



Bluffviews

a quarterly newsletter by Clifftop

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The Burning Question

By Joann Fricke

With prescribed burn season behind us, we now have time to reflect on the results. I became aware of the benefits of prescribed fire after moving to property in the Mississippi River Bluffs in Monroe County. In a recent conversation with a professional conservationist, it was noted that one prescribed burn equals six months (or more) of hands-on stewardship in the control of invasive plant species. One day vs. 180 days, the math seems pretty simple. Repeated prescribed fire has been shown to eliminate some invasive plant species, bush honeysuckle being one. However, invasive plants in the bean family, *Lespedeza cuneata* for instance, thrive on fire, so other means of eradication are needed.

Woodland and prairie fires, either accidental, via lightning strikes, or purposeful, were common 300 years ago. Native Americans regularly burned off the prairies of the plains to remove thatch and strengthen the grasses that grew there. By burning patches of land, some tribes used the regrowth of the type of straight, slender shoots for making the strongest and most artistic baskets. Native peoples used fire to both drive and attract game herds. For example, some tribes would open up patches of grassland inside forested landscapes that drew herds of deer and elk to the protein-rich new growth every spring.

European colonists brought with them an attitude that fire was a destructive force with no beneficial applications, despite the fact that fire was used widely by farmers in Europe. The "Big Burn" of 1910 that consumed three million acres was the impetus for Congress passing the Weeks Act of 1911, which authorized the government's purchase of millions of acres of land on which all fires would be outlawed.

The depiction of the human-caused, destructive forest fire in *Bambi* from 1941 and the creation of Smokey Bear announcing, "Only you can prevent forest fires!" set in motion widespread support for fire suppression in the minds of U. S. citizens.

Prescribed fire reduces leaf litter (fuel) that can lead to wild fires. We don't think much about wild fires here in the Midwest, but in 1980, the bluffs near Valmeyer blazed for three days and consumed over 800 acres. Reducing fuel loads by prescribed burning can prevent such out-of-control wild fires. Several Western states are moving to adopt the fire policies pioneered by Florida and other Southern states as a hedge against the future. They include training for burn leaders and providing liability protection for them.

The burning question is whether we can change the culture around fire, so that residents know that tolerating a little smoke from good fires can help stop the destructive blazes that cloud the air for weeks.

Some information for this article was taken from "Native Americans Used Fire to Protect and Cultivate Land" by Dave Roos for History.com and "Why the South Is Decades Ahead of the West In Wildfire Prevention" by Lauren Sommer for NPR's "Morning Edition."

My Journey with Friends of Illinois Nature Preserves

By Katherine Accettura

During my initial visit to Monroe County in September of 2021, I was mesmerized by the beauty of the hill prairies of Fults Hill Prairie Nature Preserve. I hiked the loop and into the spurs and familiarized myself with this majestic place. I came to the area in preparation for the Fults 50th Anniversary Celebration with Friends of Illinois Nature Preserves, a non-profit new to southern Illinois. At this time, I met amazing Clifftop members and many people who have dedicated their lives to conservation. I began to realize how important conservation efforts were in places as unique as those in the bluff corridor.

High atop Fults, I observed some of the most incredible sights I had ever seen in my home state of Illinois, and I knew I wanted to dedicate myself to learning more about conservation in order to help increase the health of such places. Once Friends of IL Nature Preserves embarked on invasive species removal and educational workdays on Fults, I had really committed myself to such efforts to maintain these natural communities. After learning about prescribed burning from IDNR District Heritage Biologist, Phil Borsdorf, and Natural Areas Preservation Specialist, Debbie Newman, I then began to realize the importance of prescribed fire as a tool for fire adapted community management, especially in the bluff corridor.

I enrolled in the s130 and s190 Wildland Firefighter trainings plus an in-person field training day with the SIUC Fire Dawgs. I learned the skills to apply prescription fire to the landscape. I have since been invited to volunteer my time with burn crews in Monroe, Randolph and Jackson Counties with Clifftop, Friends of IL Nature Preserves, INPC, IDNR, and other organizations. I have been immensely inspired in particular by Debbie Newman and Joann Fricke – two empowering women in conservation, whom I consider my mentors. These groups and individuals have

dedicated countless hours to protection, management, and conservation. One of my favorite experiences along the bluff corridor was on St. Patrick's Day of this year, when I helped Clifftop and others prescribe fire to three separate burn units on nature preserves in Monroe and Randolph counties.



Katherine at a prescribed burn in Monroe County.



Katherine lights fire on Edna's Dell at White Rock NP.

I am privileged to work alongside the dedicated people and be a part of this community of conservationists. I have met many incredible people who have welcomed me with open arms. I am amazed by the work and accomplishments of such a dedicated group of landowners, volunteers and conservationists. I am honored by the immense support and inspiration I have received from so many people. Watching the sun setting and the eagles soaring above the bottom lands and fields from the top of a hill prairie is a priceless experience that I hope everyone gets to experience in their lifetime.

My experiences have been personally rewarding in so many ways. These beautiful places need help from things like invasive species. Our actions shape the landscape for future generations. These hill prairies and glades are home to so many unique species that only reside in these unique environments. I feel grateful to be a helping hand in conservation and protect these wonders of nature.

To view photos from prescribed burns conducted at all three of Clifftop's properties during this burn season, please visit our Facebook page at this link: <https://www.facebook.com/Clifftop-162533970518561>

Croatian Cave Biologists Visit Clifftop's Paul Wightman Subterranean Nature Preserve

By Bob Weck, Clifftop Vice President

As Clifftop members may know, Fogelpole Cave is Illinois' largest and most biodiverse cave. A large portion of the watershed for the cave is protected by Clifftop's Paul Wightman Subterranean Nature Preserve. One of the fascinating denizens of the cave is an aquatic snail of the genus *Physa*. Loss of pigmentation is a common feature in cave adapted animals. The Fogelpole cave snail population is "polymorphic", meaning individual snails vary in their level of pigmentation. At one end of the spectrum, snails are fully pigmented. At the other extreme snails completely lack dark pigmentation. A published account of the snails I coauthored in 2016 drew the attention of Dr. Helena Bilandzija of the Ruder Boskovic Institute (RBI) in Zagreb, Croatia. Helena is the principle investigator for the Evolution in the Dark Project in the Laboratory for Molecular Genetics at RBI. Her primary interest is the molecular basis of adaptations to novel environments, using cave animals as a model. For the past few years we have been collaborating on ideas for using my laboratory colony of Fogelpole Cave snails in her research. This March, Dr. Bilandzija and a colleague from her lab, Dr. Marko Lukic, were in the United States during March and we arranged a visit to Fogelpole Cave.



On Tuesday March 15, we began our tour at the public entrance to the Paul Wightman Subterranean Nature Preserve to view the excellent interpretive signs and see some sinkhole ponds, which our guests found interesting. Although Croatia is an intensely karst landscape, it has a thin layer of soil and sinkholes there do not plug with soil and become ponds. The sinkhole ponds on our preserve provide important breeding sites for newts, salamanders, and frogs of several species.

Depigmented (left) and pigmented (right) forms of the Fogelpole Cave snail.

In the photo at left, Clifftop board member Bob Weck (left) and Croatian biologists Dr. Helena Bilandzija and Dr. Marko Lukic at the public engagement area for the Paul Wightman Subterranean Nature Preserve (photo by Paul Janssen). In the photo at right, Marko examines a spotted salamander egg mass found in a sinkhole pond.



Fellow Clifftop board member Paul Janssen met up with us and drove the group via Gator to the old Fogelpole farmstead where we geared up for the cave. The Croatians enjoyed the novelty of travel by Gator, and the trip was a good opportunity for Paul to show off Clifftop's extensive erosion control project recently completed in the fields surrounding the sinkhole containing the primary entrance to the cave. These efforts have already greatly reduced soil erosion and have prevented silt from washing into the cave.

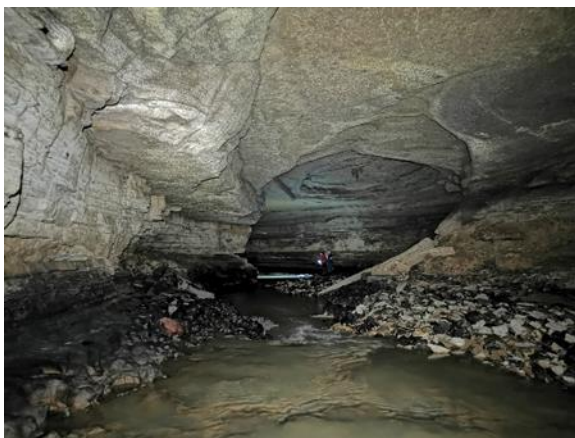
Once suited up, we made our way down the steep wooded sinkhole to the cave entrance at about noon. In addition to giving the visitors a first-hand view of Fogelpole Cave, our objective for the in-cave work was to conduct a population census of snails, including determining the proportion of the population represented by pigmented and depigmented forms. A one square foot sampling grid was placed randomly in at least three sites, in each of three sections of the cave stream. Each rock within the grid was examined on all surfaces for snails and snail egg masses. The cave water was high due to recent rains and the water was clouded with silt, making the survey more difficult. We spent two hours collecting data. Our survey revealed that just over 50% of the population is depigmented, which is fairly consistent with prior surveys I conducted in October 2015 and August 2019. Although the structure of the population was similar to previous sampling, we detected ten times fewer snails in the sampling grids during this survey. We did however find more egg masses than in the past.



Helena, Bob, and Paul at the entrance to Fogelpole Cave (left).
Helena and Bob surveying for cave snails (right). Photos by Marko Lukic.

There are several possible explanations for the apparent sharp decline in the snail population size. Seasonal variation – the population may undergo peaks and valleys in population size over the course of the year. Increased eggs in late winter/early spring might mean more adults in late summer/early fall. High water and wider dispersal – Since the water levels were higher and the cave stream wider in some places, the snails might be dispersed over a larger amount of habitat producing lower rates of detection in the sampling grids. Population crash – this is the worst-case scenario where pollution or disease could have caused a population decline.

Ongoing research at different times of the year is needed to test the hypotheses. I'm hopeful that one of the future research trips to Fogelpole Cave will include our Croatian colleagues.



Main passage in Fogelpole Cave. The dot of light in the distance is a headlamp from one of our team members. Group photo from right to left: Paul, Helena, Bob, and Marko in the cave. Photos by Marko Lukic.

Illinois Speleological Survey Project at Paul Wightman Subterranean Nature Preserve

The ISS is governed by a 6-person board of directors. The current ISS president, Bob Weck, is also a member of the Clifftop board of directors. The Illinois Speleological Survey is a project of the National Speleological Society. The ISS directors and cooperators are an experienced group of cavers with the skills needed to safely navigate cave environments and collect the field data needed to draft high-quality cave maps. The maps and data are deposited in the Illinois Cave Database maintained by the ISS. Upon request, data are provided to assist researchers, agencies, and cavers who support the mission of cave conservation.



Planning session in Clifftop pole barn. From left to right, Bob Weck, Ralph Sawyer, Mona Colburn, Gary Resch, Aaron Addison. Photo by Dan Lamping

The ISS met on Saturday April 9, 2022 to explore sinkholes and survey any caves on Clifftop's Paul Wightman Subterranean Nature Preserve. In late 2013, shortly after Clifftop purchased the 535-acre farm that was to become the preserve, cave biologist Dr. Steve Taylor of the Illinois Natural History Survey organized a systematic search of the dozens of sinkholes on the property for possible cave entrances. Significant portions of Fogelpole Cave passages lie beneath the parcel, so it was possible that one of the sinkholes could provide a previously unknown entrance to Fogelpole Cave. Steve identified 15 possible cave entrances. One of the "leads" was surveyed at the time, a pit that has since been named "Gooseberry Hole". The primary goal of the ISS project was to check the remaining 14 leads and survey any cave passage found.

The day started at 10am with a planning session in a meeting room within Clifftop's pole barn adjacent to the public access area on the preserve. Clifftop directors Paul Janssen and Susan Rick were on hand to greet the 13 cavers who participated. ISS director Aaron Addison provided an excellent large-format map of the preserve with a lineplot of Fogelpole passage. The map also included the position of the 14 leads on the property that were previously identified by Steve Taylor. The cavers divided into four crews. Three teams had ropes and vertical gear to enter any pits encountered and

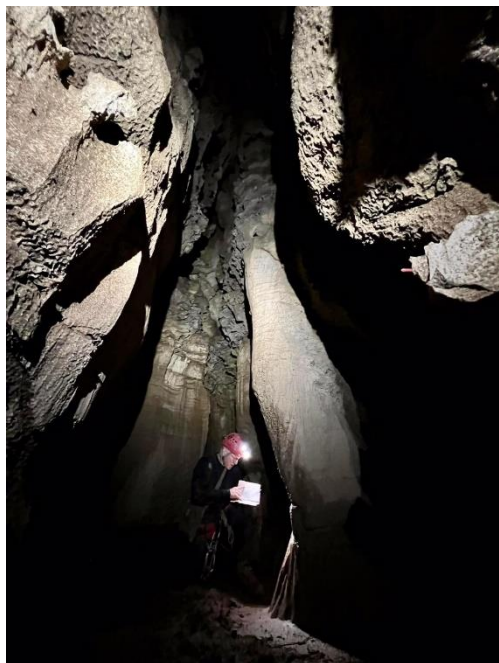


Above, Tony Schmitt preparing to drop into Woodchuck Hole. Photo by Dan Lamping. At left, ISS director Gary Resch dropping into a new pit. Photo by Matt Bliss.



headed to check out the known leads. One team walked a sinkhole dense section in the southcentral part of the preserve looking for new leads. Susan Rick assisted by shuttling cavers around the preserve with the Clifftop Gator. Thirteen of the 14 leads were checked. Seven of the features were found to be enterable and all were surveyed. Three of the pits lead to a short horizontal cave passage totaling about 200 feet. One new small pit and a few interesting leads were also discovered. One of the fun things about discovering a new cave is the naming rights.

Some of the colorful names of caves and pits on the Wightman preserve include Asmodeus Pit, Shotgun Lovesong Pit, Slider Shell Cave, Snake Eyes Cave, and Woodchuck Hole. The day ended with a short ISS business meeting at 5pm. It was a very productive day. ISS will add seven new mapped caves to the Illinois Cave Database and Clifftop gained important information about some of the karst features on our property.



Left, ISS director Gary Resch sketching cave passage. Photo by Matt Bliss

Right, ISS director Matt climbing out of Snake Eyes Cave. Photo by Gary Resch

Below, newly discovered small pit.



Many Clifftop members live in karst areas and wonder about the sinkholes on their land. If you would like to have a few experienced cavers explore the unknown beneath your property and report their findings back to you, please contact the ISS at caveandwoods@gmail.com.

Upcoming events...



Saturday, April 30, 10:00 am until 1:00 pm Fire Follow-up Work Day. White Rock Nature Preserve, 6438 Bluff Road, Valmeyer. We will go into Overlook Prairie and cut the woodies and treat the stumps with herbicide. Dress for the weather and bring gloves. Loppers and herbicide will be provided, as well as drinking water and snacks. As an added incentive, we will have a drawing for two Clifftop hats. Must be present at end of day to be eligible.



Sunday, May 15, 9:00 pm until midnight, Total Lunar Eclipse.

Paul Wightman Subterranean Nature Preserve, 3325 G Road, Fuels. Take a nap in the afternoon to stay up late and join us for this unique event. Washington University professors will be on hand to cover all aspects of the event, photograph the event for display on a computer screen and answer your questions. Take a moon lit walk on the ADA trail and roast a marshmallow. All are welcome, no reservations required.