

**Virginia Cave Board
Saturday, August 28, 2021
Williamson Road Branch Library, Roanoke, Virginia**

TIME AND PLACE

The meeting of the Virginia Cave Board convened at 11:00 a.m. on Saturday, August 28, 2021 at the Williamson Road Branch Library in Roanoke, Virginia.

VIRGINIA CAVE BOARD MEMBERS PRESENT

Dr. Daniel H. Doctor, Chair
Steve Lindeman, Vice Chair
Robert K. Denton, Jr.
David Ek
John H.H. Graves

John Haynes
Rick Lambert
Marian McConnell
Meredith Weberg

VIRGINIA CAVE BOARD MEMBERS NOT PRESENT

Anthony Bessette
Mark Hodge

Roger Kirchen

DCR STAFF PRESENT

Jason Bulluck, Director, Division of Natural Heritage
Anne Chazal, Chief Biologist
Michael Fletcher, Board and Constituent Services Liaison
Will Orndorff, Karst Protection Coordinator

OTHERS PRESENT

Ángel Garcia, James Madison University
Shane McGary, James Madison University

ESTABLISHMENT OF A QUORUM

With nine (9) members of the Board present, a quorum was established.

CALL TO ORDER

Chairman Doctor called the meeting to order. He thanked members and staff for attending under challenging circumstances. He noted that COVID protocols were in place.

Chairman Doctor noted that the Board had not been able to meet virtually during the declared State of Emergency. He encouraged members to make the best of the meeting and advised that Board would meet again soon.

Before moving to the business portion of the meeting, Chairman Doctor made a special presentation to Ms. Weberg for her continue efforts and work regarding cave and karst resources in the Commonwealth. The text of the plaque read:

Virginia Cave Board
Distinguished Service Award
Presented August 28th, 2021 to
Meredith Hall Weberg
In recognition of dedicated and sustained outreach
and education on the cave and karst resources of Virginia.

Ms. Weberg thanked Chairman Doctor and the Board for the recognition.

Ms. Weberg noted that there were still Cave and Karst brochures available. She encouraged members to take a box and asked that they inform her regarding where the brochures were distributed. She also requested that members inform her where signs have been distributed.

Ms. Weberg reported that the Cave Conservancy of Virginia donated two professional displays for Cave Board use. She noted that she would keep one for use in the valley. The other will go to the DCR storage in Christiansburg so that it remains in the karst region.

Mr. Denton reported that the American Society of Testing and Materials has developed a standard practice for karst survey. This was based on the standard practice promulgated by the Virginia Cave Board and will become a national template.

Mr. Denton expressed concern regarding the DCR website and the cave and karst information.

Mr. Bulluck reported that Emi Endo recently joined the DCR PCMO staff and will be the point person for Cave Board issues. She will be able to work with the Cave Board regarding the newsletter and information for the DCR web site.

TREASURER'S REPORT

Mr. Bulluck reported that the Division of Natural Heritage has been without a business manager since November 2020. However, he noted that he was able to pull the necessary information from the financial reporting system.

The current fund balance for the Cave Board is \$588.00.

Chairman Doctor noted that it takes about a thousand to produce the *Virginia Cave Owners' Newsletter*. The board will need to raise the funds prior to the next printing that will likely be in the spring.

APPROVAL OF MINUTES FROM FEBRUARY 1, 2020

Ms. McConnell noted that her name was missing from the attendees list but that she was present for the meeting. Two typographical errors were also noted.

BOARD ACTION

Mr. Graves moved that the minutes of the February 1, 2020 meeting of the Virginia Cave Board be approved as amended. Mr. Lambert seconded and the motion was approved.

DCR KARST PROGRAM UPDATE

Mr. Orndorff gave the following report:

Update to Virginia Cave Board
Virginia Karst Program
VA Natural Heritage Program
Department of Conservation and Recreation

8/28/2021

Wil Orndorff, Karst Protection Coordinator

Covid-19 Impacts

In response to Covid-19 and expiration of the lease at the DCR offices in Christiansburg, the DCR Karst Program Staff are now transitioning to full-time telecommuting moving forward. Because staff spends approximately 50% of their time in the field, ample opportunity for in person interaction and collaboration remains. So far the arrangement appears to be working well. From March, 2020 through spring of 2021, field work was extremely limited due to agency restrictions in response to the pandemic. Each of the three team members performed field work with individuals who were already part of their social distancing pod, typically members of their respective households who enrolled as volunteers. Mike Ficco was hired as a temporary wage staff, a position that is ending this fall. Volunteers during this time included Mike Ficco (prior to hiring), Zenah Orndorff, and members of the Malabad family. Staff were able to meet essential field work obligations. Bat hibernacula counts were cancelled for winter of 2020-21 due to the pandemic and concerns over potential transmission of SARS-CoV-2 to bats. No final determination has yet been made by USGS in regards to the susceptibility of North American bat species to SARS-CoV-2, with the exception that it has been determined that Big Brown Bats (*Eptesicus fuscus*) are not susceptible to infection. At present, DCR staff are avoiding concentrations of bats, and when handling bats outside of caves are using personal protective equipment following Virginia Department of Wildlife Resources Protocol base on US Fish and Wildlife Service recommendations. No decision has been made in regards to winter 2021-22 bat hibernacula counts.

The Proceedings of the 2019 National Cave and Karst Management Symposium, hosted by the Virginia Natural Heritage Program and cosponsored by the Cave Board and the Cave Conservancy of the Virginias, were published in 2020 and are available online at <http://nckms.org/wp-content/uploads/2020/10/2019NCKMSProceedings.pdf>. A big thanks to Cave Board member Meredith Weberg for serving as copy editor, and to Cave Board member Steve Lindeman for serving on the planning committee along with Meredith. The citation is:

Orndorff, W. D., Lewis, J. J., Kosič Ficco, K., Weberg, M. H., and Orndorff, Z. W., editors. 2020. 2019 National Cave and Karst Management Symposium Proceedings, 7-11 October 2019, Bristol, Virginia. National Speleological Society, Huntsville, Alabama, USA, 160 p.

Gray Bats

Staff is completing the 4th year of a study of Gray Bat (*Myotis grisescens*) activity patterns at roost sites in southwestern Virginia. DCR's focus has been on 13 summer cave roosts plus the Piedmont Avenue Bridge (aka Bristol Culvert) which conveys Beaver Creek beneath downtown Bristol, VA and Bristol, TN, is home to over 10,000 bats during the summer months, and is Virginia's only verified Gray bat maternity site. DCR staff is also working with VDOT and VDWR to characterize use of the culvert in detail so that essential repairs on the structure can be made while minimizing impacts to the bats. In other Gray bat news, karst team staff discovered a previously undocumented Gray bat summer site along the Powell River in Lee County near Dryden at a cave called "Secret Cave", which appears to be a significant site used by up to a thousand or more Gray bats.

Allegheny Woodrats

DCR staff continues to work with the Department of Wildlife Resources and Radford University to study site occupancy and genetic population structure of the Allegheny Woodrat (*Neotoma magister*) from caves and rock outcrops in western Virginia. Big thanks to Cave Board member Marian McConnell for assisting with site access to caves in Botetourt County, including those on her own property. Absence of woodrats at sites where they were present only a few decades ago has raised concerns about decline of the species. This continued research should help determine the nature and degree of any decline.

Isopods

DCR staff continues a fruitful collaboration with Dr. Julian Lewis to inventory and describe new isopod species using caves and springs (mostly karst) in western Virginia. DCR has contracted Dr. Lewis for preparation for publication of twelve karst species new to science, including several new cave-limited species within the genus *Lirceus*, which includes the federally listed Lee County Cave Isopod (*L. usdagalun*). This work has revealed a higher degree of endemism than expected among epigeal (spring) species, and has highlighted the significance role played by springs in supporting biodiversity.

Beetles

Staff recently finished field work pursuant to a USFWS-funded project to assess the status of seventeen rare cave beetle species in Virginia. This is a subset of the nearly 50 cave beetles species documented in the state. Dr. Karen Ober of College of the Holy Cross is the taxonomic expert with whom DCR is collaborating on this project, and has been funded by the Cave Conservancy of the Virginias (CCV) to describe up to ten species new to science discovered by the DCR karst team since 2000.

Conservation Sites

Update of conservation sites for Virginia's cave and karst associated natural heritage resources continues. Field work and draft sites have been completed for the New River Karst Region (funded by the Cave Conservancy of the Virginias), and work on the Virginia Highlands region is approximately 60% complete.

US Forest Service Site Assessments

Staff is working to better document cave and karst resources on and adjacent to portions of the US Forest Service under a cooperative agreement between USFS and DCR. Work includes cave and karst inventory, biological inventory, and hydrological studies.

New cave preserves

Acquisition of Steger Cave Hill Preserve by the Cave Conservancy of the Virginias was completed in March, 2020. This property, adjacent to Grand Caverns Park in Augusta County, includes Madison Saltpeter Cave and Stegers Fissure, type localities of the federally threatened Madison Cave isopod and state endangered Madison Cave amphipod. Acquisition was funded by the Dupont settlement, and the portion of the property with the caves is a dedicated natural area preserve under the joint management of CCV and DCR.

Mountain Valley Pipeline funded the acquisition of Salamander Cave in Giles County, Virginia by the Southeastern Cave Conservancy, Inc. Property acquired includes 90% of the land directly overlying cave passage and the entire mountain slope above, totally nearly 50 acres. DCR karst staff coordinated this project, which occurred independently of any formal mitigation requirement pursuant to the pipeline.

Mountain Valley Pipeline

Construction resumed in 2021 on the pipeline, including the most intensive karst portions in Giles County. DCR is monitoring two springs hydrologically connected to the pipeline ROW, and to date has not observed any changes in turbidity at these springs as construction has resumed. Turbidity continued to be reported by the landowner at Bottom Spring in Montgomery County through early 2021. The spring's watershed (determined by dye tracing) includes an area where during the summer of 2018, MVP's initial erosion and sediment control measures failed and significant sediment was discharged from the right of way to sinkholes.

The pipeline has been installed and restoration is underway in an area where numerous small sinkholes were reported in February, 2019. These sinkholes were limited to an area where blasting was performed in July of 2018 in preparation for trenching, but no excavation occurred at that time due to suspension of construction in Giles County. The area had been characterized by project opponents as an "unroofed cave", but DCR staff found no evidence to support this characterization. Semantic disagreements between project opponents, agency staff, and MVP remain over what constitutes a cave versus epikarstic solution and deposition features. Cave Board Chair Dan Doctor and cave board member Mark Hodge visited this area independently in 2019. It should be noted that the Virginia Cave Board and DCR both raised concerns during the siting phases of the project about the section of the pipeline along the northwest slope of Sinking Creek Mountain, and recommended against it. MVP did reroute the pipeline to avoid going over or upstream of Canoe Cave, a state significant cave along the base of Sinking Creek Mountain. In karst areas farther west in Giles County, MVP and its consultants continue to coordinate with DCR when karst features have been subjected to potential impacts, or when new features are discovered. MVP is working with DCR and landowners to protect any such features to the maximum extent practicable, and retain access to features for continued use as habitat and for monitoring and exploration. It should be noted that none of these features have statutory protection under state and federal law unless associated with legally protected species, which in this section of the MVP corridor are limited to a few bat species.

New karst position

DCR has received approval for an additional full-time position, "Field karstologist", in the karst program. The karst protection specialist position is being converted to a general funded position while the field karstologist position will be funded by grants and contracts (non-general funds). The focus of the new position will be inventory, characterization, and protection of cave and karst features with an emphasis on biodiversity conservation.

Finally, the karst program was moved in the fall of 2020 within the Division of Natural Heritage from the Protection Section (managed by Rob Evans) to the Inventory Section (managed by Anne Chazal). The Inventory Section is a better match for karst program activities. However, karst staff continues to work closely with Rob (Protection Section) as well as the other sections of Natural Heritage.

Appalachian Karst Symposium

Karst staff are working with the Karst Waters Institute and the West Virginia Cave Conservancy to plan another (4th) Appalachian Karst Symposium. Preliminary plans are to hold the symposium in Lewisburg, West Virginia in November of 2022. Staff requests that the Cave Board consider becoming a sponsor of this event.

Mr. Graves indicated that he would work with sponsorship.

Chairman Doctor and Ms. Weberg agreed to assist with coordination.

LAND CONSERVATION UPDATE

The Nature Conservancy

Mr. Lindeman gave the update for The Nature Conservancy. He noted:

- TNC applied for and received an EPA brownfields cleanup grant for the Russell Sawmill property in Lee County. The property had been a sawmill for decades. TNC is in the process of writing a contract with Wetland Studies and Solutions, Inc.
- Clinch River State Park was dedicated in June. The master planning process for the park has begun. The new park manager will be based in St. Paul.
- TNC closed on about 1,000 acres in Buchanan and Dickenson Counties in the coalfields.

Department of Conservation and Recreation

Mr. Bulluck gave the following updates:

August 9, 2021

Closed and recorded on the "Rajbansee" acquisition at The Cedars Natural Area Preserve in Lee County. Funding provided by the Recovery Lands Acquisition (RLA) grant funded by the United States Fish and Wildlife Service (USFWS). This 28.447-acre addition is the second portion of the property originally purchased from the Rajbansees some 20 years ago, and it further protects cave and karst resources in this part of the Preserve. Bringing The Cedars NAP to over 3025 acres.

July 16, 2021

Closed and recorded on Chance property, possibly the smallest acquisition in DCR history - approximately 0.043 acres. But a critical piece for enabling prescribed fire management on surrounding NAP.

In 2000, Carolyn Chance withheld this interest in her larger, surrounding property when she sold it to TNC, who subsequently transferred it to DCR. For over 2 decades, this remainder has been a burden to Natural Heritage's fire management in this portion of The Cedars. Now that Ms. Chance has passed, her Estate agreed to quitclaim the withholding, and the property is now whole once again.

May 21, 2021

Closed and recorded on Wallen Tract, a 9.668 acre addition to The Cedars NAP

Though only 10 acres, this is an exceptional and significant ten acres from a biodiversity perspective. The new acreage conserves two natural springs (Powell and Flannary Bridge Springs) where Natural Heritage staff have documented the federally-listed Lee County Cave Isopod (*Lirceus usdagalun*), an unnamed, **new to science**, Isopod (*Lirceus sp. Novum*), in addition to more common species. Including this newly protected site, there are only 6 known places in North America where three species of asellids (a type of crustacean) co-occur. According to Dr. Julian Lewis, Smithsonian Institution Research Associate, the springs on this tract "are inhabited by the most unique assemblage of asellid isopod crustaceans of any site in the United States." The springs outflow directly into the Powell River.

DCR worked with the landowners for over 2 years. The land had been partially cleared within both the riparian zone and uplands in preparation for residential development. Establishment of septic systems and additional land clearing could have proven disastrous to the aquatic species present. Under DCR-Natural Heritage stewardship the remaining riparian buffer vegetation will be protected and enhanced, benefitting aquatic species and water quality as well as bat species, such as the Gray Bat (*Myotis grisescens*), that are believed to forage along the Powell River corridor.

Other update

Ongoing work under federal Recovery Lands Act grant. Focus on land acquisition and strong protections for rare species in the Clinch and Powell watersheds. In third year (extended), racing to get several closings completed by September 2021.

Also use of VLCF funds, as always, where our staff submit competitive grant proposals every grant round.

Currently have 7 active land acquisition projects under way as additions to the Cedars NAP.

BREAK

Following the break Mr. Denton noted that he had to leave for a family situation. He provided an update regarding the Atlantic Coast Pipeline (ACP).

The ACP was officially canceled on July 5, 2020. The assets will be sold.

In the process of developing the pipeline, five new caves were found in West Virginia and a "lost" cave in Pocahontas County, WV was rediscovered and mapped. These have been added to the database.

Three studies were conducted on public water supplies:

1. Hamilton Branch in Augusta County, village of Deerfield Water Supply. The source of the water supply was identified.

2. Bolar Spring, a warm spring in Highland County.
3. Gardner Spring in Augusta County, water source for the City of Staunton.

PRESENTATION

Mr. Haynes introduced Ángel Garcia and Shane McGary, colleagues from James Madison University.

Mr. Haynes noted that in prior Board conversation there had been discussion regarding the need for a university program in the Commonwealth that focused on karst studies and related science. He reported that James Madison University is moving that direction in the Department of Environmental Science. A climate science minor is also being considered.

Mr. Garcia thanked the Board for the opportunity to speak. He noted that he had been working to develop a research program about cave and karst for the past two years. Last summer JMU developed a cave and karst science lab. The lab shares with the geochemistry lab and includes mapping and groundwater mapping.

Mr. Garcia discussed the involvement of national level students in the program. A new grant is making this possible. The project will be presented to the Geological Society of America in October.

Mr. McGary commented that there is no study of “karstology.” He noted that the University is uncertain where to house the karst related work. The solution was to seek a research experience grant for undergrads. This grant will allow JMU to bring in ten students each summer to work on professional development and independent research with regard to cave and karst issues.

Chairman Doctor thanked Mr. Garcia and Mr. McGary for presenting to the Board.

NEW BUSINESS

COVID-19

Chairman Doctor advised that he included the COVID issue to find what other members have heard with regard to caving. How has the pandemic impacted caving and karst resources. He also noted that he wanted to review the Cave Board statement with regard to the pandemic.

Mr. Lambert noted that cave research has continued, however, there are fewer conversations with landowners. Most is done by phone or email. Face to face meetings with landowners are now done with one person rather than a group. This is a challenge because if that one person leaves, contact with the landowner may be lost.

Mr. Graves reported that Luray Caverns was closed for 90 days commercially. He noted that in the beginning there was concern regarding bats that might be in the caverns. While Luray doesn't have bats, the issue was a concern for guests. The caverns reopened in June of 2020. Attendance was initially slow. Currently the challenge is to find enough employees.

Mr. Orndorff noted that VCAP voluntarily did no caving for a year.

Mr. Ek asked if there had been observations or concerns regarding vandalism or other damage.

Mr. Orndorff noted that was a concern during the time of White Nose Syndrome but that he was unaware of current issues.

Mr. Lindeman noted that the Channels Natural Area Preserve had major issues at the beginning. DCR worked with VDOT to limit the parking. In addition part-time wage staff was hired.

Mr. Bulluck noted that this was an issue of concern across the state. There has been a net increase in attendance.

Chairman Doctor reviewed the Cave Board statement on the website. It was noted that since the State of Emergency had ended the policy should be revised. He will edit the document and distribute it for consideration.

Mr. Haynes suggested that at the next meeting the Board could have an extensive conversation regarding the pandemic, including the Delta variant, etc. with regard to caving issues.

Chairman Doctor noted that with Mr. Bessette absent, he would table the issue regarding the Supreme Court decision and surface water.

Chairman Doctor asked about the status of the Natural Bridge Master Plan. Mr. Fletcher noted that the plan had been recommended by the Board of Conservation and Recreation at their June meeting.

Mr. Bulluck advised that the Division of Natural Heritage reviews the State Park Master Plans for environmental impacts.

Chairman Doctor asked that DCR staff provide an update regarding Natural Bridge cabins at the next Board meeting.

OLD BUSINESS

Virginia Cave Owner's Newsletter

Ms. Weberg noted that the 2021 VCON was sent to DCR in time, but was not published in time for the International Year of Caves and Karst. She advised that the Board would need to raise about \$600 to be able to publish the 2022 newsletter.

Mr. Bulluck noted that part of the delay was due to having to work through Virginia Correctional Enterprises. He indicated that DCR could apply for a waiver for this project and advised that he would follow up.

Virginia Cave Week

Ms. Weberg reported that the International Year of Caves and Karst event was very successful with a variety of speakers, from Virginia and other locations. She noted that presentations are on the website at vacaveweek.com.

Ms. Weberg noted that Virginia Cave Week 2022 will be June 5-11.

PUBLIC COMMENT

There was no public comment.

NEXT MEETING

Mr. Fletcher will send out a poll for the following dates:

- November 20
- December 4
- December 11

Mr. Haynes offered space at James Madison University for the meeting.

ADJOURN

There was no further business and the meeting adjourned at 3:17 p.m.