

Virginia Cave Owners'



NEWSLETTER

Issue #33, April 2021

A Message From the Chair

The COVID-19 pandemic has impacted all aspects of life, and the work of the Virginia Cave Board has been no less impacted. According to Virginia law, State boards are not permitted to meet electronically except in cases of emergencies declared by the Governor, and only for statutorily required business. The Cave Board serves in an advisory capacity only, therefore it does not meet the criteria to hold virtual meetings. As several of our members fall into higher risk categories, and with rates of transmission still quite high throughout Virginia, we have also elected not hold meetings in person.

Virginia Freedom of Information Act (FOIA) regulations stipulate that three or more members of State boards are not permitted to engage in communications with one another without first announcing the meeting to the public. Needless to say, these restrictions have hampered the ability of the Cave Board to conduct normal business over the last year.

Still, we have had some success in reaching out to the public. We held a virtual event for Virginia Cave Week in 2020 with some excellent presentations by board members and DCR staff (see the recordings at vacaveweek.com), and individual members have advised DCR staff on cave and karst issues when called upon. Despite the curtailed activity of the Cave Board in the last year, we hope this issue of the *Virginia Cave Owners' Newsletter* continues to provide a means to engage with the community of Virginia's cave owners on timely cave and karst issues in the Commonwealth.

Dr. Daniel H. Doctor, Virginia Cave Board

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A Publication of the Virginia Cave Board

Due to generous grants from The Robertson Association and the Cave Conservancy of the Virginias, the Virginia Cave Board is pleased to continue offering a printed version of the *Virginia Cave Owners' Newsletter*. We hope you enjoy reading it. We'd love to hear from you regarding this issue and ideas for future issues.

For more information, please contact the Virginia Department of Conservation and Recreation, Virginia Natural Heritage Program, 600 E. Main St., 24th Floor, Richmond, VA 23219, or one of the members of the Virginia Cave Board: Mr. Anthony Bessette, Mr. Robert Denton, Dr. Daniel H. Doctor, Mr. David Ek, Mr. John Graves, Dr. John Haynes, Mr. Mark Hodge, Mr. Richard Lambert, Mr. Steve Lindeman, Ms. Marian McConnell, and Ms. Meredith Weberg.

Southeastern Cave Conservancy Joins You as a Virginia Cave Owner

*Submitted by Christine Walkey,
Director of Education and Outreach*

It all started in 1991 with a small group of cavers who wanted to create something new—a land conservancy dedicated solely to cave protection and access. Thirty years later, their idea has turned into something much bigger than they ever imagined. The Southeastern Cave Conservancy, Inc. (SCCi) is now the largest land conservancy devoted specifically to caves. SCCi owns and leases over 180 caves on 33 preserves in 7 states. It has succeeded through the hard work of many individuals, good timing, and patience. In 30 years, the organization has moved from "cavers buying caves for cavers" to a burgeoning land conservancy. You can help safeguard these natural underground treasures by donating to SCCi as a sustaining member, regular member, or donor. We use funds to acquire and manage fragile cave environments. Working together, we can preserve and enjoy more caves, now and for future generations.

In 2020, SCCi added a preserve in our seventh state, Virginia! We acquired Cyclops Cave and it became our 31st preserve. Cyclops Cave is located at the very edge of Virginia's Valley and Ridge Province, in an isolated karst valley called "Sinkhole Valley." To date, the cave has been surveyed to 7.1 miles ranking it #126 on the US longest cave list and #11 on the Virginia longest cave list. This setting makes the cave very likely to have unique invertebrate cave fauna. The cave is home to cave-adapted amphipods, isopods, snails, mites, millipedes, pseudoscorpions, and diplurans. Recently, cavers have discovered trash, broken formations, disturbed rigging, and graffiti in the cave. Cyclops Cave deserves better and with SCCi's purchase, we protect and provide caver access to this important Virginia resource.

Recently, SCCi acquired an important educational resource for educators, *Project Underground*. This program began in Virginia and we are excited to continue its legacy. A new edition,

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How We Cave During the COVID-19 Pandemic

By Katarina Kosič Ficco and Wil Orndorff, Virginia Department of Conservation and Recreation, Division of Natural Heritage, Karst Program

The outbreak of COVID-19 left all of us with many uncertainties and required some significant modifications of our lifestyles. Similarly, cavers had to reconsider their approaches toward caving. How can we go caving while protecting ourselves, other cavers, and most importantly, cave owners? How can we assure we do not transmit COVID to bats or other mammals in the caves? Can we transmit COVID-19 to other cave life? These and many other questions were raised within the caving community.

The simplest solution appeared to be to simply stop caving. However, if we stop caving, we cannot learn how COVID-19 and other environmental changes influence the world underneath. Plus, the reality is that, for some cavers, the passion for cave exploration is so strong that suspending caving is just not a reasonable option. So, how to continue with exploration and monitoring without impacting these secluded environments while at the same time protecting cavers?

The first step is to avoid caves that tend to be extremely challenging. Such an approach limits the potential for accidents and any subsequent cave rescue intervention. This is important because social distancing would be very difficult in a cave rescue scenario. Although cave rescues are very rare, when they do occur, they require lots of people working together in close proximity for extended periods of time in a confined space, ideal conditions for the transmission of an airborne pathogen.

The second step is to limit one's caving partners to a small group of fellow cavers that implements similar approaches for preventing COVID exposure and risk management, creating a so-called "bubble."

However, on rare occasions, the visitation of a cave where additional help or a guide is needed may be necessary for work required by a regulatory permit or grant obligation. In those cases, we focus on having only one additional person who is an outsider to our bubble. This makes it easier to maintain social distancing in the cave, and in instances where social distancing cannot be assured, we wear face masks. We also always have a face mask in our cave pack. That way, if a rescue intervention is needed, a mask can be immediately put on the injured person, and the risk to rescuers reduced. Having a face mask in the pack also enables us to use it if we encounter any bats in the cave.

And what about bats and COVID-19? The virus causing COVID-19 is believed to have originated in bats, and studies have shown that bat species around the world are susceptible in varying degrees to COVID-19 infection. The US Geological Survey National Wildlife Health Center concluded that one of Virginia's more common cave bats, the Big Brown Bat (*Eptesicus fuscus*), is not susceptible to COVID-19. However, the jury is out on over 40 additional bat species found in North America. Unfortunately, white-nose syndrome (a pandemic affecting bats that started in the US in 2006) has significantly diminished populations of most bat species found in Virginia's caves. Therefore we do not typically observe great numbers of bats in caves these days. Luckily bats are still present in most caves in small numbers, so we take care to keep a distance of more than 6 feet when we observe them. In instances where we cannot maintain this distance, we wear masks to reduce the likelihood of spreading a virus or other pathogen to the bats. If groups or large numbers of bats (more than a dozen or so, depending on



Mike Ficco surveying a cave with a mask to protect himself and others from the virus. (Photo courtesy of Katarina Kosič Ficco)

the species) are encountered, we avoid the passage in which they are present if possible and otherwise leave the cave.

The development and implementation of these approaches to caving in the time of COVID have proven critical in enabling us to continue cave exploration and research while still protecting ourselves and the other life found in caves. We do not know how long this pandemic will persist, but we do know that the world does not stop turning, and in the dynamic cave environment, changes occur every day. If proper precautions are developed and followed, the value of cave exploration and research outweighs the risk posed by the COVID-19 pandemic, and the knowledge gained might even help us manage similar events in the future. ■

The Show Cave and COVID-19

By John Graves, Virginia Cave Board Member, Luray Caverns Corporation

About a year ago COVID-19 began to interrupt our lives, putting a halt to life as we knew it. A bitter pill for us all to swallow in a world of skepticism, disbelief, and confusion. At Luray Caverns, we took this virus seriously from the beginning with a focus on doing whatever it took to survive this pandemic. We chose very early on to follow the Centers for Disease Control and Prevention (CDC) and the Virginia Governor for leadership and guidance so we would have a better chance of successfully navigating through this terrible event. That was the correct choice and has benefited Luray Caverns and its employees.

The protocols and restrictions for the Caverns employees and business conduct were followed without any exceptions. On March 17, 2020, we closed our doors for the first time in 142 years. This was an extremely difficult decision, but we had to follow the protocol and wanted to be safe. Much of this virus was unknown, so it turned out closing was the prudent thing to do. The National Caves Association and the International Show Caves Association were great sources to cooperatively discuss operational solutions to this situation. A great deal of communication among the cave tourism industry took place during closure and continues currently regarding ongoing COVID issues with the industry.

During our 80 days of closure, we continued rear operations for business continuity and for our employees' benefit. We got

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Two Supreme Court Decisions in 2020 Have Implications for Virginia's Karst Lands

By Dr. Daniel H. Doctor, Virginia Cave Board

In Virginia's karst areas, it is common for polluted surface water to enter sinkholes, mix with groundwater along flow paths through voids in bedrock, and then re-emerge once more into surface streams at springs. On April 23, 2020, the Supreme Court ruled on a case that concerned issuance of permits for this type of groundwater contamination. The case, No. 18-260, County of Maui v. Hawaii Wildlife Fund, dealt with a situation in which treated sewage was discharged from an injection well into groundwater that re-emerged in seawater along the coast and caused harmful algal blooms and damage to coral reefs. A dye trace study proved the connection between the wastewater injected at the well and the flow of that groundwater back out into the surface water. The court's decision found that pollutants entering navigable waters through groundwater that have a demonstrable point source into the groundwater can be regulated under the Clean Water Act, thus requiring a permit from the U.S. Environmental Protection Agency (EPA). The court's ruling stated, "the statutory provisions at issue require a permit if the addition of the pollutants through groundwater is the functional equivalent of a direct discharge from the point source into navigable waters." This "functional equivalency" standard is commonly met in karst settings, where polluted runoff into sinkholes may travel quickly through groundwater to springs and re-emerge back into navigable streams. This is a potentially important decision for changing the way discharges into sinkholes are managed by the EPA. Currently, the EPA only considers such discharges as Class V injection wells, and therefore not within EPA's mandate to permit them; review for permit consideration is generally passed on to State agencies, if considered

at all. This decision will likely result in an increase of dye trace studies in karst terrains to help determine permit requirements in certain cases of surface water contamination.

A second Supreme Court decision made last year has implications for Virginia's karst regions. In June 2020, the Supreme Court decided case No. 18-1584, U.S. Forest Service v. Cowpasture River Preservation Assn., et al. At issue was a technical legal question about which federal agency had the authority to grant the permit for pipeline construction. The U.S. Forest Service had granted the permit, but the plaintiffs in the case argued that the National Park Service should have been the permitting agency, thus making the Forest Service permit invalid. In the 7-2 ruling, the Supreme Court concluded that the Forest Service did have authority to grant the permit, which allowed the Atlantic Coast Pipeline (ACP) project to proceed. In the ruling, the court stated, "An examination of the interests and authority granted under the Trails Act shows that the Forest Service 'right-of-way' agreements with the National Park Service for the Appalachian Trail did not convert 'Federal lands' under the Leasing Act into 'lands' within the 'National Park System.'" The court ruled in favor of the ACP crossing underneath the Appalachian Trail on federal land, overruling the earlier decision of the Fourth Circuit Court of Appeals that had blocked pipeline construction. However, less than 1 month later, on July 5th, the project was canceled by Dominion Energy and its partner Duke Energy for unrelated, unspecified legal reasons (see <https://atlanticcoastpipeline.com/>). Thus, the future of the ACP project remains uncertain but has been canceled at the present time. ■

The Show Cave and COVID *continued from page 2*

to work on cleaning and basically getting everything ready for reopening. The Board of Directors and senior management staff developed a reopening plan that was/is focused on "employees, guests, and community safety." This plan was/is the mainstay of what we do at Luray Caverns now. Being open for our guests had to be safe for us to be successful. We have always worked hard to maintain a safe experience at Luray Caverns and this virus situation had to take priority so our employees, our guests, and our community felt safe.

Upon reopening and according to our action plan, Luray Caverns was safely open to the public. Our tours are self-guided now to avoid crowding situations. We have to protect the Caverns, so we have a roving guide staff that answer questions from our guests. These roving guides disinfect the handrails throughout the day. Signage with protocols was developed for our guests, as well as our website and other social media platforms, were modified. Everyone—employees, vendors, and guests—must wear a face covering at all times. Since reopening we have had some fairly busy days and the guests have been a huge help in doing what they are supposed to do per the protocols.

Response to what we have implemented at Luray Caverns has been overwhelmingly positive and supported by our guests and endorsed by our local and State leadership.

Now that there is a light at the end of the COVID tunnel, we look at where we have been and continue following protocols to

the end of this experience. Moving forward has been the driving force behind Luray Caverns' energy to remain not only a viable tourist attraction in Virginia/USA, but an example of successful protection of the wonderful karst world for which we are stewards. We all feel very fortunate to have navigated this pandemic, successfully remaining open for our guests in a safe, educational, and preserved environment. ■

Southeastern Cave Conservancy Joins You as a Virginia Cave Owner

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website, and workshops were mostly sidelined due to the current pandemic, but will be back on track soon. Please keep in touch with SCCi to learn more about this valuable curriculum and how you can get involved.

SCCi continues to expand with land and cave management, education programs, fundraising, and events. We are very excited to be a part of the protection of Virginia's cave resources and will work to protect even more in the future. Please become a donor or member of SCCi by visiting our website, SaveYourCaves.org. ■





The Secrets of Caves, Critters, and Rocks

An *International Year of Caves and Karst* Virtual Event

This year, 2021, is the *International Year of Caves and Karst*. People all over the world are celebrating these special resources and landscapes. So are we! The Virginia Cave Board (VCB) is teaming up with the National Speleological Society's (NSS) Virginia Region for a virtual event all day, Saturday, May 8, 2021. We will have speakers from both VCB and the NSS on topics from exploration to bats and critters to hydrology and how important caves and karst are to our drinking water.

Please contact Meredith Weberg at mercaver@yahoo.com or see the website at <https://vacaveweek.com/iyck/> for more information.



*Steph Petri taking in the view in Cyclops Cave.
(Photo courtesy of B. Williams)*