

OREGON CAVES UNDERWORLD

OREGON CAVES NATIONAL MONUMENT



CRATER LAKE NATURAL HISTORY ASSOCIATION

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Bats: Natural Cave Visitors

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Yes, bats do visit Oregon Caves. Don't panic, there are several reasons that this bit of information shouldn't cause alarm. Most of the bats use the cave at night, when human visitors are not normally present. During this time the bats are taking a break from foraging on local insects - they use the cave as a place to rest and digest food between feeding times. During the day most of the local bats hide in crevices in rocks or trees. The few daytime cave inhabitants present no danger to humans and are not often seen since they use parts of the cave not on the tour route.

Eight different species of bats use the cave. Greatest use occurs in the fall when up to 200 bats may visit in a single night. The most common species is the Long-eared Myotis which is about 3 inches long and has a wingspan of about 10 inches. Most of the bats using the cave are males. The only species that regularly uses the cave during the

day is the Townsend's Big-eared bat, but less than twenty of them are usually present at any one time.

Research indicates that many of the bats return to this cave year after year. There are individuals of three different species that have used the cave for as many as 19 to 24 years. These are longevity records for each of the species involved and indicate not only a great potential lifespan but some degree of loyalty or dependence on the protected cave habitat.

Bats are mysterious but fascinating animals and they are also important components of the cave and surrounding forest ecosystems. They serve as a natural control on local insect populations. Their use of the cave habitat rarely conflicts or interferes with human activities but is essential for them to carry out their normal activities. It's nice that we can share this unique habitat.



The Oregon Caves Chateau, soon after it was completed in 1934. The building remains much the same today.



The first permanent building at Oregon Caves, the Chalet, shown here after its completion in 1923.

Remodeled and enlarged in 1942, the Chalet now houses the Gift Shop, Child Care and Employee quarters.

Cave Restoration Project A Success

This past winter saw a major cave restoration project that exceeded all expectations. Tons of rubble was removed by National Park Service Employees in an effort to return the cave to a more natural state.

In the 1920's and 1930's, many tons of rubble were created by the blasting of tunnels and other improvements of the cave tour route. Instead of carrying the rubble out of the cave, early workers stashed the rock and mud material in side passages, covering or blocking off many beautiful formations and side passages.

From November 12th to March 15th of this year, the twelve member work crew cleared rubble from the first third of the caves tour route where much of the rubble was stashed. The cold, damp and cramped cave environment made the work particularly tedious.

Loading rubble into 5 gallon buckets, the workers carried or wheeled the buckets out of the cave with handcarts and small wagons. Averaging 200 buckets a day, the workers removed a total of 15,000 buckets of rock and mud. Total volume is estimated at 276

cubic yards, or 550 tons!

In the process of removing rubble that had blocked passages for over 50 years, workers 'rediscovered' over 500 feet of forgotten passageways and calcite formations. Long-time Rangers and Cave Guides were amazed at how different the tour path is now that the man-made rubble has been removed.

Original estimates calculated that only 80 cubic yards of rubble needed to be removed. Park officials were also impressed by the quality and quantity of passages uncovered, exceeding all expectations.

The project was the first-phase of a multi-year cave restoration and tour route improvement project. Future plans include: removal of rubble from the rest of the tour route; removal of the asphalt tour pathway and replacement with a cement sidewalk; re-wiring and lighting system overhaul. These projects are designed to be in keeping with the National Park Service's mission of preserving the Park's natural features and providing for visitor comfort and safety.

Calcite, Cracks, Acid and Time . . .

Carbonate solution caves comprise by far the largest and most numerous type of caves in America, with over 17,000 caves known. These caves often have the familiar stalactites, stalagmites and flowstone formations. Both the cave formations and the parent rock in which solution caves form are composed of the mineral calcite.

Limestone is the most common type of rock composed of calcite. Limestone is formed on the ocean floor by the accumulation of millions of sea shells and other calcite-containing parts of sea creatures. Limestones often contain fossils of these creatures, and the coral reefs of today will be the limestone rocks of the future.

Oregon Caves is somewhat unique in that it formed in marble, a calcite rock formed from the recrystallization of limestone by heat and pressure. This

process, called metamorphism, took millions of years and the fossils in the original limestone were obliterated. Oregon Caves is one of the few marble caves in the U.S. open to the public.

Since carbonate solution caves form only in calcite rock such as limestone and marble, one might ask -why don't all deposits of limestone or marble have caves? The answer, of course, is that besides calcite rock, there are other important factors involved in solution cave formation. The most important of these factors are carbonic acid, cracks and time.

Carbonic acid is naturally formed when melting snow or rainwater seeps into the soil and combines with carbon dioxide produced from soil decomposers. Carbonic acid formed naturally is the same acid that we have in carbonated beverages, but in nature it is in

an even weaker concentration.

When carbonic acid, even in dilute amounts, comes into contact with calcite rock, it has the ability to dissolve the rock. Once dissolved, the calcite is carried to the water table or surface streams or can be redeposited elsewhere. In dry desert areas or areas with little soil, very little carbonic acid can form, and caves would not be able to dissolve out, even if there is an abundance of calcite rock.

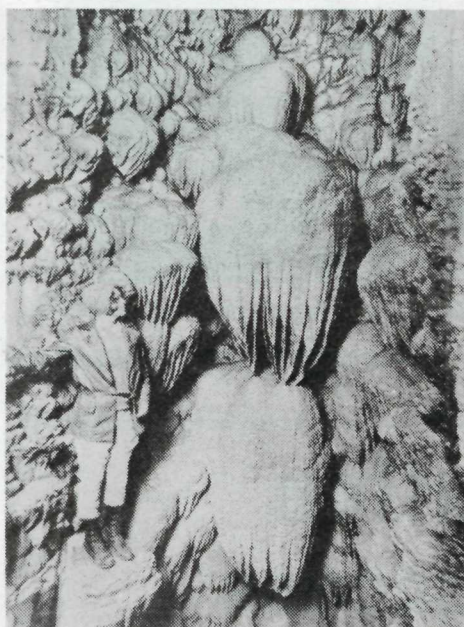
Cracks in calcite rocks greatly speed up the process by making it easier for the acid to get in, and the dissolved calcite to be washed out. The largest rooms at Oregon Caves formed along cracks. Calcite rocks with fewer cracks have fewer caves.

Given such a weak acid and the slow rate that groundwater can move, time becomes the most important factor.

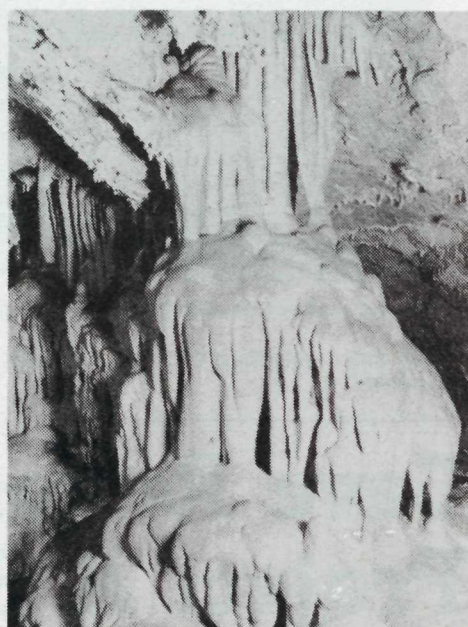
Time for the carbonic acid to form and dissolve the calcite. Time to carry the dissolved rock away. All the other factors being equal, the more time, the larger the caves. Still more time is needed to decorate the caves with stalactites, flowstones and other formations.

It is also a race with the surface, which usually erodes down much faster than caves can dissolve out. Sink holes are evidence of caves whose time 'ran out' when the lowering surface 'caught up' with them and caused their collapse. It is only a matter of time when Oregon Caves will succumb to the same fate.

Oregon Caves are here today for us to study and enjoy because they had just the right combination of geological factors: calcite rock, cracks, acid and time; without which the caves would not exist.



"Paradise Lost" remains unchanged since this photo was taken in the 1930's.



"The Cave Man's White House," a flowstone masterpiece.

For Your Safety

Pets —

Pets frighten wildlife and disturb others. Pets are not permitted in the cave, on trails or within buildings and must be kept attended and on a leash while outside of the vehicle or car.

Animal Bites —

Feeding wild animals is illegal and is also an invitation to be bitten. Rodents are potential sources of several diseases that can be transmitted to pets and humans. Avoid close contact with rodents and their burrows.

The Cave Tour is Not Recommended for Anyone with Breathing or Climbing Difficulty. You will walk through ½ mile of passageways, climbing a vertical distance of 218 feet. Some of the passageways are low and narrow. There are several steep steel and stone stairways to negotiate, consisting of 195 stair steps down and 345 steps up, as well as a 470 foot exit tunnel at a 16% grade (1 foot up in 6 feet forward). The average time for the Cave Tour is one hour fifteen minutes inside. The exit trail back to your starting point is 3/10ths of a mile long, steep in places. **BE CAREFUL!**

Due to the Difficulty of the Tour, Children Under Six Years of Age Are Not Permitted in The Cave. A child-care service is available at the concession for your convenience.

Smoking, Food and Beverage Items Are Prohibited in The Cave.

Canes, Rods, Staffs or Crutches Are Not Permitted Within The Cave as these items might be used to mar the formations. Flashlights are also prohibited.

Stay With Your Guide. If you become short of breath or are having any other difficulty, inform the Guide and he will adjust the pace. There is an emergency exit about ⅓ of the way through the Cave for those who do not wish to continue.

Enjoy and Preserve

Oregon Caves National Monument is a Natural Area of The National Park Service. Regulations prohibit the feeding or molesting of any of the wildlife in the Monument. Trees, flowers, shrubs, rocks, formations and all other natural features are to be left unaltered for other visitors to enjoy.

The Cave Formations Are Very Fragile and Are Stained by the Oils of the Hands and Lint from Clothing. Please Do Not Touch or Lean Against Any of the Cave Walls or Formations!

You can help preserve this beautiful park by visits with a "minimum impact" attitude. Please stay on trails, do not short cut.



Cave visitors in Joaquin Miller's Chapel in 1912. Early visitors had to carry their own lights.