Virginia Cave Owners

NEWSLETTER

Issue #38, April 2026

Cave Names and their Documentation

By David Hubbard, Cave Board Member

As a cave owner, do you know the origins of your cave's name? Perhaps even an older past name? The most obvious older convention was the owner's last name. We now remove the apostrophe to comply with geographic naming conventions – e.g. Tawney's Cave became Tawneys Cave. A cave name might refer to a distinctive cave feature or place name or past use. Over time, many names changed with ownership or in different historic records – like letters, newspapers, or other written accounts. The more well known a cave, the greater likelihood of its name remaining unchanged over a longer period of time. One of the reasons we presently try not to change cave names is to not confuse cave records. Cave names are important to the documentation of the location a species of cave organism was first discovered, paleontological sites and archaeological sites, including those reflecting prehistoric Native American activities.

The first systematic statewide reporting of Virginia caves was William McGill's Caverns of Virginia (1933). Most of the caves documented by McGill were commercial caves, or show caves. Virginia show caves were commonly renamed when commercialized, sometimes conveying impressive descriptors of awe or size (Grand Caverns and Giant Caverns) or length (Endless Caverns) or by a place name (Luray Caverns, Massanutten Caverns and Melrose Caverns).

The next formal cave tome, Caves of Virginia (1964), by Henry H. Douglas and the Virginia Cave Survey included information on 1,790 Virginia caves. Cave biologist Dr. John R. Holsinger, who had worked with Henry, succeeded him as the director of the Virginia Cave Survey and published Descriptions of Virginia Caves (1975), which included information on 2,319 caves.

Holsinger was succeeded by Phil Lucas, a lifelong avid caver and cave owner, who renamed the Survey the Virginia Speleological Survey and shifted the focus from gathering cave information for publication to data gathering to support a data base on

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A Publication of the Virginia Cave Board

For more information, please contact the Virginia Department of Conservation and Recreation, Virginia Natural Heritage Program, 600 E. Main St., 24th Fl., Richmond, VA 23219, or one of the members of the Virginia Cave Board: Andrea Futrell, chair; Jacqueline Gooden-Seay, vice chair; Austin Shank; Carol Tiderman; John H.H. Graves; David Hubbard; Allen L. Louderback; Ángel Garcia, Ph.D.; Stepanie Lillard; Andrea M. Reese.

Managing Stormwater in Virginia's Karst: an Update

By Wil Orndorff, Virginia Department of Conservation and Recreation

The Virginia Department of Environmental Quality released the new Virginia Stormwater Management Handbook on July 1, 2024. The handbook helps to avoid or minimize impacts to water flows and water quality from land development, especially construction. This marks a major update as it had been a quarter century since the last official Stormwater Management Handbook was produced by DCR, and over a decade since a draft updated version was mothballed when stormwater management and erosion and sediment control permitting was moved to DEQ from DCR. The new handbook reflects numerous changes in laws and regulations over the years and integrates erosion and sediment control practices used in construction with post-construction stormwater management. Furthermore, the DEQ Stormwater Management Handbook is designed to be updated on a regular basis incorporating feedback from users provided via an online comment system, as well as any regulatory changes.

Karst and caves pose serious challenges to stormwater management and are themselves vulnerable to impacts from improper practices. These impacts can extend to drinking water supplies and to surface waters at springs where underground streams return to the surface. Former Virginia Cave Board Chair Bob Denton and DCR Karst Protection Coordinator Wil Orndorff represented karst interests during the development of the new handbook, which includes the new "Appendix E. Site Assessment and Design Guidelines for Stormwater Management in Karst." Staff from the DCR Karst Program serve on DEQ's standing Technical Review Committee (TRC), which

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Cave Names and their Documentation

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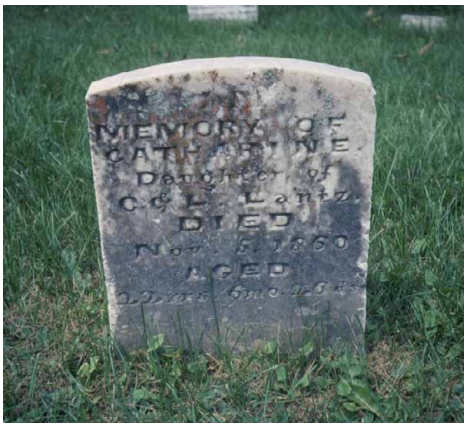
Virginia caves. Like many experienced cavers, Lucas recognized the rapid degradation of Virginia caves and their resources after the publication of Douglas' and Holsinger's books revealed the locations of Virginia caves. Lucas was succeeded by the current database manager, Mike Futrell, an international cave explorer who continues the documentation of Virginia caves and their physical and cultural resources.

Cave names reflecting cultural resources

Virginia caves and their physical and cultural resources are protected from destruction or theft by the Virginia Cave Protection Act. Owners can best serve these resources as knowledgeable stewards of their cave's resources and reporting crimes to law enforcement authorities. Without our stewardship, the future is bleak for many caves and their resources.

Documented prehistoric human uses of Virginia caves includes twilight zone shelters, dark-zone burials, art (mud glyphs and pictographs), exploration, hunting (hibernating bear), and lithic and mineral extraction. Some cave names reflect their use by Native Americans as burial sites: Bone Cave, Burial Cave, Burial Pit, Indian Burial Cave and Skull Cave. Most Native American cave burials sites were destroyed or degraded by looting of burial artifacts, which we now recognize as a cultural crime under both state and federal laws. Nonetheless, the disturbed and exposed skeletal remains and associated artifacts from cave burials have yielded significant information about the deceased and burial practices (Boyd and others, 2001). Of the more than 50 Virginia cave burial sites, 36 Late Woodland burial caves have evidenced a minimum number of 397 buried individuals as reported in publications.



Cave onyx tombstone located in a Rockingham County cemetery. Photo by David Hubbard

Lint-like fibrous form of the mineral saltpeter (potassium nitrate) carpeting a Virginia saltpetre cave wall, scale in centimeters. Photo by John C. Taylor

Historic cultural uses include evidence of cave use for archival records and self expression (inscriptions on walls), civil defense, commercialization, dancing and making music, food storage (dairy and root cellar types), mineral extraction and mining (barite, clay, onyx, and saltpetre), moonshine (illicit alcohol) production, paleontological excavation (Edward Drinker Cope's workings in 1867), shelter for humans and animals, and water sources. Anecdotal uses include homicide evidence disposal, munitions storage (Civil War), dark-zone shelter (hiding from marauding Native Americans), and weapons disposal (Civil War). Of the varied historical cultural uses, making music, food storage, mineral extraction and mining, moonshine production, animal shelter, and water resources are reflected by cave names.

Dancing Rock Cave, Singing Cave and Sounding Cave have histories of utilization of their natural harmonic enhancement of stringed instruments and singing. Other caves, including some show caves sharing these harmonic enhancements contain "ballrooms" large enough to accommodate dances and balls. With mean temperatures in the range of 52 to 56°F, Sweet Potato Cave (four caves) and Tater Cave are just a few of the many caves that have served as root cellars. With spring pools at near constant temperature, Milkhouse Cave and Milk and Butter Cave were used for dairy storage.

The mining of barite, cave onyx, and saltpetre are exemplified by Brighter Mine Cave, Marble Cave, Onyx Hill Cave and over twenty caves including the word "saltpetre" in their name. Barite (Barium sulfate, $BaSO_4$) is typically a white, heavy mineral extensively mined in Russell and Smyth counties and historically used as a white pigment and a brightener in other pigments. Anecdotally, powdered barite was locally used to short weight flour, resulting in the proverbial "lead biscuits" made with flour from the bottom of some flour barrels. Cave "onyx" was mined from massive speleothems in Botetourt, Rockbridge and Rockingham county caves, including Marble Cave and Onyx Hill Cave. Rockingham onyx mining is notable for its use between 1870 and 1892 for tombstones in local cemeteries.

The most significant mining of Virginia caves was for saltpetre for the historic war-time production of black powder from no less than 104 caves. According to historian Horace Hovey (1897), "Jed" Hotchkiss, General Stonewall Jackson's map maker once said: "Madison's Cave was mined for saltpetre during the three great wars, of the revolution, of 1812, and of the rebellion, probably the only cave on the continent of which that can be said." Cave "saltpetre" contains highly soluble potassium, calcium and magnesium nitrates occurring as wall crusts and in cave sediments. These nitrate minerals are considered "deliquescent" – having a natural tendency to draw water to itself and dissolve into a solution. Hence the mixture of saltpeter, sulfur, and charcoal, which comprises black powder or gunpowder, is sensitive to moisture and the reason for the old adage among soldiers and frontiersman to "keep your powder dry." The fact that calcium and magnesium nitrates typically were the dominate nitrates in Virginia cave sediments is why this author prefers the archaic spelling of saltpetre to describe these sediments and the caves from which they were mined rather than the modern spelling saltpeter, the mineral name for potassium nitrate.

Another "industry" historically associated with southern caves is illustrated by Elys Moonshine Cave. Over a score of Virginia caves have lore of illicit moonshine production as at least a note in their history. Cattle Cave and Minors Sheep Cave are two examples of scores caves where farm animals have sheltered in cave entrances. Cattle Cave actually contains stalls where cows have

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been kept to enhance exceptional long coats. Like many other caves, Minors Sheep Cave has a wide entrance which has served to shelter sheep in past inclement weather.

Many caves or their associated resurgence springs, where cave streams resurface, have served as water sources in the past and some include water or spring in their name. Cox Ram Pump Cave is one of many caves in western Virginia where water was actively pumped from a cave by use of a water powered (hydraulic) ram pump able to pump water long distances and to significant heights without electricity. Concrete Tank Cave is named for an in-cave concrete water collection basin used for agricultural and domestic use.

The author extends his sincerest thanks to the multitude of cavers and cave owners who have contributed reports of physical or lore evidence of cultural resources to the Virginia Speleological Survey or to its predecessor the Virginia Cave Survey. ■

For an extended version of this article, please visit the Virginia Cave Board website at **https://www.dcr.virginia.gov/natural-heritage/cavehome.**

Managing Stormwater in Virginia's Karst: An Update

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reviews comments and makes improvements to the handbook in response to user feedback and any regulatory changes. In addition, current Cave Board Chair Andrea Futrell attends meetings of the TRC as a member of the public in order to provide feedback when karst-related topics are under consideration.

The most recent version (1.2) of the Stormwater Handbook can be found here - https://online.encodeplus.com/regs/deq-va/index.aspx - or by searching online for "Virginia Stormwater Management Handbook." Appendix E in particular illustrates the complex considerations needed in order to build safely on karst. Have a look for yourself! ■

Virginia Cave Week
May 31-June 6

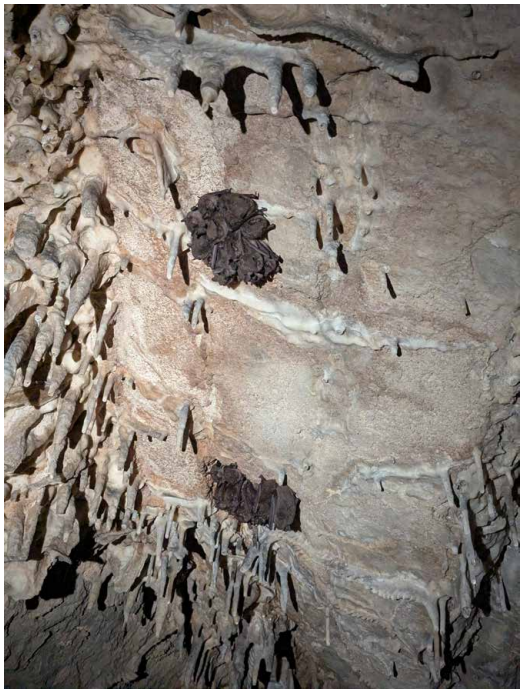
The Virginia Cave Board will have special events throughout the week throughout the Commonwealth.

See https://vacaveweek.com for information.

Protecting Cave Lands for the Future

By Andrea M. Reese, Cave Board Member

When you think about ownership of your cave land in the future, what comes to mind? Do you have family members who want to continue stewardship, as you have? If the land should someday pass on to someone who doesn't have the same care for this distinctive resource, are there protections you can put in place? Or perhaps you'd like the cave to become a preserve, owned by an organization that specializes in cave protection?



Federally Endangered Indiana Bats (Myotis sodalis) hibernate in a cave protected under a Nature Conservancy Forestry Conservation Easement. Photo by Zenah Orndorff

Many cave owners and other landowners have chosen to use protective legal agreements, called conservation easements, to help determine the stewardship of their land into the future. That way, they and their families can keep owning and managing the land while having a partner to uphold protection of the resource. Conservation easements disallow development that would damage the natural and cultural resources, tailored to what's special about each site. For caves, that may mean keeping livestock excluded from the cave entrance and prohibiting dumping or construction in sensitive locations, for example. To balance the removal of development value, there are various tax incentives and public grants that landowners can pursue. These legal agreements are perpetual, so they hold even when the land changes hands.

Conservation easements always sound complicated at first glance, but Virginia has many organizations that work in this field and can help you evaluate this approach. Here are a few land trusts experienced in karst and cave landscapes:

- Blue Ridge Land Conservancy, https://www.brlcva.org
- Shenandoah Valley Conservancy, https://shenandoah.org/
- New River Land Trust, https://www.newriverlandtrust.org/
- New River Conservancy, https://newriverconservancy.org/
- The Nature Conservancy, https://www.nature.org/en-us/about-us/where-we-work/united-states/virginia/
- Virginia Outdoors Foundation, https://www.vof.org/

Some cave owners prefer to transfer ownership of the land when the time is right. Virginia's Department of Conservation and Recreation has several publicly owned Natural Area Preserves that came about in just this way. Several counties and towns, such as Warren County and the Town of Grottoes, also own and manage caves.

- Department of Conservation and Recreation, Natural Heritage Protection, https://www.dcr.virginia.gov/natural-heritage/protection

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A cave owner admires a stalagmite in a cave he protected with a Virginia Outdoors Foundation Conservation Easement. Photo by Mike Futrell

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For landowners who prefer a private-sector partner, many cave conservancies stand ready to help either by taking ownership or developing management agreements. There are several organizations working in Virginia and elsewhere to help landowners get cave sites protected.

- Cave Conservancy of the Virginias, https://caveconservancyofvirginia.org/
- West Virginia Cave Conservancy, https://wvcc.net/ (active in Virginia too!)
- Southeastern Cave Conservancy, https://www.saveyourcaves.org/

Virginia has a strong tradition of land conservation, protecting 4.3 million acres and counting. Individual landowners' stewardship choices play a key role in safeguarding natural resources. Whatever your choices for the future of your cave, these land conservation organizations stand ready to serve as partners and help you explore your options. ■