

LAVA RIVER CAVE



Photo by Alan Sisson

Newberry National Volcanic Monument

Operated under Special Use Permit issued by
Deschutes National Forest



United States
Department of
Agriculture



Forest Service
Pacific Northwest
Region

"Cave is a good word . . . The memory of a cave I used to know was always in my mind, with its lofty passages, its silence and solitude, its shrouding gloom, its sepulchral echoes, its fleeting lights, and more than all, its sudden revelations . . ."

—Mark Twain, *Innocents Abroad*

SAFETY AND COMFORT

1. How cold is the cave? The air temperature ranges from around freezing to about 45° F (4° C) depending on the time of year. No matter how warm the outside temperature may be, warm jackets are recommended. If you get cool going in, you might get cold before coming out.

2. Can I use my own lantern? Yes, but only if it's electric or one using a clean-burning fuel like propane. Kerosene lanterns are prohibited. Use a light that can provide reliable illumination for a minimum of one hour.

3. Is there an age limit for anyone going into the cave? No. We encourage everyone who feels physically able to at least try. There are 126 steps into the cave and some uneven walking surfaces are involved. The oldest person to walk unaided through the cave recently was Stella Erickson of Sequim, Washington in 1991. She was 90 years old.

4. Is the cave safe? Yes, in the summer and fall. However, during winter, some of the water from rain or melted snow trickles through the cracks in the ceiling and freezes. The expanding ice causes a few rocks to occasionally fall near the entrance. Geologists periodically survey the rock formations in the spring to look for dangerous rocks. They have concluded that the cave is structurally sound and in no danger of collapse.

5. Why is smoking prohibited? Tobacco smoke may irritate or harm the plants and animals living in the cave.

HISTORY

6. Did Indians know about the cave? The presence of obsidian flakes near the cave has led archaeologists to conclude that "Native American Indians" knew about the cave long before the first "immigrant Americans" happened upon the entrance.

7. When was its first use in the modern era? A white trapper named Leander Dillman found the cave opening on a hunting trip in 1889. Legend has it that he pursued a wounded deer that had fallen into the entrance. For years, Dillman used the cave to cool his venison.

GEOLOGY

8. How long is the cave? The north (downhill) segment is 5,400 feet (1646 m) long and open to visitors. There is also a south (uphill) segment which is 1,560 feet (476 m) long and closed to visitors because it has an uneven floor of angular boulders with no trail. You see a similar floor of boulders in the first several hundred feet of the north segment.

9. How was the tube formed? This type of cave is called a lava tube. Lava tubes begin as rivers of lava that flow in open channels just as normal rivers do. Surges in the lava river caused it to overflow its banks from time to time. When the level of the lava river stayed constant, a crust of solidified lava grew over the top of the flowing lava. The crust began to grow from the cooler channel walls out over the flowing lava. Eventually the two crusts from each wall joined and grew together in the center to form a roof over the lava river. When the eruption that produced the lava stopped, the lava drained out of most of the lava tube leaving the cave we can walk through today.

10. Is there one cave or two? After the lava tube was formed and the cave was cooling, a section of the cave roof collapsed. This collapse provided the entrance to both the uphill (south) and downhill (north) segments of the cave. There is only one lava tube. Many lava tubes exist in central Oregon but we don't know about them because their roofs never collapsed. Occasionally, construction workers or well drillers break into these hidden caves.

11. Where did the lava come from? The vent or place where lava came out of the ground is about 1800 feet (550 m) uphill from the cave entrance. This vent looks like a low, rocky pile now largely buried by soil. The liquid lava flowed downhill into the cave.

12. Which way did the lava flow and does it go under the highway? The lava flowed downhill in a northwesterly direction. The cave goes under U.S. Highway 97 at the 1500 foot (457 m) mark.

13. Where does all the water come from? The water comes from rainfall and melted snow. At Lava River Cave the annual precipitation is about 18 inches per year. The water seeps down through the soil and cracks in the cave roof. Drops from the roof drill little holes in the sand floor and create remarkable erosion patterns in the Sand Gardens (the only enclosed, fenced area.)

14. Is the sand natural or did the Forest Service truck it in? All sand in the cave is natural and was carried in by rain and melted snow through narrow cracks in the roof. Once in the cave, small rivulets of water spread the sand over the cave floor. Each sand grain has a remarkable history. Some were erupted from volcanoes, some were part of volcanic mountains ground up by glaciers, and other are tiny fossils of plants called diatoms.

15. What is the source of air? Air is constantly flowing in and out of the cave. When atmospheric pressure outside the cave changes as it does throughout each day, air flows into or out of the cave. The cave is a great highway for air. The many cracks in the cave walls and floor connect with vast underground open spaces.

16. Where does the cave end? Sand fills the most distant point of the cave. No one knows how far the cave extends beyond the sand. In the 1930s, two men using picks and shovels dug into the sand plug for about 400 feet. They gave up when the cave took a sudden downturn.

PLANTS AND ANIMALS

17. What animals live in the cave? At present we have identified several species of spiders, worms, centipedes and millipedes. There are also a few bats and mice that inhabit the cave year-round.

18. Can the bats or mice bite you and give you rabies? Yes. But bats are very shy and are rarely seen by visitors. The cave air warms up slowly during May and June and normally the bats do not leave hibernation until July. They are nocturnal and sleep during the day. It is highly recommended that bats be allowed to sleep undisturbed. Waking them while they are hibernating may cause them to die from the sudden expenditure of energy. Mice, however, are active in the cave during the summer months and will bite if you try to pick them up.

19. What species of plants are most visible around the cave? Sagebrush, green manzanita, bitterbrush, snowbrush, and choke cherry are the main shrubs in the area above the collapse portion. Serviceberry, false Solomon seal, squaw currant, Oregon grape, and unusually tall choke cherry and willow dominate the winding path leading to the cave entrance.

20. What kind of birds live around the cave? The cave attracts both resident and migratory species including great horned owls, red-tailed hawks, buzzards, and an occasional golden eagle. Small resident birds include wrens, robins, juncos, thrushes, woodpeckers, sapsuckers, red-shafted flickers and ruby-crowned kinglets.

21. What animals normally live around the cave? Golden mantled ground squirrels, chipmunks, mule deer, porcupines, gray squirrels, weasels, and pine martens have been observed on the grounds. One morning in 1991, a full-grown cougar ran out of the collapse area but was never seen again.

22. Are there any rainbow trout in the Lava River? No! A geologist, Ira Williams, labeled the cave "The Lava River Tunnel" believing that a river of water once flowed through the cave. Today, we know this is not true but the name stuck. Still, we urge you to observe any "NO FISHING" signs.

If you have any further questions please feel free to ask the person on duty.

This cave is operated under a special-use permit issued by the federal government