



CAVES

A cave is a natural opening or recess large enough to permit a person to enter. Virginia's caves range in size from a short crawlway up to miles of interconnected passages. Most of Virginia's more than 4,000 caves are in soluble carbonate rocks (limestone and dolostone) in 27 counties in the western portion of the state.

Caves form when weakly acidic groundwater reacts with carbonate rocks as it moves through fractures and bedding partings. Over time, larger and larger spaces open, filling with more weakly acidic water as the rocks are dissolved away. The caves will be filled with water until the water table drops, at which point the cave stops enlarging. Cave formations then begin to form in the void spaces.

Cave formations are known as speleothems. They generally form after the initial cavern development, by precipitation of calcium carbonate or, less commonly, calcium sulfate from dripping, seeping, or flowing water. They may form on the floor, ceiling or walls of the cave.

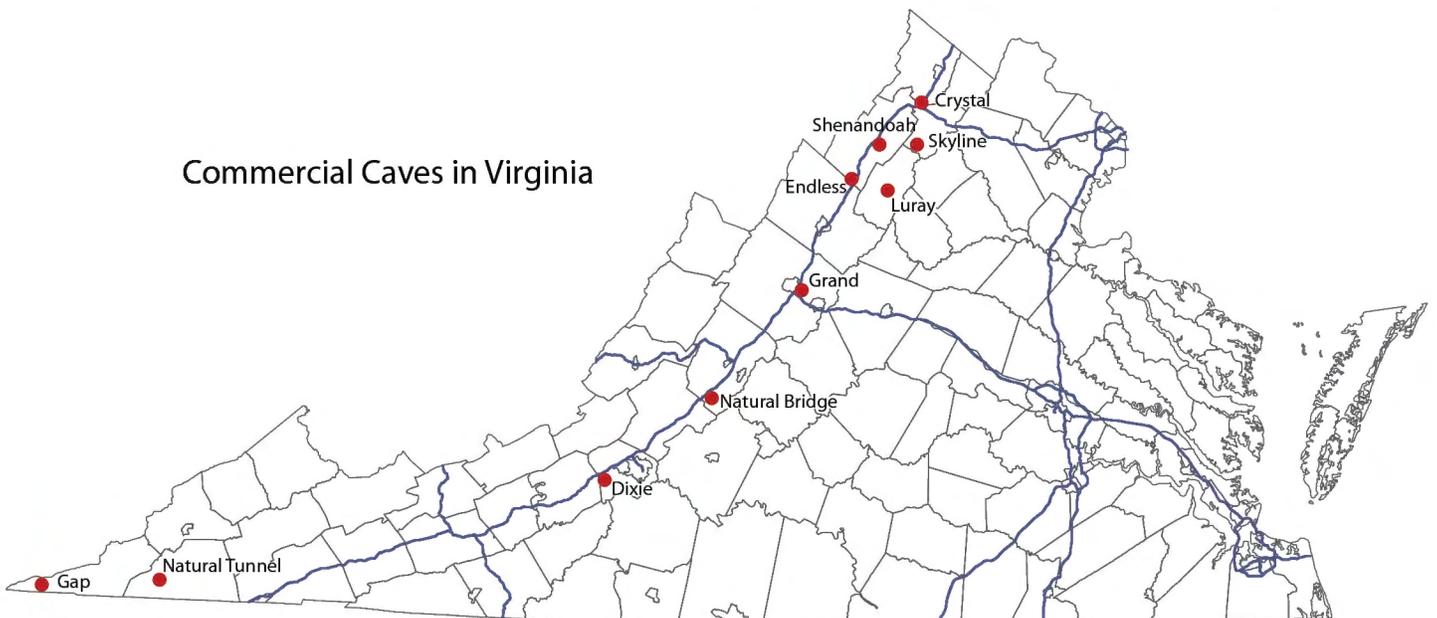
Virginia's caves are the home (habitat) for many different types of animals. Probably the most widely



Photograph by Gary C. Berdeaux

known cave-dwelling animal is the bat. Eight different species of these mammals are found in Virginia caves, three of which (Indiana bat, Gray bat, and Virginia Big-eared bat) are on the Federal Endangered Species List. All of Virginia's bats eat insects, but the cave-dwelling bats are important to the cave environment for the nutrients they provide from guano. Most cave animals are less visible than the much maligned bats. A closer look at the cave walls may reveal the presence of camel crickets or harvestmen (daddy-longlegs), but other cave dwellers are less commonly observed. Some

Commercial Caves in Virginia



of these small animals are fully adapted to the cave environment (troglotic) and never leave their cave. Troglotic animals are generally pigment-less (white) and eyeless because of regressive evolution. Color and eyes are useless in the total darkness of a cave.

Humans are presently the largest animals which visit Virginia caves. We have used caves for shelter, religious purposes, moonshine production, mining of saltpetre, groundwater, scientific and educational research, recreation, and as commercial attractions.

The best way to see a cave is with a guide at one of Virginia's commercial caves.

COMMERCIAL CAVES

****Crystal Caves at Hupp's Hill.** Shenandoah County, Interstate Highway 81, Exit 298, one-half mile south on U.S. Highway 11 and north of Strasburg, VA. <http://www.waysideofva.com/crystalcaverns/> (540) 465-5884.

Dixie Caverns. Roanoke County, Interstate Highway 81, Exit 132 south, or seven miles west of Salem on U.S. Highway 11. <http://www.dixiecaverns.com/> (540) 380-2085.

Endless Caverns. Rockingham County, three miles south of New Market on U.S. Highway 11 from Interstate Highway 81, Exit 264 or three and three-quarter miles north from Exit 257. <http://www.endlesscaverns.com/> (540) 896-2283.

Gap Cave. Lee County, Cumberland Gap National Historical Park, U. S. Highway 58 west to U. S. Highway 25E South, Middlesboro. <http://www.nps.gov/cuga/planyourvisit/guidedtours.htm> (606) 248-2817.

Grand Caverns. Augusta County, Grand Caverns Regional Park, near Grottoes off U.S. Highway 340 or Interstate Highway 81, Exit 235, eight miles east via State Highway 256. <http://www.grandcaverns.com> (888) 430-CAVE.

Natural Bridge Caverns. Rockbridge County, three miles south of U.S. Highway 11 from Interstate Highway 81, Exit 180, or two miles north on U.S.

Highway 11 from Exit 175. <http://www.naturalbridgeva.com/caverns.html> (800) 533-1410.

Natural Tunnel. Scott County, thirteen miles north of Gate City, from Interstate Highway 81, take U.S. Highway 23 North to Gate City. Take State Route 871 and go one mile east to park entrance. <http://www.dcr.virginia.gov/state-parks/natural-tunnel.shtml> (276) 940-2674.

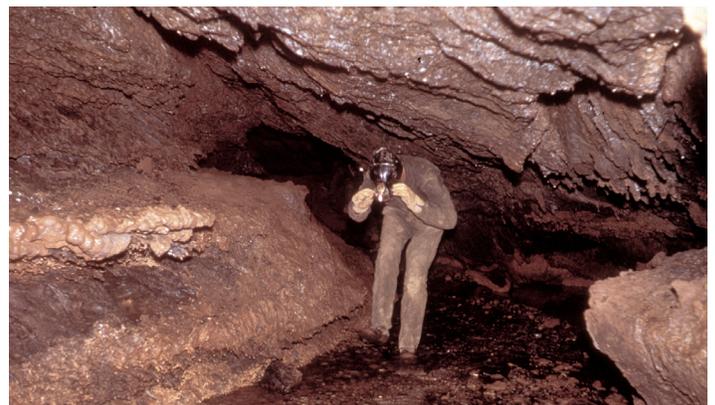
Luray Caverns. Page County, West Main Street in Luray, on U.S. Highway 211. <http://www.luraycaverns.com/> (540) 743-6551.

Shenandoah Caverns. Shenandoah County, Interstate Highway 81, Exit 269, one mile northwest on State Road 730, or four miles north of New Market on U.S. Highway 11 and 1.5 miles northwest on State Road 730. <http://www.shenandoahcaverns.com/> (888) 4-CAVERN.

Skyline Caverns. Warren County, one mile south of Front Royal on U.S. Highway 340 south from Interstate Highway 66. <http://skylinecaverns.com/> (540) 635-4545.

****Denotes closed commercial caves**

NON-COMMERCIAL CAVES



Visiting a "wild" or non-commercial cave is not merely hiking underground. Cave passages rarely present a level walking surface and ceiling heights commonly force a cave visitor (caver) to crawl on hands and knees in mud or water to follow the passage. The 54 degree Fahrenheit average temperature is chilly, especially in

smaller passages where a caver's arms, legs, and torso are in constant contact with cave surfaces. Hypothermia is a constant hazard in Virginia caves, especially when belly-crawling through wet passages and crossing deep streams and pools of water. Many caves contain pits which require special equipment and training to safely descend and ascend.

The absolute darkness of caves requires reliable lighting. Two back-up sources of light should be carried by each individual, in addition to a helmet-mounted primary light. The mounted light frees your hands for crawling and climbing. The helmet protects your head from low ceilings and wall projections while your attention is focused on your footing. Head protection is also important during slips and falls caused by slick mud and loose rock.

For a memorable and safe introduction to caving, proper training is essential. The National Speleological Society (NSS) is a national organization of cavers interested in the safe study and conservation of caves. A number of chapters (Grottoes) of the NSS are present in Virginia:

Battlefield Area Troglodyte Society,
Springfield
<http://bats.varegion.org/>

Blue Ridge Grotto, Roanoke
<http://www.blueridgegrotto.org/>

Charlottesville Grotto, Charlottesville
<http://www.cvillegrotto.org/>

Fairfax Underground Network, Falls Church
http://www.nssio.org/find_grotto_detail.cfm?gid=000338

Front Royal Grotto, Front Royal
<http://www.frontroyal.varegion.org/>

James River Grotto, Lynchburg
<http://www.caves.org/grotto/jamesrivergrotto/>

Madison University Grotto, Harrisonburg
<http://orgs.jmu.edu/caving/>

Mid-Virginia Underground, Churchville
http://www.nssio.org/find_grotto_detail.cfm?gid=000332

New River Valley Grotto, Radford
<http://www.radford.edu/~jfox/nrvg/>



Photograph by Gary C. Berdeaux

Richmond Area Speleological Society,
Richmond
<http://www.caves.org/grotto/rass/>

Rockingham County Speleological Society,
Harrisonburg

Shenandoah Valley Grotto, Waynesboro

Tidewater Grotto, Virginia Beach
<http://www.tidewatergrotto.cjb.net/>

VPI Cave Club, Blacksburg
<http://www.cave.org.vt.edu/>

Contact the National Speleological Society, 2813 Cave Avenue, Huntsville, Alabama 35810 or at <http://www.caves.org/> for additional information on any of these Grottoes.

All caves in Virginia are protected by Virginia State Law (Code of Virginia 10.1-1009 et seq.) or Federal laws. These laws protect the speleothems, animals, and historic and archaeological artifacts from damage or removal. Littering or dumping in caves can pollute ground water and destroy sensitive cave biota. Vandalism of a cave is a thoughtless and senseless act and, like littering, is illegal.

Over 95 percent of Virginia's caves are privately owned. Trespassing is against the law and many cave owners are extremely protective of their property. Be courteous when asking permission to visit a cave; no cave owner has to allow you in his cave. Please treat each cave you visit with respect and care so that future generations also may enjoy them.

Information about White Nose Syndrome

Caves in Virginia are home to diverse and often vibrant ecosystems that can be greatly affected by humans. For example, White Nose Syndrome (WNS) is the leading cause of death in bat populations from Alaska to Canada, and as far west as Missouri. WNS is caused by the fungus *Pseudogymnoascus destructans*, which grows on the skin of bats. This fungus is believed to cause lesions and erratic behavior leading to death.

While bat-to-bat transmission is thought to be the predominant method of transmission, the fungus may also be transported into caves by cavers and their gear. With this in mind, it is important to always clean your gear if you have visited a cave. In Virginia, WNS infestations have been confirmed in at least 15 western counties. While WNS has not been found to harm species other than bat populations, it is important to note that bats play a crucial role in controlling the insect population, especially for farmers and their crops.

For more information about WNS and its impact in Virginia, please visit the follow websites:

VA Department of Conservation & Recreation

http://www.dcr.virginia.gov/natural_heritage/wns_to_olbox.shtml

National Speleological Society

<http://www.caves.org/WNS/>

U.S. Fish and Wildlife Service

<http://www.whitenosesyndrome.org/>

U.S. Geological Survey

http://www.nwhc.usgs.gov/disease_information/white-nose_syndrome/

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Charlottesville, VA 22903

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Sales Hours: 10:00 AM - 3:00 PM Mon. - Thurs.

<http://www.dmme.virginia.gov/dgmr/divisongeologymineralresources.shtml>