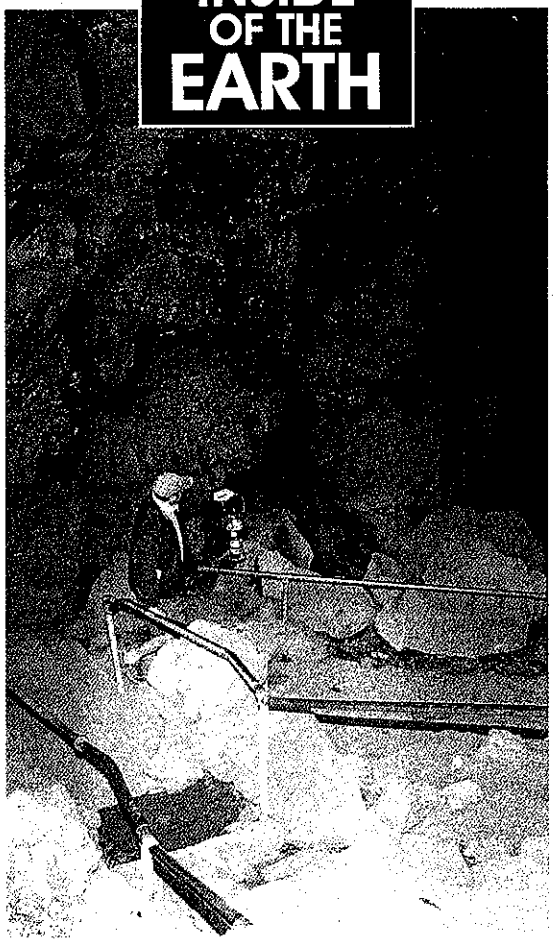
Lava Lands Visitor Center
(541) 593-2421

Bend / Fort Rock Ranger District
Deschutes National Forest
1230 N.E. 3rd., Suite A262 / Bend, OR 97701
(541) 383-4000

Published by
Discover Your Northwest
in cooperation with
Deschutes National Forest

LAVA RIVER CAVE

EXPLORE THE INSIDE OF THE EARTH



Newberry National Volcanic Monument
Deschutes National Forest

INTRODUCTION

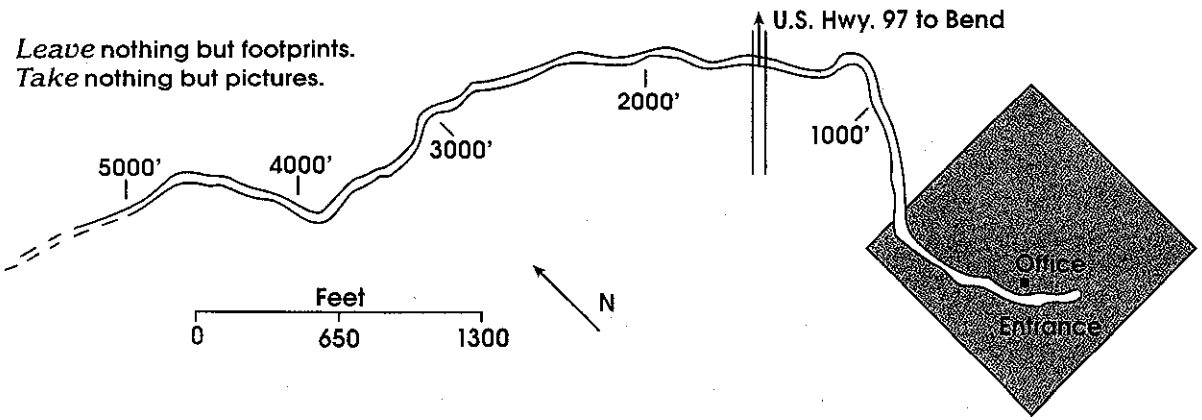
Come discover one of Central Oregon's ancient molten rivers of rock by exploring the trail through Lava River Cave. The cave, located approximately 12 miles south of Bend on Highway 97, is open from mid-May to mid-September. There is a nominal admission charge and lanterns can be rented. Wear warm clothing since the cave temperature is approximately 40 degrees year round. Also wear flat heeled shoes because the walking surface is uneven. The trail is an easy one and one half hour, 2.2 mile (3658m) round trip from the parking lot. The entrance gate is locked during the off season and after hours to protect against vandalism.

PLEASE WALK LIGHTLY

The cave environment is very delicate and must be protected. Unlike the surface environment which in some cases will heal wounds, a cave once damaged is destroyed forever. Caves take thousands and in some cases millions of years to develop. For this reason it is important to avoid littering the cave, carving on cave formations or any other acts which harm the cave.

Do not use flares or burn paper for light. The residue from these substances is deadly to the unique animal life found in the cave. The cave is also home to bats who can sometimes be found sleeping in the cave. Bats play an important role in our ecosystem by feeding on insects. Disturbing their sleep during the day can cause unnecessary energy loss that should be conserved for nightime feeding.

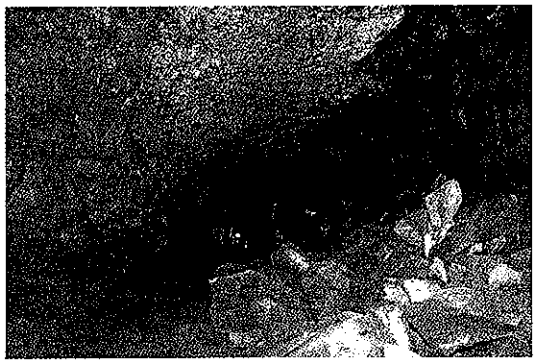
Leave **nothing but footprints.**
Take **nothing but pictures.**



A VOLCANIC STORY

Lava tubes are formed in flows of pahoehoe (pa-hoy-hoy) basalt. This type of lava is very fluid and moves readily downslope. Lava tubes are crusted over channels which conduct lava to the advancing front of the flows. Crust formation starts near the vent where the lava spews from the earth, then gradually progresses downslope along the lava stream. The crust is first a thin ledge-like protrusion extending inward from the sides of the lava channel. Eventually the ledges meet to form a roof across the channel. The roof gradually thickens as surges of lava break through and spread out as thin layers. Additional lava linings to the underside of the roof provide still more support. When the molten river of lava stops, the tube drains leaving an empty "cave."

Lava tubes are discovered when a part of their roof collapses and exposes an underground cavern. Some reasons for roof collapse are cooling and shrinkage after the lava flows out of the cavern, freezing of water that eventually dislodges rocks, or severe earthquakes.



Lava River Cave extends in two directions from the entrance. The main tube is the longest known uncollapsed lava tube in Oregon. It trends in a northwesterly direction for about 6,000 feet (1830m) with a gradual downhill slope toward the Deschutes River. The southeasterly extension of the cave is about 1,560 feet (475m) long. This section is closed to the public due to loose and dangerous rocks.

HISTORY

Lava River Cave was one of the first lava tubes to be discovered by settlers in Central Oregon. It was first known as Dillman Cave, named after Leander Dillmon, who discovered it while hunting in 1889. Dillman was a local stockman and trapper who lived nearby and used the cave's year-round 40 degree (Fahrenheit) temperature as a natural refrigerator to cool his venison. For 32 years the cave was known as Dillman's Cave, but in 1921 Dillman was convicted of a crime and the cave's name was changed to Lava River Cave. The name is derived from a geologist's study of the cave in 1923. Ira A. Williams called the cave "The Lava River Tunnel." His works also provided us with the first known map of the cave.

In 1926, possibly due to Williams' writings on the beauty of the area being threatened by logging operations, Shevlin-Hixon Lumber Company deeded 22.5 acres of land surrounding the entrance to the State of Oregon for a state park. In 1981, the Forest Service, U.S. Department of Agriculture, acquired the cave in a land exchange as a recreation site. The Deschutes National Forest manages Newberry National Volcanic Monument.

In addition to being Oregon's longest uncollapsed lava tube, it is one of Oregon's three commercial caves. Lava River Cave has one further attribute of historical significance: the lava stalactites are the first known to have the term "lavacicle" applied to them by Williams in his book, "The Lava River Tunnel."

LAVA RIVER CAVE
POINTS OF INTEREST

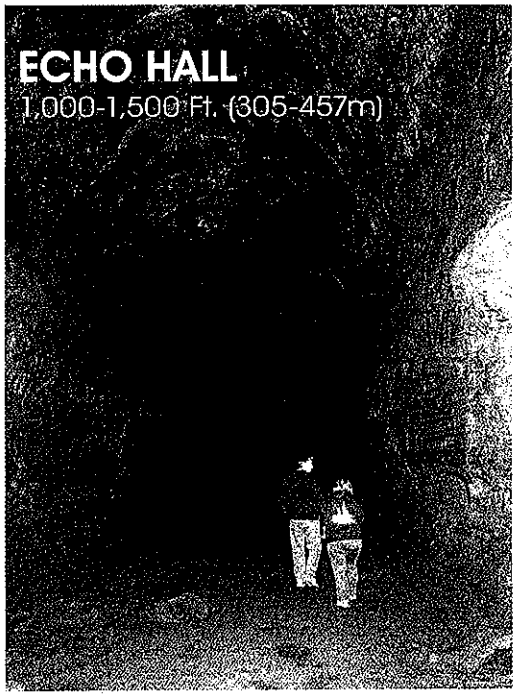
Lava River Cave's entrance has two ecosystems. The first is a large plant community of ponderosa pine and bitterbrush. This community is characterized by a warm dry climate. Summers are warm and sunny while winters are cold and relatively dry. Ponderosa pine is the largest member of this community with bitterbrush, manzanita, and snowbrush making up part of the remainder.

The other community is a micro ecosystem (a smaller community within a larger one) caused by the cool air at the cave mouth. When cool cave air mixes with the moist warm air from outside, condensation occurs, providing moist conditions. This provides ideal conditions for such plants as false Solomon's seal, roses, strawberry, raspberry and wax currant.

COLLAPSE CORRIDOR
0-1,000 Ft. (0-305m)

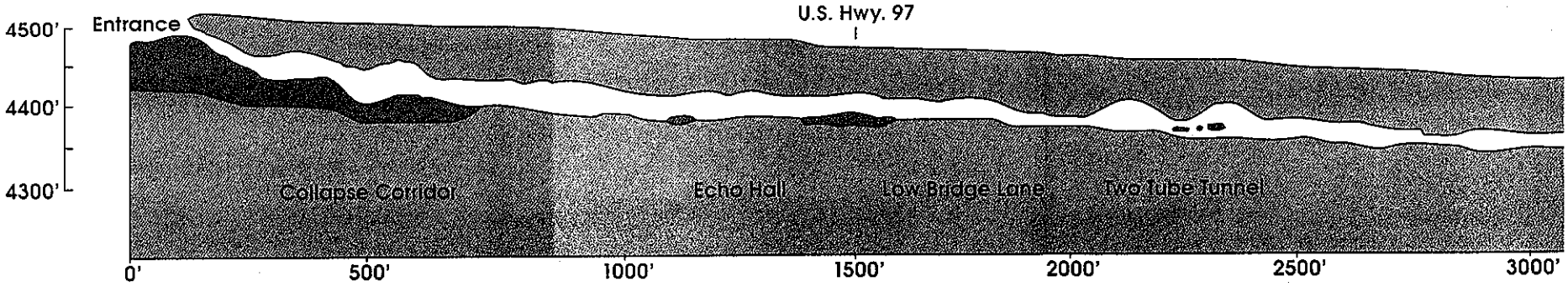
The cave's entrance appears as a large hole in the ground but excites unusual interest from the beginning. At the mouth the trail drops suddenly over volcanic rocks bridged by stairs, bringing you to the floor of a large cool chamber where winter-born stalactites and stalagmites of ice persist until the warmer days of June.

The piles of volcanic rock you see in this corridor fell from the roof and sides. Each year the action of ice freezing in the cracks pry a few rocks loose. Since most freezing occurs near the entrance, most rocks have fallen here.



Stairs lead upward from the collapsed corridor to the main section of the tunnel, and after a short walk you will be amazed at the proportions of nature's handiwork. The ceiling of volcanic rock reaches 58 feet (18m) above the floor and the cave is 50 feet (15m) wide. If you listen, conversations echo in far recesses and voices return as eerie sounds in the darkness, giving the hall its unique name.

Notice remnants of the once-molten lava clinging to the tunnel walls. The lava flowed through the tube with varying currents much as a river has currents. In this case, however, the currents left deposits. These appear as slaggy crusts and as rounded overhanging shelves. In

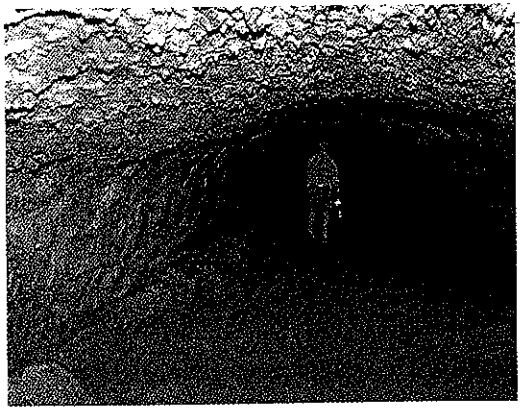


other locations, the walls are etched with lateral markings showing the varying levels of the old volcanic flows.
Near the end of this hall the 1,500 feet (475m) post marks the overhead passage of Highway 97. The highway is 80 feet (24m) above you.

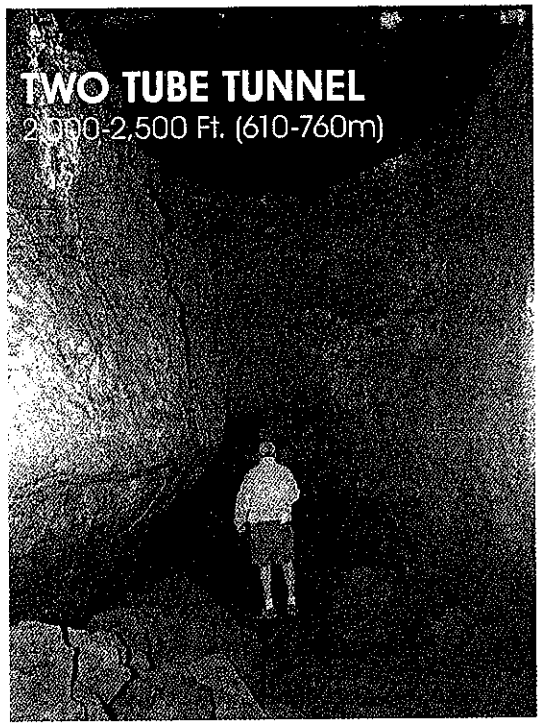
LOW BRIDGE LANE

1,500-2,000 Ft. (457-610m)
When most of the lava drained out, hot gases were trapped in the interior of the tube. These gases reheated the lining of the cave walls and ceilings, causing the volcanic rock to remelt. This remelting formed a peculiarly shiny, glazed form of lava resembling slumped gray toffee coating the tube walls.

In other areas of the tube volcanic stalactites occur. These "lavacicles" are found in two forms: hollow cylindrically shaped "soda straws," formed by escaping gases, and the cone-shaped drip pendants, formed by remelted lava dripping from ceilings and walls.



The ceiling in this area dips to approximately 5½ feet (1.7m) so **watch your head.**



TWO TUBE TUNNEL

2,000-2,500 Ft. (610-760m)
Where the tube begins to narrow lava shelves extend across the width of the tunnel. Here two tubes are found for 95 feet (29m) with intermittent connecting passages. The lava flowed in both tubes. As the lava level fell, the flow surface again roofed over, forming a second smaller tube within the larger main tube, a cave inside of a cave!

SAND GARDENS

3,200 Ft. (975m)
Sand covers part of the cave floor. Where did it come from? Years ago people thought an ancient river flowed through the cave, thus the name Lava River Cave. Actually water did carry sand into the cave; but drop by drop, not as a river, Rain and melting snow carried volcanic ash down through cracks and openings of the lava flow and dripped from the ceiling.

The constant dripping of water has carved a garden of spires and pinnacles in the sand. Since this cycle probably takes hundreds of years, please help us protect these delicate and fragile gardens for others.

TO THE END

3,000-5,200 Ft. (915-1585m)
At the end of the cave the amount of sand increases, Approximately 310 feet (94m) from the end, sand reaches all the way to the ceiling. In the 1930's two men dug out this last portion. They were curious about how far the cave went beyond the sand barrier.

The cave is thought to continue on, but how much further is not known, The cave is blocked by a sand plug. The size of the plug cannot be determined.