



IKC UPDATE

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INDIANA KARST CONSERVANCY, INC

PO Box 2401, Indianapolis, IN 46206-2401

ikc.caves.org

Affiliated with the National Speleological Society



The Indiana Karst Conservancy is a non-profit organization dedicated to the conservation and preservation of caves and karst features in Indiana and other areas of the world. The Conservancy encourages research and promotes education related to karst and its proper, environmentally compatible use.

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IKC QUARTERLY MEETING REMINDER

Sunday, September 11th, 1 PM EDT

Home of Danyeale Green

6888 E Bender Rd, Bloomington, Indiana

The quarterly meetings are for the Executive Board to conduct business, and for our members and other interested persons to have an open forum to talk about caves and karst conservation and related topics. Past, present, and future IKC projects are discussed to solicit comments and input from our members and the caving community as a whole. The meetings are informal, and everyone is encouraged to attend and participate. The IKC Board wants your input.

Preliminary Agenda Items: Financial reports; Recap of recent preserve work projects; Promotion of upcoming preserve workdays/projects; Education / Outreach / Fields Days updates; IKC merchandise update; Mid-States Corridor update; Cave / land acquisition activities; Document / photo archives; and more...

Meeting Details: This meeting will be held outdoors so we can properly socially distance (bring your lawn chairs). If it rains, the meeting will be moved inside (please bring a mask for that contingent). Prior to the 1 PM meeting, we will be having a pitch-in/potluck lunch (be there by noon if planning to partake). Danyeale will be providing the main entrees (brats, hot dogs, and veggie kababs) and she requests others to bring a side dish or dessert to share. If you have questions on the meeting or lunch, please contact Matt Selig or Danyeale Green as appropriate (see contact information on page 2).

ACTIVITIES CALENDAR

Sept 11 – IKC Quarterly Board Meeting (see above)

Oct 1 – IKC Field Day #3 – Wayne Preserve (see page 10)

Oct 8 – Big Day at Shawnee Karst Preserve (see page 15)

Nov 4 – Holiday Merchandise Virtual Store Opens (see page 13)

Nov 5 – IKC Field Day #4 – Robinson Ladder Preserve (see page 17)

Dec ?? – IKC Quarterly Board Meeting (date and location TBD)

For more information on the Indiana Karst Conservancy, visit our website at ikc.caves.org, our Facebook page at www.facebook.com/IndianaKarstConservancy, or write to our PO box. Membership to the IKC is open to anyone or any organization interested in supporting cave and karst conservation. Annual dues are \$15. Please see inside the back cover for a membership application form or to make a much-appreciated donation. Memberships and donations may also be made electronically by credit card or PayPal using our on-line services on our website (see the Join Us! tab in the menu) or ikc.caves.org/join-the-ikc.

The *IKC Update*, distributed for free, is published quarterly for members and other interested parties. The purpose of this newsletter is to keep the membership and caving community informed of IKC activities and other news related to cave/karst conservation. Submission of original or reprinted articles for publication is encouraged. Back issues can be found at ikc.caves.org/ikc-updates.

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RAMBLINGS FROM THE PRESIDENT...

After a thorough dive briefing, our cavern dive guide Mauricio finishes with, “We will use a third of our air to go into the cavern, turn 180 degrees in a large loop and use the second third of our air to return to the entrance. We should finish the dive with 1/3 of the air we began with. The dive will last approximately 45 minutes. Any questions?”

Me – “Yesterday I only got 42 minutes of diving out of an entire tank of air that was bigger than these tanks. Are you sure I’ll have enough air to finish this dive?”

Mauricio smiles ear to ear and says, “Don’t worry my friend, you’ll have plenty of air, this is a shallow dive. Let’s go!”

I deflate my buoyancy control jacket and slowly descend into the mouth of the cenote. Crystal clear fresh water. A curious black catfish watches as we enter the entrance, and my dive light illuminates a scene similar to many dry caves I’ve explored.

Scuba diving leaves you alone with your thoughts and as I ponder the difference between confronting my fears and being reckless, I am awed by the size of the cavern we float through. Sixty feet tall, eighty feet wide, piles of breakdown with rocks the size of large SUVs. We follow a yellow safety line threaded through the cavern, slowly finning our way through a giant vadose canyon.

At the start to a large passage to my right I see a sign with a Grim Reaper – “SAVE YOUR OWN LIFE, DO NOT ENTER THIS PASSAGE.” My fin accidentally kicks the sign as I swim past, and I breathe slow and steady, to conserve air.

After 20 minutes or so of diving, lost in the beauty of the cave, I check my pressure gauge – one-third of my air is gone. I signal Mauricio and he gives me the “OK” sign.

We are amazed by large conch shell fossils in the walls, maybe nine to twelve inches across. Fascinating. We float towards the ceiling, up a massive pile of breakdown, to a depth of ten feet. We float down the other side, to a depth of 40 feet.

There’s no evidence of human impact other than the yellow line running through the cavern.

And it is a cavern, because we are always in sight of skylights that shine beautiful green lasers of light into the cave rooms. We’re not “cave diving” in that we haven’t gone through any constrictions or lost the light of day, but it’s dark and for all intents and purposes we’re in a cave.

My dive light illuminates hundreds of fossil seashells as I float near the ceiling of a forty-foot-tall room. I recheck my air pressure gauge. At about 35 minutes, I’ve used two-thirds of my air and I have no idea how much longer we must travel to return the entrance. I signal my air status to Mauricio, who signals “OK” and we continue following the yellow safety guideline.

There are beautiful stalactites, stalagmites, and columns, formed when the cave was dry. We float effortlessly through a fairy land surrounded by hundreds of these formations. I work to relax as I swim past another one of those signs with a Grim Reaper on it.

After a few minutes we surface inside an air dome about ten feet tall and forty feet in diameter. A small hole in the ceiling allows light into the room. There

are small bats flitting around the ceiling and a couple of fossil brain corals to see.

A motmot bird, sacred to the Maya, flies in thru the skylight, makes a circle of the dome and exits. Mauricio tells me how much he loves caves and I think of the times I’ve written in this column about how I love Indiana’s caves. I get it! For a few minutes we are thrilled with the beauty of this scene. Divers in another group pass below us and skip seeing the dome.

The cave exit is only a minute or two underwater from the dome. I take one last look deep down into the blackness of the cave and then I surface, over-awed and thankful to have an unlimited supply of air to breathe, having used just a little over two-thirds of the air in my tank.

It was an amazing experience, and I left this



Cenote Tajma Ha (meaning “flat water” in Mayan) not sure if I want to dive in a cenote again, but Mauricio inspired me to think a few thoughts about cave trip leaders’ responsibilities (in addition to standard safe caving recommendations).

We are responsible not only to conserve and protect the beauty and natural balance of the caves we love and explore, but also the safety and lives of the cavers who journey underground with us. In Indiana, many cave injuries are caused by falls and drowning. Trip leaders would be wise to directly discuss these risks with the cavers in their groups.

Before going underground, it’s prudent to check the hourly weather forecast of the Indiana region where you’re caving. Look at the radar picture for storms over western Indiana, Illinois and Missouri. Check the US Geological Survey’s Indiana stream gauges online to see how much water is in the rivers of the region where you’re caving and whether that level is rising and falling. This can all be done on your cell phone.

Understand the strengths and weaknesses of

the cavers in your group, in particular the newer or weaker members, and work with them to increase their skills and confidence. Make sure your group has adequate and serviceable gear and that its members know how to use the equipment necessary for any given trip. Don’t plan cave trips that finish at the ragged edge of human endurance, but rather reserve some energy to deal with complications and any emergencies that might occur during a cave trip. Purposefully and consciously work safety into planning your cave trips.

From the children who can run laughing through the Backbreaker in Sullivan Cave to project cavers pushing the limits of the map in highly technical caves, the IKC supports and promotes safe caving. It is in all our best interests that cavers enjoy the underground realm and return safely to the surface.

Until our next *IKC Update*, I wish you all safe and wonderful adventures!

Matt Selig

NEWS BRIEFS...

- ❑ In July the IKC ran a “pop up” promotion/fund-raiser offering various merchandise featuring our logo and custom artwork featuring our preserves. Over three weeks, we were able to sell a total of 95 shirts, 3 hoodies, and 6 hats with 25% of the proceeds (\$466.16) being donated to the IKC. A very special thank you to Charlie Veters of Organic Robot Designs for helping create the design, doing the printing, packaging, and shipping. Also thanks to our members who purchased the merchandise which will continue to help fund our mission to preserve and conserve Indiana caves.
- ❑ The Indiana DNR Non-Game Wildlife Fund is celebrating its 40th anniversary with 40 stories from past accomplishments/activities spread over the year on a special website. For the month of August, one of the stories (Number 24) highlights volunteers and the IKC is featured twice for our important work on cave gating and winter bat monitoring/surveys. We love partnering with the various divisions of the Indiana Department of Natural Resources (Fish and Wildlife, State Parks, State Forestry, and Nature Preserves) on these projects. To see Story #24, go to storymaps.arcgis.com/stories/c19ae4f0a459472c9c7f1113583cbc78.
- ❑ In 2016 the IKC did a mixed chestnut planting (along with red oak, butternut, and black walnut seedlings) at our Robinson Ladder Cave Preserve. The fifty back-crossed chestnuts were provided by The American Chestnut Foundation (TACF) and have a higher resistance to the Chestnut fungus that has wiped out the once-plentiful native trees. Last winter the IKC was approached by TACF again to see if we wanted more chestnut trees for this spring. We said yes and thirteen seedlings were delivered from Pennsylvania and planted at our Shawnee Karst Preserve adjacent to the other hardwoods we have planted over the past three years (mostly red oak, white oak, and black cherry).



Continued on page 10...

RAY “RATDOG” SHELDON (1956-2022)

It is with extreme sadness that we announce Ray Sheldon was recently killed in a car accident. Ray was an active IKC member for over 30 years and was the very dedicated Property Manager/ Cave Patron of the IKC's Lowry Karst Preserve. Ray was a dear friend to many of us and he will be greatly missed.

Lenord Ray Sheldon Jr, 66 of Elizabethtown, passed from this life at 4:19 PM Saturday, July 30, 2022, as the result of an automobile accident in Ripley County.

Mr. Sheldon was born March 26, 1956, in Columbus, Indiana, the son of Lenord R Sheldon Sr and Nancy Jean Kamke Sheldon. He married Beth A Rager on December 16, 1984.

Ray was a member of Petersville United Methodist Church and a US Marine Corps Veteran. He was a former volunteer at Our Hospice of South Central Indiana and the Republican Party. He retired from the Bartholomew County Surveyor's Office in November 2019 after 22 years of service. Five days later, he “unretired” to work for one of his best friends, Richard Snyder at Snyder's Environmental Service, where he worked for the past two and a half years. On Friday July 29, 2022, after celebrating with his coworkers, he retired again, in his words, “for good”.

Ray was a member of the National Speleological Society, Central Indiana Grotto, Eastern Indiana

Grotto, Indiana Karst Conservancy, and was the Secretary of the Indiana Cave Survey. In 2002, Ray was the recipient of a certificate of appreciation from the US Department of the Interior/US Fish and Wildlife Service. In 2005, he received a Volunteer of the Year Honor Award plaque from the Hoosier National Forest as a volunteer of the Indiana Karst Conservancy. In 2012, he became a certified Indiana Master Naturalist. Most recently, Ray was the Property Manager and Cave Patron for the IKC's Lowry Karst Preserve in Jennings County.

Ray mapped and surveyed too many caves to list across Indiana and surrounding states. He enjoyed being underground with his friends and loved ones. He always said, “Cave mud runs through my veins,” and “Cave water is healing water.” Ray had no greater joy in his life than taking his kids and grandkids caving.

Survivors include his wife Beth of nearly 38 years; children, Jennifer (Matthew) Hohnstreiter of Seymour and Jon (Mary) Sheldon of Dallas, TX; grandchildren, Logan and Megan Hohnstreiter.

The family has asked that contributions in memory of Ray be made to the Indiana Karst Conservancy or the Indiana Cave Survey.

A good article memorializing Ray from the Columbus Republic may be found here: www.therepublic.com/2022/08/04/a-hard-worker-former-county-employee-remembered-for-his-dedication/



RAY SHELDON'S CAVING CAREER

article and uncredited photos by Bruce Trotter

I first went caving with Ray in October 1983 to Buckner Cave. It was my second wild cave trip. After that, I was hooked. Ray was already hooked years earlier. I want to mention a few of Ray's original caving buddies: Sam Thornburg, Kevin Wools, Mike Moody, Mark Curry, Neil Empson, Wayne Armuth, and Marty MacCauley; that I also got to cave with.

We did the popular Garrison Chapel Valley

caves west of Bloomington just like many other unaffiliated cavers. We also started visiting Crosley State Fish & Wildlife Area caves in November 1983 because Crosley was much closer to home. We went caving usually once or twice a month, always looking forward to the next trip. And when we weren't in a cave, we were talking about caves, or planning a trip to go caving. By 1986, we had bought wet suits and branched out to greater chal-



lengers like Wayne Cave and Sullivan Cave.

In May 1987, we went on our first Central Indiana Grotto (CIG) grotto-sponsored trip to Brinegar/King Blair Cave, which was quite wet and cold by anybody's standards.. Ray brought along a small LP stove so that we could heat up soup and make coffee (something we had done before while caving). The rest of the group was quite amazed and greatly appreciated the warm beverages. We soon joined the CIG and started attending their monthly meetings. Around this same time, we joined the National Speleological Society (NSS) and the Indiana Karst Conservancy (IKC).

In June 1987, we took another trip into Buckner Cave on a conservation workday. We collected and hauled about 50 pounds of trash out of the cave. This was the first of many trash hauling trips in various caves. We were also wire-brushing and mud-washing over spray-painted graffiti to restore various vandalized caves. At that time we were still using army surplus packs, belts, ammo cans, etc.

In September 1987, we started visiting Decatur County caves. Around this time we finally got real caving helmets, not just construction hard hats. In December 1987 we started attending IKC clean-up trips to Wayne Cave and later Coon Cave.

May 1988 was the first of many cave trips in which Ray led Boy Scouts groups. They were always fun. Ray was a Boy Scout when younger and got his start in caving while attending the Caveman Expeditions in the early 1970s.

In July 1989, Ray and Kevin Wools discovered Wools Whim Cave in Crosley. In October 1990, Ray was leading the survey effort to map his first cave. He published his first cave map in the June 1991 issue of the *CIG Newsletter*. Ray participated on many survey projects and drafted many maps after that.

Around this same time, Ray had found some caves in Bartholomew County. These caves were located near the Quarry Ridge Golf Course. Ray led the surveying effort on these caves, after dark, and drew the maps. Beth Sheldon

and Kevin Wools helped Ray with the surveying. Ray was especially proud of these caves since they are near his home.

In early 1990, we started getting a lot more interested in the Crosley SFWA area. We knew there were caves there, but didn't know how many. Many ridgewalking trips were made to Crosley to look for and document the caves found. During this time Ray was always organizing trips to take our kids, relatives, friends, co-workers, and whoever else wanted to go. Ray just loved going caving or anything to do with caves. Over the years of working in Crosley SFWA, our surveying and mapping efforts have amounted to documenting around 45 cave locations.

In March 1991, Ray invited me to go look at a possible cave in Burnsville, Indiana. We arrived and climbed down into a sinkhole behind the owners's house and opened it up to get the water flowing. There was no going passage, but Ray thought we got her septic "system" working. As we were leaving, we also saw the biggest pile of cat food cans that we had ever seen... though we didn't see any cats.

Also in March 1991, Ray and I found another cave in Crosley. It was getting late in the day and we had to head home. After leaving, Ray said he wanted to go back. So, here we were, back at that cave at 8:00 PM, well after dark. Ray was always obsessed to find out where a cave would lead. It ended up being a blind pit, the first one we had found in Crosley.

Ray had been surveying in Spring Mill State Park for a couple of years when he finally convinced me to go with him and survey some bigger

Ray Sheldon at the entrance of a small sandstone cave during the Crane Karst Inventory Project (circa 1998)



caves. He had already helped survey Hamer Caver (1.5 mile), Upper Twin Cave (3.1 mile), Shawnee Cave (1.5 mile) and several other smaller ones. The only main cave left was Whistling Cave. Ray had already done 15-20 trips in Whistling. I went along in March 1991 and ended up going on another 25 or so until Whistling Cave was finished. One of our trips into Whistling was just a few days after Ray had some kidney stones removed. This was to the very far reaches of Whistling with a large amount of crawling. Ray did not want to miss a surveying trip, even if he had to suffer some pain. Whistling Cave ended up being 7.8 mile long. Ray joined the Indiana Cave Survey around this time.

In November 1993 we visited Birthday Plunge with Kenney Carrigan. On this day we had gone to learn some vertical skills. After entering the cave and doing three rope drops, Kenney fell about 25 feet into a pit and had serious injuries. I left the cave and went for help. The rescue was difficult and complex and about 24 hours later, the rescuers got Kenney out of the cave. Ray had stayed by his side that entire time.

In January 1994, Ray had organized our first trip to look for caves in Jefferson Proving Ground (JPG). Ray invited Kevin Wools and myself. We were escorted by JPG employee Jerry Walker. Jerry was initially there to keep us from getting hurt by unexploded ordnances as well as showing us around the 55,000 acre grounds. Over the period of about three years we visited JPG on 48 separate days, logging 1572.4 man/hours. We surveyed 5,805.2 feet underground in 33 caves and 21,454 feet above ground. Other participants included Keith Dunlap, Jacob Trotter, Richard Snyder, and Steve Collins. Jerry and Keith would end up being trusted cavers and dear friends – and the four of us were still together as a group 28 years later.

In August 1994 we started helping the IKC with cave gating: Shiloh Cave, Suicide Cave, Endless Cave, Wyandotte Cave, and numerous other smaller

caves and mines. Ray was probably involved with 20-25 cave/mine gating projects over the years. He always enjoyed volunteering, the hard work, and always knew exactly what needed to be done.

In May 1995, we did our first dye trace, from Crosley Meadow Cave to Horse Thief Cave. It proved Ray's theory that they were part of a nearly mile long system, at least hydrologically, but not all physically passable.

In September 1997 Ray had organized our first trip to look for caves in Naval Surface Warfare Center, Crane Division (Crane). Ray had secured permission to look for known caves and do additional searching for more unknown caves. Ray invited Keith Dunlap, Jerry Walker, Kevin Wools, and myself. Over the next three years we would visit Crane for a total of 27 days logging 962.5 man hours. We surveyed 4,866.4 feet underground in 12 caves. We only ridgewalked a small portion of Crane's 56,000 acres since a good portion of that facility is considered restricted without special clearances. Our time for entering Crane had come to an end when the 9/11 tragedy struck.

In October 1999, Ray had organized another karst study, this time in Versailles State Park. Ray had invited Jerry Walker and myself for the first day there. For the next year and a half, we visited Versailles SP for a total of 14 days, logging 308.5 man hours. We resurveyed Bat Cave to a length of 716 feet. We also surveyed Ballman Cave to a length of 1905.9 feet. Ballman Cave would be one of the most challenging caves that we had ever surveyed. It was 1900 feet crawling on your stomach laying in one or two feet of cold water.

In March 2001, Ray had heard about an old underground quarry in Sellersburg. This quarry was formerly used to mine a particular type of limestone to make cement. In fact, the cement kilns were right across the road. The quarry was abandoned, then had a dam built that flooded it. The reason we were



Ray Sheldon in Easter Bunny Cave, Crawford County.



there was that the Indiana DNR had discovered that the quarry was being used as a summer maternity roost for the endangered Gray bat. We could only visit the quarry in the winter when we surveyed and photographed the quarry over three trips in boats and kayaks. These were probably the most unusual “cave trips” that we had done.

In July 2002, Ray, Jerry, and I started the survey of Browns Farm Cave in Crosley SFWA. This is another cave to mention just because of the difficulty of traversing and surveying. We did a total of four trips resulting in 1682.1 feet. It is not one that we ever wanted to go back to and do again.

In February 2004, Ray and I had resurrected a long time effort to find and locate all the caves on the Hoosier National Forest (HNF), about 200,000 acres. This project had gone on for close to 15 years but never got completed. On our first trip, there was Ray, Keith Dunlap, Jerry Walker, Kevin Wools and myself. Over the next six years we would visit the HNF for a total of 30 days logging 932.5 man hours with each person walking over 200 miles. We would fill out report forms on 322 locations of caves, springs, mines, and karst features for the US Forest Service that was later all entered into their GIS to provide for better management and protection of these karst resources.

Since 2017, we had been doing quite a bit of ridgewalking in the winter months. We did the newly acquired HNF/Kimball Tract 2 property consisting of 275 acres for a total of three trips. We

did the newly acquired Spring Mill SP/Cave River Valley property consisting of 300 acres for a total of four trips. We then did Henderson Park property consisting of 400 acres for a total of eight trips. Most recently we completed The Nature Conservancy property adjacent to Henderson Park consisting of 1100 acres for a total of ten trips. The primary participants on these ridgewalks consisted of Ray, Keith Dunlap, Jerry Walker, and myself.

In 2019, the IKC acquired the Lowry Karst Preserve in Jennings County and Ray quickly volunteered to be the Property Manager and Cave Patron for that property. Ray, Jerry, Keith, and I did a number of projects on that property, along with several other volunteers, in particular Ray’s wife, Beth. Ray definitely had a vision on developing this small preserve and implementing his plan.

One of my favorite remembrances of Ray was when we would find a new cave or karst hole in the ground. Ray would be so excited, just like a kid on Christmas morning. Regardless of how small of a hole, Ray would want to start digging immediately. He would be moving dirt, mud, knocking rocks out the way. I think that was his favorite thing to do and how he earned his nickname “Ratdog”. This happened many, many times over the years. And usually, Jerry, Keith, and I would be standing outside the hole watching Ray dig. And we would always jokingly accuse him of scooping the cave.

Over a 40 year period, I have spent about 900 hours underground with Ray and many thousands of hours above ground.. It was all great fun with one of the best guys to be with. Ray’s many other friends thought the same thing. Ray will be sadly missed.



Bruce Trotter and Ray Sheldon mixing concrete while replacing the lane gate post at the Lowry Karst Preserve (2021)

photo courtesy Keith Dunlap

...continued from page 5

Because the B3F3 hybrid chestnut trees are “special” (i.e., expensive for TACF to grow, but free to the IKC) and because deer seem to really like them, cages were fabricated to minimize browsing. If you are in the area, stop by the Shawnee Preserve and check them out.

- ❑ The IKC plans to continue offering field days and hikes in 2023 and we hope you will join us! While we have some ideas, we’d love to hear if you have an idea for a leader or an interesting hike/tour at or including our preserves or other karst environs. Please contact Carla Striegel-Winner (CarlaStriegel@gmail.com or 812-639-9628) or mention to any board member.
- ❑ Weather-permitting, the IKC is planning an afternoon work session at the Robinson Ladder Cave Preserve on November 5, starting at 1 PM. This is the same day as the scheduled hike/tour, which will be that morning (see page 17). The main activities will be to trim over-hanging branches along our long access road and treating some invasive Tree of Heaven on the property. Contact Property Manager John Benton (see page 2) for more information.
- ❑ The IKC has gained *eleven* new members in the last quarter. Welcome Andrew Bieski, Justin Butts, Owen Freese-Posthuma, Ethan Hurst, Ryan Moran, Ashley Motia, Wendy Orlandi, Angela Rhodes, Connie Schulte, Lynn Whitney, and Tom Zeller. The IKC membership currently stands at 250.

WAYNE CAVE PRESERVE: HIKE WITH A BAT BIOLOGIST

SATURDAY EVENING, OCTOBER 1

Join IKC board member and bat biologist Goni Iskali at Wayne Cave Preserve for an evening hike along the trail to reveal bat habitat. We will discover why protecting and managing our preserves and other natural areas as great habitat is necessary for species survival. You will learn, as well, what you can do at your own home and in your community to attract and protect these wonderful winged mammals. This walk is timed to intersect with annual bat migration into their hibernacula, so Goni will talk about what happens during this important time. She will also demonstrate techniques of how to sample for bats, and hopefully we will encounter some of these amazing winged creatures in the wild!



The hike will follow the mile-long loop trail at the preserve and will go rain or shine, so please be prepared for the weather. We will return to the parking area by dusk, but please bring a source of light in case it gets dark as we wrap things up.

This hike, the third of our four field days for 2022, is free and open to anyone, but is by registration-only and limited to 20 participants. Registration does not open until September 1, but you may go to [ikc-FieldTourFall22.eventbrite.com](https://www.eventbrite.com/e/ikc-field-tour-fall22) and click to have a reminder sent to you, or focus your camera on the QR code here.

Questions may be directed to the IKC’s Outreach Chair Carla Striegel-Winner (CarlaStriegel@gmail.com or 812-639-9628).

BUDDHA KARST PRESERVE ECOLOGY HIKE AND TOUR

article and photos by Carla Striegel-Winner

I've certainly enjoyed planning our field days this year. I must admit that I was excited about the Buddha tour because I wanted to know more about this preserve, and it was intriguing to me that the land which is now planted in trees was once a cow pasture. So a karst and ecology tour was a perfect fit. Having Property Manager Keith Dunlap as our main guide on June 11 was great; he knows the preserve and its recent history like the back of his hand – and really loves the property and the cave as well. To tag-team with Wyatt Williams, an IKC member who was an Interpretive Naturalist at Spring Mill State Park and then McCormick's Creek State Park, before becoming the State's Community Ecologist at Division of Nature Preserves, was a good match. Wyatt was able to talk about why Buddha is a state dedicated nature preserve and what that means. He answered questions along the trail and shared highlights of the recent plant survey the Division of Nature Preserves completed on the property. We were pleased to hear we might just have a globally rare plant on the preserve – a sample of it is being confirmed before he could say for sure.

The 13 of us gathered at the parking area and quickly moved to the shade of our 20 year old trees, as Keith showed us visuals of the bare field – which is what the property looked like upon purchase in 2001. As we walked along the mowed trail, both Keith and Wyatt had interesting comments to share. Of course a highlight, since attendees had filled out their waiver forms and brought lights... was that we were all able to go into the entrance room of Buddha Cave, where we



explored, chatted, and enjoyed the beauty.

We were so pleased that some of our guests were knowledgeable and added to the tour! Our own IKC President, Matt Selig, was a participant and did an impromptu geology talk in the entrance room. Steve Backs, recently retired biologist with the DNR, was able to add some great insights as well, and he and his wife Jackie live just a hop, skip, and a jump from Buddha Preserve. And let me tell you how excited I was to learn that Carroll Ritter, long time IKC member and author of the recent book *Magnificent Trees of Indiana*, registered with his wife Martha. As we made our way around the one-mile trail, questions and discussions took place at every stop. I feel like every participant had something to offer to our tour. The hike was just enjoyable, and the perfect weather did not hurt either.

We are organizing these field days to fulfill goals that were developed from feedback we received from our membership questionnaire last year. We want to engage members and offer opportunities to become more familiar with our preserves, inspire volunteerism, and encourage new and continued supporters. The Buddha preserve hike and tour did just that, with approximately half of the participants being members, and the rest being new to the organization. When Keith, Wyatt, and I got the following email from a long-time member, I knew then and there that we are right on target, so I'd like to end with the note that brought joy to my heart:

Good morning to all. Thank you for a wonderful day. Such a great way to experience these

Continued on page 18...

FAMILY CAVE & SCIENCE WEEKEND AT SULLIVAN PRESERVE

by Chris Landis

I've never had more fun than taking kids on their first cave trip. Their excitement and curiosity add to the adventure of exploring the underground for the first time. As the trip planner for the Windy City Grotto, I wanted to create a kid-friendly caving event to introduce the next generation to the wonders of caves and the wildlife that live in them. And what if I could create an event with just such a cave trip, but also teach kids about the science of caves and the natural world around them. Throw in some camping and family time, some educational games, and hands-on object lessons, and you've got my favorite cave trip of the year.

This year, we had seven children and four parents/grandparents enrolled for this two-day event, along with four guides. We held the event at the IKC's Sullivan Cave Preserve, which offers us camping and a cave with many great spots to teach science lessons.

Our event started Saturday morning, July 16th, with antsy, excited kids getting ready for their first underground experience. In fact, our very first science lesson started in the parking lot. One kid was chosen to use science to find the cave. Two clues are provided: 1) Caves are formed by water; and 2) Water always flows downhill.

At the cave entrance, while the gate is unlocked and a hand line is secured, the excited kids began clamoring for their spot in the front of the line. One by one, each young caver was helped down through the series of climbdowns. Echos of "I found another sala-



mander!" and "Look, this rock has sparkles!" bounced off the small entrance chamber. Not only is this my favorite cave trip of the year, it is also the loudest.

Eventually we made it into the Backbreaker passage, where a quick count was taken. One kid was assigned the job of helping me count cavers every time we stop. A short trip down the Backbreaker brings us to the first stop – the spot where a limestone layer is peeling away from the ceiling. Here, we teach the kids how limestone is formed in layers, and how water dissolves and erodes these layers to form caves. Further down the passage, we stop in a dome and learn how they are formed from the turbulence of two intersecting water flows.

At last year's Family Cave and Science Weekend event, an eleven year-old caver named Madyn found small gypsum flowers in the Backbreaker. Those gypsum flowers were our next stop along the tour and object lesson.

Eventually, we reached the junction and headed towards the Mountain Room. Before squeezing through the short belly crawl, we went on a quick bat hunt. I don't see many bats in Sullivan Cave, but when I do, they are usually in the passage between the start of the belly crawl and the Lost Formation Room. Unfortunately, no bats were spotted this year.

Every two minutes, or any time the passage got even slightly larger, one of the kids would ask me "Is this the Mountain Room?" and I would reply "Nope, you'll know it when we get there." The kids, full of energy, arrived at the Mountain Room. There was suddenly lots of loud yelling and astonishment, and the kids



photos courtesy Matt Lewis

were off and climbing. Soon I could see lots of headlights all the way up the giant breakdown pile, and parents yelling “Be careful!”

After the kids expended a bunch of energy, and a quick lunch was eaten, we had another lesson about how breakdown is made and speleothems are formed. The giant flowstone formation that sits on top of the breakdown pile makes for a great object lesson.

Our next stop was down in the river passage, where three distinct layers can be seen. Here, we again learned about limestone formation and what causes these different layers.

We made our way along the river passage while the kids did their best to keep their feet dry. Eventually each kid’s feet ended up in the water. When we arrived at the small waterfall and found a crayfish, suddenly no one cared about keeping their feet dry as the kids crowded around wanting to get a close up view of the crustacean. We examined its anatomy and learned how it eats and survives underground. Later, we found a few Banded Sculpins in the stream, and again learned about how life survives underground.

Eventually, we turned back and headed to the surface. As we made our way back, the kids were tired and much quieter.

Sunday our science lessons continue up on the surface. The weather reports called for rain, so we cut our lessons a little short. We covered the difference between vertebrates and invertebrates, using my collection of animal skulls as object lessons. We played a game, dividing some animals into either vertebrates or invertebrates. Then, by examining the teeth, we redivided the animals into carnivores, herbivores, and omnivores.

Before the rains came, we squeezed in another game, our family scavenger hunt. Clues were



given to each family, and guesses were made about what natural item is being described. Each answer led to a quick science lesson. Topics covered include mushrooms, woodpeckers, pine cones, beavers, and so much more. The rains came just as we were wrapping up the game.

Although we had to cut out other games and lessons covering watersheds, pollution, and other topics, we were able to cover some science and play some fun games. We even found a Ringneck snake, which led to more hands on lessons. Every kid went home with a 20-page science based work book, full of puzzles, mazes, stories, and activities.

Every year I look forward to this cave event. I love having the chance to pass on to the next generation my love of exploring, learning, and being curious about the world around us. I appreciate the IKC for allowing us to use the Sullivan Cave Preserve for this annual educational adventure.

WHO IS ON YOUR HOLIDAY GIFT LIST? WE THINK THEY NEED SOME IKC SWAG FROM OUR WINTER POP-UP STORE!

November 4-20 at www.stores.inksoft.com/ikc (will only be open these dates)

It might be a bit early to think about Christmas, but our July virtual pop-up store was successful, so we are putting together a winter version! Think hoodies (great for after-cave wear for your favorite IKC board member?), long-sleeve shirts (for your best caver friend?), a cotton tote (for mom?), t-shirts like the summer store had – and more! If you have an idea for an item, let us know and we will see what we can do. The store will be over before your December *IKC Update* is available, so we will be sending a members email and post several times on Facebook while the store is open.

A LOOK BACK AT INDIANA KARST

by John M Benton

Arch Rombough Addington (1894-1972) was a pioneer in Indiana speleology, although many may not know his name or be familiar with his work. He was an only child and lost both of his parents early in life, so was raised by his grandparents through boyhood. He was born near Winchester (Randolph County) in east central Indiana on February 23, 1894. His parents were Waldo and Laura May (Allen) Addington. He attended and graduated from high school in Albany, then attended Indiana State Normal and Marion Normal schools. He was then a teacher in Lynn and Green Township Consolidated schools before coming to Bloomington where he was the principal of Fairview School.

In 1916 he enrolled at Indiana University and graduated with distinction in 1922. He then received his Masters of Art degree in Geology in 1925 from IU but by 1928 left Indiana, joining the faculty of Fresno State College in California, where he served for 32 years. Addington followed his mentor at IU, Dr William N. Tucker, who left the IU Geology Department in 1927 and went to the state normal school in Fresno California (subsequently renamed Fresno State College). Addington married in 1916 and had a son and daughter. He was a member of Phi Beta Kappa, Sigma Xi, Phi Delta Kappa, Indiana Academy of Science, Geological Society of America, Masons, Fresno High 12 Club, and Retired Public Employees Association. He died September 18, 1972 after a brief illness.

His professional publications concerned underground drainage features of the limestone terrain of south-central Indiana. He studied the localities south of the border of the Wisconsin glacial stage and near the margin of the Illinois drift. For an area tributary in southeastern Owen County, Raccoon Creek, he described evidence that, preceding the Illinoian glacial stage, there was underground drainage, perhaps like the present; that sinkholes leading to it were clogged by outwash during the Illinoian, while ponded meltwater escaped superficially via a stream gap through the ridge which sep-

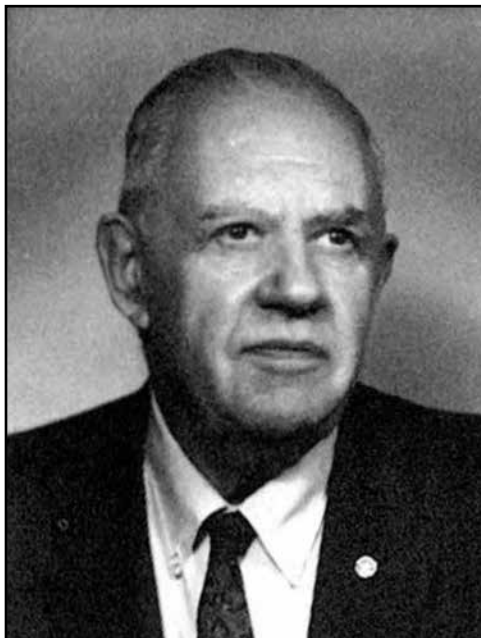
arates the sinks from Raccoon Creek; and during the long post-Illinoian interval, the impending outwash was fragmented as drainage reverted below ground and transported part of its sand to the spring where underground water reappears. He made dimensional surveys of Porter's Cave in northeastern Owen County, Patton Cave in southeastern Monroe County, and Marengo Cave in Crawford County. His Marengo Cave map prompted Richard Powell,

author of *Caves of Indiana*, published in 1961, to comment some forty years after the map was done, "I think you established some sort of cave mapping standard with your map of Marengo [Cave], for few caves in the United States have been mapped with plane table..."

Powell used several of Addington's maps in his *Caves of Indiana* publication (revered by Indiana cavers) such as Marengo Cave in Crawford County, May's Cave and Truitts (IU) Cave in Monroe County, along with Porter Cave in Owen County. Addington is also

believed to have mapped Mayfield Cave in Monroe County, but Powell used the previous Banta map in his publication. Powell has an excellent bibliography of Addington on page 117 of his *Caves of Indiana*.

Addington described terrain and karst features involved in the origin of two (Litten) natural bridges in McCormick's Creek State Park and made topographic maps of the section in which they occur. He also topographically mapped several square miles with many sinkholes around Donaldson [Shawnee] Cave and Hamer Cave in Spring Mill State Park. His survey of Marengo Cave was done with the aforementioned plane table and open sight alidade, sighting to positioned candles. The distances were measured without a helper for a full half-mile with a 50-foot tape which had to be pegged at one end for every stretch. During 1930, there was considerable correspondence with William Morris Davis in connection with the preparation by the latter of a well-known paper on the origin of caves. Addington's work on caves did not continue after he



moved to California, although he did examine with interest some of the caves in marble roof pendants in the Sierra Nevada batholith.

Karst related bibliography of Arch Addington:

1926 – *A special case of drainage adjustment near the Illinoian drift margin in southeastern Owen County, Indiana*: Indiana Acad Sci Proc, Vol 35, p 125.

1927 – *Porter's Cave and recent drainage adjustments in its vicinity*: Indiana Acad Sci Proc, Vol 35, p 107-116.

1927 – *A preliminary report upon the survey of Indiana caves with special reference to Marengo Cave*: Indiana Dept of Conservation, 8th Annual Report, p 21-31.

1928 – *The Litten natural bridges and closely as-*

sociated phenomena, eastern Owen County, Indiana: Indiana Acad Sci Proc, Vol 37, p 143-151.

1928 – *A preliminary report of investigations concerning subterranean drainage phenomena during the summer of 1927*: Indiana Dept Conservation, 9th Annual Report, p 9-18.

1929 – *Special topographic features and the physiographic background of the Bloomington, Indiana, quadrangle*: Indiana Acad Sci Proc, Vol 38, p 247-261.

References:

Bulletin of the Geological Society of America, George M. Stanley, Fresno CA, Memorial to Arch Rombough Addington, 1894-1972.

BIG Newsletter, Vol 12#1, December 1974.

SHAWNEE KARST PRESERVE: OCTOBER BIG DAY SATURDAY, OCTOBER 8

Join us at the Shawnee Karst Preserve near Mitchell on Saturday, October 8 at 9 AM EDT for a birding walk with well known birder and nature enthusiast David Rupp of IndiGo Birding Nature Tours. The IKC is teaming up with other land trusts and the Indiana Audubon Society to hold these hikes throughout Indiana's land trusts, all on the same day!

The Shawnee hike is limited to 15 pre-registered folks. Use the QR code or go to [IndianaAudubon.org/event/october-big-day-hikes-with-ilpa](https://indianaaudubon.org/event/october-big-day-hikes-with-ilpa). Once on the page, scroll down to "Shawnee Karst Preserve" and hit register. Registration is through Eventbrite and you will get more details once registered.

Questions may be directed to the IKC's Outreach Chair Carla Striegel-Winner (CarlaStriegel@gmail.com or 812-639-9628).

MID-STATES CORRIDOR DRAFT EIS COMMENTS

by Keith Dunlap

As reported in the June *IKC Update*, the Mid-States Corridor Project selected the new-terrian Route P as the tentative preferred alignment. With that said, the IKC submitted formal comments reiter-

ating our concerns related to Routes M and O, since there is always the possibility that the final route selected after all the comments are evaluated could change. Below is a copy of our comment letter:



Indiana Karst Conservancy, Inc.

"PROTECTING CAVES THROUGH ACTIVE CONSERVATION"

PO Box 2401 • INDIANAPOLIS, IN, 46206-2401 • (317) 882-5420 • IKC.CAVES.ORG

Mr. Jason DuPont
Project Manager, Mid-States Project
Vincennes University Jasper Campus
Administration Building, Room 216
850 College Ave.
Jasper, IN 47546

June 14, 2022

RE: Mid-States Corridor Draft Environmental Impact Statement Comments

Dear Mr. Dupont,

The Executive Board of the Indiana Karst Conservancy (IKC) has spent considerable time reviewing the Draft Environmental Impact Statement (DEIS) related to the Mid-State Corridor. While we understand that the study selected Route P as the preferred route, we still wish to contribute comments on the analysis of Route M and Route O just in case the preferred route selection were to change prior to the release of the final EIS. As an organization, the IKC's primary mission is to protect caves and karst within Indiana. As acknowledged in various sections of the DEIS, and particularly Chapter 3, Section 22 (Karst Impacts) and Appendix Y (Karst Analysis), Route M and Route O would have had significant impact to the karst region of the Crawford Uplands in Dubois, Lawrence, Martin, and Orange counties.

While we will not get into too many specifics, it is concerning that there is likely an under-count of the number of caves that would be impacted by the proposed Routes M and O. Table Y-1 reported 28 caves for Route M and 21 caves for Route O. It is understood that these numbers were primarily based upon an April 2020 data request of *known* caves documented by the Indiana Cave Survey (ICS). We do know that several additional caves and significant karst features were subsequently identified with some of those reported to the ICS as a result of landowners becoming aware of the proposed routes who then contacted both the IKC and ICS to report karst features on their (and neighbors') properties. One of these was the multi-acre Ragsdale Gulf to the north of Orangeville, originally documented by Clyde Malott in 1932, but not in the ICS database until April 2022. It is not clear how much, if any, additional field investigation was completed specifically for this Mid-States Corridor analysis, but it is assumed there would be many more caves "discovered" if the corridor alignments were systematically walked, better reflecting the impact. And of course there would be a large number of caves without surface openings discovered during construction of Route M or O.

The IKC also questions the number of sinkholes reported (52-54 in Route M and 22-36 in Route O). These numbers seem grossly underestimated, knowing the karst topography of the areas where the alignments are located. Appendix Y did not go into detail of the methodology used to count the sinkholes or the respective cumulative areas of the sinkholes, but knowing some areas near the corridor alignment of Route O have been documented to have as many as 1.5 sinkholes per acre and that the alignments are in the range of 3,000 to 5,000 acres (granted only part of the alignments would be in karst areas), the reported number of sinkholes that would be impacted appears to be materially misstated.

It is also very troubling to read the statement in Appendix Y that "...karst impacts associated with either Alternatives M or O would require substantial additional agency coordination and field studies during Tier 2 to determine the details for karst impacts." For the EIS to have any validation in quantifying the real impact when comparing it to the other routes, this information should be included in the Tier 1 study. Planning to conduct this investigative work during the Tier 2 study, after the preferred route is already selected, is illogical and irresponsible. It is also disappointing that more effort was not expended in this Tier 1 study in quantifying

the caves, karst features, and sinkholes that might discourage future proposals that seem to gain momentum every 10-20 years to place a new-terrain highway across this sensitive karst area.

At least it is reassuring that for both Route M and Route O that it was concluded in the DEIS that "...high cost and high impacts to many resources resulted in [them] being removed from further consideration. Several resource agencies expressed their opposition to Alternatives M and O because of their overall high impacts. The U.S. Army Corps of Engineers stated in its April 15, 2020 comment letter on the Screening of Alternatives package that it did not believe either Alternative M or O could satisfy the requirements to select the LEDPA, as required under the Section 404(b)(1) guidelines."

Organizationally, the IKC refrains from commenting on the appropriateness of the preferred Route P since it is to the west of the exposed karst region (although we have a number of members who are very much opposed). With that said, we do have a member in the Odon area who has recently reported a number of sandstone shelters and an abandoned coal mine in the First (Furse) Creek area where Route P crosses. These shelters and mine, now in the ICS database, could be winter bat hibernacula and also used seasonally for swarming or roosting activities. The use of sandstone shelters, crevices, and other natural non-traditional winter hibernacula is just now being fully appreciated (research is on-going at Ohio State University by Joe Johnson and others) and may be even more important post-White-nose Syndrome (WNS) for the survival of hibernating bat populations (some of which are federally endangered and others likely candidates for being listed as endangered).

The IKC appreciates this opportunity to comment, and we are glad that neither Route M or Route O was selected as the preferred route of this study.

Sincerely,



Matthew Selig
President
Indiana Karst Conservancy

ROBINSON LADDER CAVE PRESERVE: EARLY WINTER HIKE AND TOUR

SATURDAY, NOVEMBER 5

Join IKC Board member Carla Striegel-Winner and Property Manager and cave historian John Benton for a hike and tour of our largest and southernmost preserve, in Crawford County. We will hike to some of the karst features, try our hand at winter tree identification, learn about the sensitive nature of the cliffs we own along the Blue River (and what lies below), check out our American Chestnut tree plantation and delve into some of the history of Robinson Ladder Cave, Breakdown Falls Cave, and the surrounding area.

The hike on the 73+ acre preserve will cover a couple of miles off trail, through the hilly woods and open areas. We will caravan in our vehicles along a side road of the preserve as well. The hike/tour will go rain or shine, so please be prepared for the weather.



This event, the final one of our four field days for 2022, is free and open to anyone, but is by registration only and limited to 20 participants. Registration does not open until October 1, but you may go to [ikcFieldTourNovember5.eventbrite.com](https://www.eventbrite.com/e/ikc-field-tour-november-5) and click to have a reminder sent to you, or focus your camera on the QR code here.

Questions may be directed to the IKC's Outreach Chair Carla Striegel-Winner (CarlaStriegel@gmail.com or 812-639-9628).

GET TO KNOW YOUR INVASIVES: JAPANESE STILTGRASS

article and photos by Danyele Green



Left to right: normal growth, mowed stunted growth, single plant

The sixth in a planned installment of invasive species education series.

Fast Facts:

- Latin name *Microstegium vimineum*.
- Non-native annual grass, extremely invasive.
- Found in every county in south-central Indiana.
- Seed bank lasts ~ 10 years (hence the long-term commitment to eradication).
- Often found along roads, trails, sunny areas. Easily spread seeds that get caught in soles of shoes and lawnmower tires.
- How to identify: Broad green leaves with a silverish line down the middle, reddish/purple stem. Also easily pulled out of the ground.
- This invasive grass causes damage to surrounding flora by crowding out native plants and reducing tree regeneration.
- Best methods of control: Hand-pulling small areas has been shown to be highly effective – be sure to bag it if pulled in late July through the fall to capture any seeds that are starting to form. Chemical warfare (grass-specific Clethodim 0.5oz/gallon water) in a sprayer is also highly effective for larger areas and while it takes a few weeks to see the effects, at this low concentration the perennial native grasses are spared. Mowing is a myth – control is not effective and if mowed while in seed, it will only scatter and transfer seed to wider areas.

Native alternatives to Japanese Stiltgrass:

- Northern Sea oats
- Prairie Dropseed
- Big/Little Bluestem

For more information on identifying and managing invasives in Indiana, go to www.sicim.info

...continued from page 11

hard earned properties when one no longer feels the need to be wet, cold, muddy, exhausted, and all those crazy feelings we may have on a trip! I really appreciate the planning and effort that went into this. Every hike I... enjoy sharing the beauty that is here for us. Look forward to more, and helping with some eradi-

cation in the future. See you all soon I hope.

And I hope to see all of you register for the October 1st Wayne Cave Preserve Hike with a Bat Biologist (see page 10), and the November 5th Winter Hike and Tour of Robinson Ladder Cave Preserve (see page 17).

THE SPELUNKER'S GUIDE – FIFTY YEARS LATER

by Matt Selig

In this issue of the *IKC Update*, we're making a rare exception. We're going to publish explicit directions to the exact location of a cave entrance. You are free to use these directions to find your way to this cave, and when you arrive at the entrance you can negotiate with the owners regarding access:

"Follow State Road 37 south, out of Bedford, to its junction with U.S. highway 50 (1.0 miles south of the Eugene B. Crow Bridge). Turn right onto 50 and drive for 1.6 miles. Turn right onto the Hartleyville blacktop road. It is the second county road past the 50-37 junction, and there is a small grocery store on the left. After 0.6 miles the sign and parking lot... will be seen on the right. The (owners) live in the first house on the right past the parking lot. The topographic map location is: SE¼ NW¼ SE¼ NW¼ sec. 8, T. 4 N., R. 1 W., Bedford West quadrangle."

Wow. I wrote the above with some trepidation and can imagine the howls of outrage. It is well-known we cavers loath the public publishing of explicit locations of cave entrances. This is for good reason. Because there are not only *cavers* who will do the responsible thing and cave safely, and "take nothing but photos, leave nothing but footprints, and kill nothing but time", but there exists a second group of people that also like to visit caves. This second group is far from responsible. They visit caves with no more equipment than the flashlight on their smartphone. They find beautiful formations underground that took thousands of years to form and smash them for fun or remove them to take home as souvenirs. They leave trash in caves by the ton and spray-paint obscenities on cave walls. Their trespassing ruins responsible cavers' relationships with landowners. They are also committing

crimes in the State of Indiana with this behavior. Basically, their actions are bad for everyone.

Spelunkers

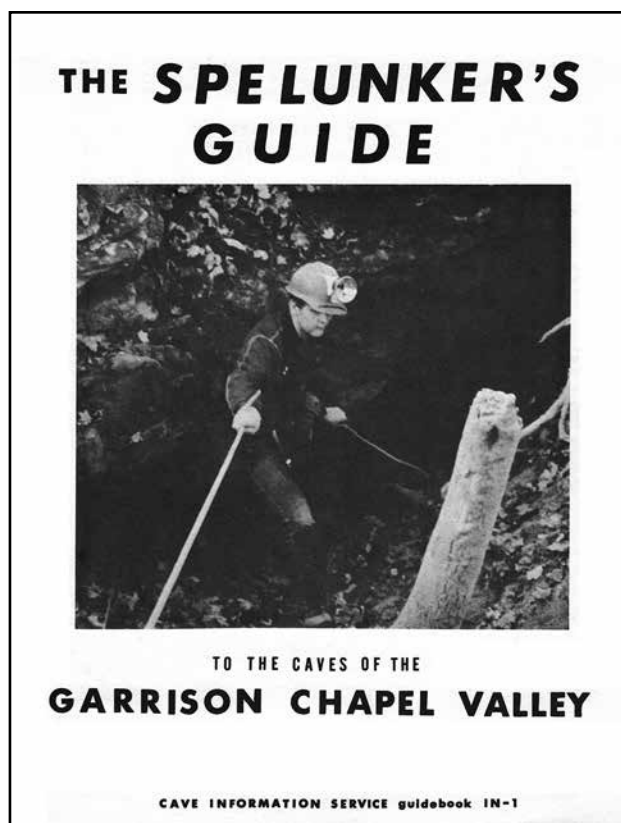
Ouch. On the surface "spelunker" is a perfectly fine word, defined in Merriam Websters as a noun meaning: "One who makes a hobby of exploring and studying caves." The word came about in the 1940s and was often used affectionately by cave enthusiasts and was commonly found in grotto newsletters and the National Speological Society's *NSS News* through the 1960s. But at some point

"spelunker" developed a negative connotation and I can hear the cavers I know hissing at the word through clenched teeth, sputtering things like "cavers rescue spelunkers" and insisting as a point of pride that "cavers are visitors who love caves, spelunkers are *people who don't belong in caves.*"

Which brings me to the topic of this article – *The Spelunker's Guide to the Caves of the Garrison Chapel Valley*. Double ouch. Is there any more of a reviled publication in our Indiana caving community? I have heard for decades that this slim, 24-page edition is single-handedly responsible

for the mass desecration of the caves in the Garrison Chapel Valley (home to the IKC's Wayne Cave and also the Richard Blenz Nature Conservancy's (RBNC) Buckner Cave). That the reason landowners in Garrison Chapel Valley won't let cavers access their caves is because spelunkers' use of the *Guide* pushed landowners past the point of tolerance.

I do not dispute that any of this is untrue. I remember the bad old days at Buckner Cave, when I found a tube of toothpaste somewhere near the Air Force Room. Where entire passages smelled like human waste and multiple layers of graffiti covered almost every accessible square foot of



Buckner's walls. I remember the concrete plaque at the entrance that said, "The most trashed cave in the United States" and the heaps of garbage in the parking lot, left by spelunkers (and worse) who were free to come and go at their whim. I also have led untold numbers of lost spelunkers out of Buckner who were wholly unprepared for the adventure or were too stoned to find their way out of the Volcano Passage. Rescue stories of spelunkers injured or lost in Buckner are legendary.

I don't know for sure that every yahoo I ever met in Buckner or Wayne caves had copies of *The Spelunker's Guide* with them, but I do not dispute that the information contained in it contributed to the damage done in this karst area.

The *Guide* was originally published in 1972 by Douglas L. Love and his Cave Information Service. Given its continued notoriety in cave conservation circles, I thought it appropriate to take a retrospective look at the *Guide* during the year of its 50th anniversary, and hopefully from a perspective removed from the controversy to pick apart the good, the bad, and the ugly about the *Guide* and see if there is anything we can learn from its history.

Conservation

The "Cave Information Service (CIS) exists to protect caves for everyone.... our most important work is in education – guiding groups and individuals in proven, safe methods of cave exploring, while showing by example the necessity for conservation. For this purpose this guidebook was written, and is dedicated." *The Spelunker's Guide*, page two.

I never met Doug Love, nor any of the individuals involved with producing the *The Spelunker's Guide*, so I cannot directly comment on their personalities or motives, other than by reading what they wrote. But if I were to only read the first six pages of the his publication (25% of the completed work), I would consider it an enlightened/educational document dedicated to conserving caves and providing information about the safe exploration of caves.

The quote I used previously regarding "...take nothing but pictures, leave nothing but footprints, and kill nothing but time" is a direct quote from page three of Love's *Guide*.

The *Guide* cites the Indiana laws at the time that protected caves and notes that many (cave) vandals have been caught by conservationists. Love also noted that when cave vandals are caught by leaving their names on cave walls,

often instead of fines or imprisonment, they are made to clean their graffiti from the cave walls.

Also on page three of the *Guide* it states that, "It can readily be seen that if every person who entered a cave removed just one of the (cave) formations, the cave would be stripped bare of its beauty in a short time."

The *Guide* discusses the deleterious effect human garbage has on cave life and makes some comments on the difference between historical cave signatures and nuisance graffiti (a conversation we still have at the IKC). It notes that if property owners' wishes about the caves on their land are not respected, spelunkers and cavers alike could lose access to the caves and that cave visitors must treat landowners' property with respect.

I also note a nod to the need for cave conservation groups such as the IKC – "...conservation minded groups should clean all trash and wall disfigurements from caves as a public service." As I re-read the *Spelunker's Guide*, I get the feeling cave vandalism was already a significant problem in 1972.

Safe caving practices

The *Guide's* next section is entitled "Coming Back Alive." There is a discussion of gear: lights, clothing, helmets, boots, etc. I can't find anything objectionable here. Much of the *Guide's* advice on page four remains the standard advice we give cavers: wear a helmet, bring three sources of light, don't wear clothes you wouldn't be "afraid to tear up and get muddy." It says military-surplus jungle boots are great for caving (and they are!). "Dress for 56 degrees temperature, 100% humidity, and heavy exertion." Solid advice to which I would add "and wet".

Regarding navigating through caves, the *Guide* suggests finding an experienced guide. I would add "an experienced guide *who knows their way through the cave to be visited*." Although I have visited countless caves in my life, I am happy to turn over leading a cave trip to someone who knows the route through a complex cave system better than me. Getting lost between Camp I and Camp II in Wayne Cave is not a fun experience. Or at least I've "heard".

My non-caving friends assume that the most prominent dangers in caves are wild animals and collapses. While these risks are certainly not non-existent, the National Speleological Society's annual cave accident reports routinely show the most common causes of deaths and injuries in Indiana's caves are drowning and falling.

This is certainly true in Garrison Chapel Valley. There have been drowning deaths in Salamander Cave, and falls requiring laborious rescue efforts in Wayne Cave, Buckner Cave, Coon Cave, and Shaft Pit. Later in the *Spelunker's Guide*, it is noted that the (in?)famous crawlway in Buckner is "one of the driest passages in the state." But I can remember at least once in my lifetime when this passage has flooded.

Which is also noted in the *Spelunker's Guide*: "While you are planning your trip, check the weather. Beware of possible rainy conditions... All caves were formed at least partly by being filled with water." I could not say it better myself. Flooding in caves is a deadly hazard that I have seen even experienced cavers take too lightly. Better to cancel the trip and live to cave another day than gamble our lives on the weather.

Regarding falls, the *Spelunker's Guide* prudently suggests learning climbing techniques on the surface, before going underground. Decades ago, I did a lot of vertical caving, but as of writing this article, I feel I would need some refreshment practice on the surface before doing vertical work underground.

There are also recommendations regarding safety – go caving with at least four people, and how to get help if a rescue becomes necessary. Also that you should "leave (your cave trip plan) with someone who is close to a telephone and can call for aid if you don't come back in a reasonable amount of time."

There is nothing I can argue with Doug Love about, at this point in *The Spelunker's Guide*. Its decades old advice on cave safety is almost verbatim the same safety advice for today's cavers.

Cave Science

Pages five and six of the *Spelunker's Guide* provide a brief overview of the of the hydrology

and geology of the Garrison Chapel Valley area. There is a cross section (see below) of the Garrison Chapel Valley's stratigraphic column of rocks showing the dip of the Ste. Genevieve and St. Louis limestones and how they lie beneath the sandstone caprocks that define the parking areas at Buckner and Wayne caves, respectively.

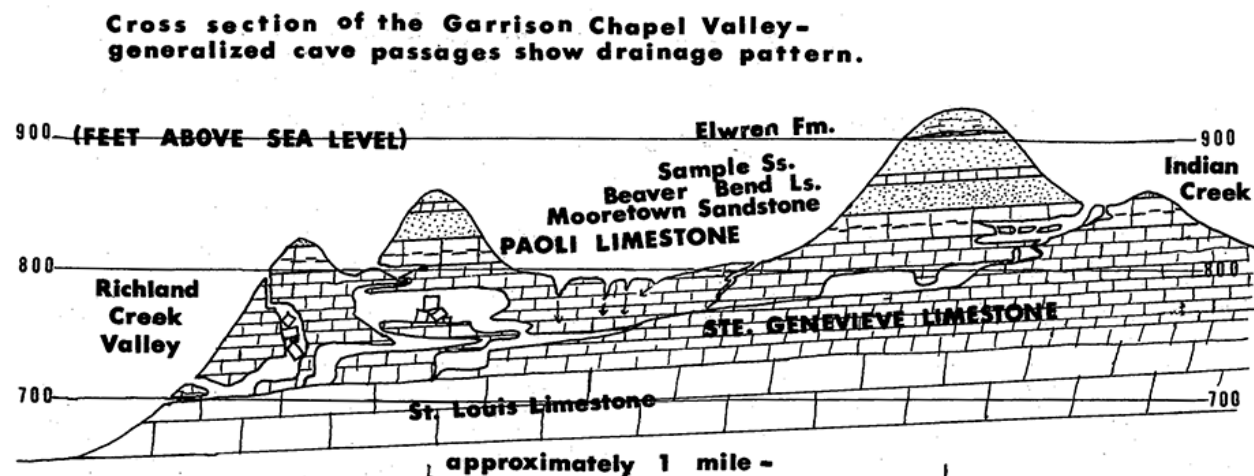
There is a description of water flow as it enters the recharge zone surrounding Garrison Chapel Road and then dives beneath the surface to resurface in the "Richland Creek Valley."

The scientific information in the *Spelunker's Guide* is brief, but accurate. It won't make anyone a world-acclaimed cave hydrogeologist, but it is a good introduction to the geomorphologic system that has formed the caves of Garrison Chapel Valley. With that said, much of the information in the *Spelunker's Guide* is somewhat dated at this point (from 1949 and 1958), but when the *Guide* was originally published in 1972, this information was the best available. Further research has not voided this information, but expanded and clarified the basic information put forth in the *Guide*.

Controversy

So far, so good. If the *Spelunker's Guide* had stopped on page 6, and only contained cave maps and descriptions, I can't see how anyone could have found it objectionable. There is sound cave conservation information, reliable guidance on safe caving that is virtually unchanged from the same advice we give today, and a short, but brief introduction to cave sciences. Who could complain about that?

But in re-reading the introduction to the *Spelunker's Guide*, there is a premonition about the purpose of the *Guide*, or why it needed to be written, from the point of view of its author. It starts out with a strong statement of conservation, but



quickly veers into the argument about whether cave locations should be published. This argument is mostly settled today. No serious caver would publicly publish wild cave locations, and the data collected by the Indiana Cave Survey is closely protected, not because we “don’t want people to know where caves are,” but rather because the argument has been decisively concluded that disseminating wild cave locations in a public forum causes immense damage, not from cavers who love caves, but from those who would thoughtlessly vandalize caves and alienate landowners if they had this information.

In his Introduction on page 2, Love writes, “The most direct threat to our caves is vandalism by would-be cave explorers. Several methods for protecting caves have been tried, with varying success. Some organized, conservation-minded caving groups often try to close caves or hide them from everyone else. But other unorganized groups unaware of good conservation practices, will eventually find or re-open the caves and leave them stripped of formations and filled with trash and graffiti. If caves are gated, but the keys are not readily available, the gates are eventually forced open.”

Given the fifty years of observations we’ve had in the meantime, when I read this paragraph, warning lights flash in my mind. Our hard experience has been that the only way to protect the caves of Garrison Chapel Valley has been to control access to the more well-known caves and restrict who can enter them to cavers who are conservation-minded and responsible for the actions of the people they take caving with them.

But I can somewhat sense Love’s motivation in writing *The Spelunkers’ Guide to the Caves of Garrison Chapel Valley*. After speaking strongly against what at the time was a relatively new concept in Garrison Chapel Valley, closing and gating caves, the *Guide* states, “But if we attempt to educate everyone who wishes to go caving in safety and conservation principles, we can eliminate most, if not all, of our vandalism problems.”

Returning to our close reading of the *Spelunker’s Guide*, we next turn to page 7, where there is a topographic map with dot locations of all the caves known at that time in Garrison Chapel Valley. This map is worth its weight in gold to anyone wanting to find caves, but at what cost?

Then the *Guide* continues to the individual caves of Garrison Chapel Valley, with cave maps, cave location coordinates, advice for how to deal with cave landowners, trip guides through the

caves, etc. Buckner Cave, Wayne Cave, Eller’s Cave, Triple J Cave, Salamander Cave, Grotto Cave, Coon Cave, and many, many others.

And with the hope that the first few pages of caving advice, science, and conservation principles would enlighten cave visitors enough to motivate them to protect caves of the Garrison Chapel Valley, the *Spelunker’s Guide* provides all the information that would ensure its infamy within the caving community as an inappropriate publication.

More Thoughts About the *Spelunker’s Guide*, Fifty Years Later

I can’t remember where I bought my copy of the *Spelunker’s Guide*. It was either in a little shop on the Bloomington town square, or at a cave supply shop somewhere near Garrison Chapel Valley. I have a copy of the fourth printing from October 1984.

The *Guide* was one of the few sources of information I could find at the time regarding these caves. As noted above, many of the lessons I learned about safe caving and conservation are almost direct verbatim quotes from the *Spelunker’s Guide*.

We certainly didn’t have any resource giving us turn-by-turn directions to go through Wayne and Buckner caves. Regarding their locations, the more heavily travelled caves in the Garrison Chapel Valley certainly were not closely-held secrets that only a few select people knew about. If you weren’t sure, you could stop at several small shops selling caving gear and someone would be glad to tell you how to find them. The number I always heard quoted was that 500 people per week had no trouble finding Buckner Cave, with or without the *Spelunker’s Guide*.

But I believe the *Spelunker’s Guide* contributed to the problem of vandalism that was already underway in Garrison Chapel Valley when it was first published in 1972. With minimal restrictions on access, it was just too easy for “spelunkers” in the bad sense of the word to park their cars on the side of the road, ignore property owner’s rights, and trespass to a cave entrance they would have never found without the *Guide*, which ultimately negatively impacted the caves. And perhaps the most egregious advice from Love pertaining to Salamander Cave was that the owner preferred that cavers not go in his cave or trespass over his land, but would not take action, so cave visitors should just go and *not* ask for permission.

The *Spelunker’s Guide* being sold in way too many retail locations also created the impression



that the caves were wonderful and fun, and therefore acted as marketing materials in a way that brought hordes of spelunkers and vandals to the Garrison Chapel Valley. Hordes that skipped over the first pages of conservation and scientific information that also went home and told their friends, “Those caves out there past the airport are a great place to party.”

Part of the IKC’s exempt purpose is to educate the public about caves and in this weird way, we share some of the goals and aims of the *Spelunker’s Guide*. This may not be a popular thing to say, but with the most sympathetic understanding of Douglas Love’s intent in writing this booklet, we can see that he felt if cave visitors were properly educated about cave conservation, then the caves would experience less vandalism. From this perspective, the *Guide* was trying to solve a problem that was already happening. Unfortunately, rather than a solution, the information contained in the *Guide* was more akin to throwing gasoline on an already raging fire.

The CIS would go on to publish another *Spelunker’s Guide* in 1973. The second guidebook focused on the caves north of Campbellsburg, Indiana. I have not heard much said about the *Spelunker’s Guide to the Caves North of Campbellsburg, Indiana*. It certainly is not as notorious, nor was it as widely circulated as the original *Spelunker’s Guide to the Caves of the Garrison Chapel Valley*.

The IKC had its own history of disputes with the Cave Information Service and Douglas Love. In 1987 we formally requested the Indiana State Museum discontinue the sales of both of the CIS *Guides* that they offered in their gift shop. This was quickly responded to with a pointed letter to the IKC from Love’s attorney, demanding proof of “any incidents of criminal trespass, cave vandalism, or accidents which occurred because of these publications”. By the time the IKC intervened to object to sales of the *Spelunker’s Guide*, the CIS should have known its conservation approach in the *Spelunker’s*

Guide was causing more damage than it prevented, but old habits (and beliefs) die hard.

As for the caves of Garrison Chapel Valley themselves? Almost all of them are now closed or have restricted access. The IKC’s Wayne Cave is a prime example, as is the RBNC’s Buckner Cave. Conservation minded groups have worked hard to clean up the damage caused by thoughtless cave visitors. This hard work has taken years, even decades. This conservation work remains ongoing, and while the locations of these caves are not necessarily “tip-top secrets”, if you want to visit them, it won’t be as easy as just looking up the location in the *Spelunker’s Guide*. Access to these caves that were heavily vandalized is now tightly controlled.

But I don’t believe the norms on publishing cave locations were the same in 1972 as they are now. Why would I say that? This article starts with an explicit cave entrance location and driving directions and in more detail than found anywhere in the *Spelunker’s Guide to the Caves of the Garrison Chapel Valley*. The source of this cave location information? The NSS 1973 *Convention Guidebook*. This guidebook contains more cave locations than the *Spelunker’s Guide*, although the NSS guidebook was intended to be restricted to NSS members and is now relatively obscure and not widely distributed.

The cave entrance described at the beginning of this article? Bluespring Caverns’ Colglazier Entrance, which is now a commercial show cave and as noted, if you show up during their hours of operation, the current owners will be happy to give you a tour for an appropriate fee!

Because of course, as the President of an organization that works hard to preserve and protect the caves of Indiana, I’m not going to break the accepted prohibition about publishing the locations of wild cave entrances. I would, however, be more than happy to direct a new caver to one of our NSS-affiliated grottos, so that they can learn to properly experience our unique Hoosier underground.



What animal is it? During an Evansville Metro Grotto trip in July to Salamander Cave in Monroe County, Carla Striegel-Winner discovered and photographed this skeleton. As you can see, it is intact, with the internal organs decomposing in place, suggesting it was not brought in by a predator. It likely came in through the primary entrance and worked its way upstream more than 1500 feet before climbing a muddy slope 20 feet above the stream level and dying of natural causes. Answer on page 24!

INDIANA KARST CONSERVANCY TREASURY REPORT

Income/Expense Statement From April 1, 2022 to June 30, 2022

INCOME:		
Dues Apportionment and Residuals	847.50	
Donations - General	1,000.00	
Donations - Land Acquisition Fund	782.00	
General Investment Earnings	3.62	
		\$2,633.12
EXPENSES:		
IKC Update (printing, production, mailing)	580.04	
Education / Outreach	647.49	
Stewardship / Conservation	377.01	
Property Taxes	399.80	
Land Acquisition Fund Expenses	15.00	
Business (PayPal fees, renewal letters, etc)	143.63	
Transfers to/from restricted funds/other adjustments	767.00	
		(\$2,929.97)
NET OPERATING EXCESS (DEFICIT) THIS PERIOD:		<u>(\$296.85)</u>

Balance Sheet June 30, 2022

ASSETS:		
Cash in Checking/Saving/Brokerage accounts	556,480.99	
Robinson Ladder Cave Preserve (73.48 acres)	162,000.00	
Shawnee Karst Preserve (67.78 acres)	175,000.00	
Wayne Cave Preserve (57.59 acres)	188,000.00	
Buddha Karst Nature Preserve (36.84 acres)	29,000.00	
Sullivan Cave Preserve (30.00 acres)	88,000.00	
Lowry Karst Preserve (6.66 acres)	33,000.00	
Orangeville Rise Nature Preserve (3.01 acres)	7,000.00	
Indian Creek Conservation Easement (valued at \$1/acre)	13.16	
		<u>\$1,238,494.15</u>
FUNDS & OPERATING EXCESS:		
Land Acquisition Restricted Fund	64,081.42	
Deferred Dues Restricted Fund (236 members)	6,690.00	
Stewardship Endowment Fund (-13.77%)	79,634.46	
Gale & Ray Beach Endowment Fund (-15.49%)	324,249.62	
Previous General Fund (total)	82,135.50	
Net Excess (Deficit) This Period	<u>(296.85)</u>	
Current General Fund (unrestricted)	81,838.65	
Current General Fund (committed)	1,972.87	
Real Estate Basis (excluding value of CE)	<u>682,000.00</u>	
Total Liabilities & Operating Excess		<u>\$1,238,494.15</u>

Answer (from page 23): We asked Brad Westrich, DNR non-game mammalogist, who was excited to have a “fun mystery” to solve. The overall size and proportions immediately steered him away from a domestic dog or cat. He said, “The rib cage is very delicate and small on this animal, the back legs are much longer than the front legs, tail vertebrae are not easily visible, and vertebral processes (spikes for shoulder area muscle attachment) are reduced. What sealed the identity in my mind was the mandible; molars/premolars present with no large cusps (diet of vegetation), no canines, though hard to see likely incisors. Rabbits and rodents don’t have canines and that smooth mandible space between the premolars/incisors is called the diastema...using the shape of the mandible and the diastema, I was able to rule out all but a rabbit.” So how did a rabbit (likely *Sylvilagus floridanus*, the Eastern cottontail) navigate so far upstream into Salamander Cave, and then climb up a muddy slope to die? We can ponder that mystery as we watch these remains become a clean, articulated skeleton over the next decades.

IKC QUARTERLY MEETING MINUTES

Saturday, June 4th, 2022 – 1:00 PM EDT

Robinson Ladder Cave Preserve – 4000 SR 66, Milltown, Indiana

Board Members Present:

Matt Selig, President
 Laura Demarest, Secretary
 Keith Dunlap, Treasurer
 Jim Adams
 Jeff Cody
 Scott Frosch
 Danyele Green
 Dave Haun
 Goniela Iskali*
 Joe Kinder*
 Tom Sollman
 Carla Striegel-Winner
 Paul Uglum*
 Richard Vernier

* represented by proxy (see below)

Board Members Absent:

Rand Heazlett

Others Present: Jasper Beavers, John Benton, Gary Roberson, Bob Vandeventer, Sue Vernier

Call to Order/Reading of Exempt Purpose/Introductions

Meeting was called to order by Matt Selig at 1:09 PM EDT.

Acceptance of Proxies

Jasper Beavers for Joe Kinder, Sue Vernier for Goni Iskali, and John Benton for Paul Uglum.

Approval of Previous Minutes

The minutes from the March meeting were approved as published in the June 2022 *IKC Update*. *Danyele Green made the motion to approve the minutes as written and Richard Vernier seconded. 13–0 in favor with no abstentions and 2 absent. Motion passed.*

E-mail Motions Since Last Meeting

None.

Treasurer Report

Keith outlined the current financial status of the organization:

Assets:

Cash assets totaling	\$591,464.81
Land assets totaling	\$682,000.00
Total Assets	\$1,273,464.81

Dedicated Funds:

Land Acquisition Fund	\$64,064.42
Stewardship Endowment	\$86,153.02
Gale & Ray Beach Endowment	\$351,100.40
Deferred Dues	\$6,690.00

General Fund	\$83,456.97
Total Dedicated Funds	\$591,464.81

Membership currently stands at 265 paid members, which is the highest number to date. There are 35 members yet to renew.

Mid-States Corridor Update

Carla provided an update, explaining that Route P was chosen as the preferred corridor, which will not affect karst as would have been the case with Routes O and M. The extended comment period is open until June 14th and individuals are encouraged to submit comments that convey continued opposition to Routes O and M. Information for the online comment form and more can be found on the IKC website. Keith said that the IKC should submit a comment soon. In related news, on April 11th, Matt Selig and Laura Demarest took 8th District Congressional candidate, Ray McCormick, on a tour of the Orangeville Rise and Wesley Chapel Gulf, followed by a trip underground to a nearby cave. Mr. McCormick had inquired about the potential impacts of the Mid-States Corridor project and the IKC was more than happy for an opportunity to offer insight and advocacy.

Indiana Cave Symposium Recap

The ICS/IKC Symposium was held on Saturday, April 23rd and there were over 80 attendees in person and approximately 10 via Zoom which may be the largest crowd to date. The donation jar collected \$182 which significantly helped offset the cost of the event. The presentations offered via Zoom had some technical difficulties, but the recordings will be made available for viewing on the ICS website. Feedback is being collected via attendee survey and comments will be taken into consideration for improvements next year.

Education/Outreach Committee

2022 Property Field Days – Carla summarized the field day event that was held before the ICS/IKC Symposium on April 23rd, which had a good turn-out of 23 people (about half were IKC members and half non-members). She said the Eventbrite registration worked well and the venue and speakers were ideal. Comments received from attendees were also favorable. The next event will be at the Buddha Karst Preserve on June 11th and 14 people are already registered via Eventbrite. Wyatt Williams and Keith Dunlap will give a tour of the property, highlighting its ecology and karst features. There is also a tentatively scheduled 'Bat Hike with a Biologist' on October 1st with Goni Iskali at the Wayne Cave property. Information can be found on Eventbrite. There will also be another IKC field day event tenta-



tively scheduled for November or December.

Member Engagement Items – Carla reported on behalf of Joe Kinder who has been in contact with Charlie Vettors regarding IKC t-shirts. There will be an on-line shop where orders can be made over the course of several weeks in July. The shirts can be shipped for a cost or will be available for free pick-up at Cave Capers (first weekend of August), the September IKC Quarterly meeting, or Charlie's shop in Greenfield. More information will be forthcoming.

2022 Cave Capers – Scott Frosch mentioned that the IKC can submit an ad for the Guidebook. Carla talked about setting up an IKC display table for the event and handing out t-shirts at the event. Jeff Cody volunteered to assist with IKC t-shirt distribution while handing out Cave Capers registration packets. An announcement can also be made at the event banquet on Saturday to indicate where shirts can be picked up.

Bat Detector Purchase - Keith discussed a device that is \$350 that can detect and identify bat echolocation calls. He wondered if the IKC might be interested in purchasing this tool to be used for upcoming field days, events, and monitoring. The device interfaces with phones/tablets and is from a company called Wildlife Acoustics. There are other similar devices available for purchase from other companies. Keith mentioned that the NRCS EQIP contract for the Wayne Cave property also involves a wildlife monitoring component and this tool could be utilized for this purpose as well. *Dave Haun made a motion to spend up to \$375 to purchase a bat detector. Jeff Cody seconded the motion. 13-0 in favor with 1 abstention and 1 absent. Motion passed.*

Lawrence County Soil & Water Conservation District – Carla discussed a potential advocacy opportunity for staff in the future to educate them about IKC, possibly take them caving, and open the door to future partnerships that may benefit the IKC's Lawrence County preserves. Laura Demarest used to work for the Lawrence County SWCD and volunteered to assist as needed.

Cave-Land Acquisition Activities and Next Level Conservation Trust

Keith discussed the possibility of a potential acquisition project that could be partially funded by the new DNR program called the Next Level Conservation Trust (NLCT). The project is still very tentative and the time to prepare an application is short, assuming the details of the acquisition can be worked out. The state would put a conservation easement on the property if awarded. NLCT applications are due by August 1st, along with associated endorsement letters from local community and partner organizations. Several IKC Directors offered to assist with the NLCT application efforts. *Dave Haun made a motion for the Board to pursue a grant application for the Next Level Con-*

servation Trust for the discussed project. Jim Adams seconded the motion. 14-0 in favor with one absent. Motion passed.

Matt Selig recently attended the Indiana Land Protection Alliance (ILPA) event at Ft Harrison State Park and heard a presentation by Dan Bortner, Director of IDNR, who spoke about the Next Level Conservation Trust. There is an upcoming ILPA webinar regarding the NLCT on June 17th that some IKC Board members plan to attend.

Document & Photo Archives

Laura gave overview of online/cloud options for archival of documents, photos, etc. Danyele said that Google Drive may be going by the wayside so it will be necessary to verify its longevity before adoption. Keith currently emails important files quarterly to the other IKC officers for redundancy/security.

Carla suggested checking TechSoup for options/pricing/new accounts. Laura will continue investigating other long-term storage options, but has already set up a Google Drive and email account for the IKC, where documents can be stored until a better solution is identified.

Keith also mentioned that the IKC had a safe deposit box where important physical documents were stored. This deposit box was recently closed after discussion with Matt and Laura. The last time the safe deposit box was visited was in 2008. It was discussed that the IKC could purchase a fireproof safe (for the same cost as what was being paid annually for a security box at the bank) for storage of deeds and other important paper documents, if necessary.

Scientific Research Permit Request IKC 02-22

Carla discussed a research project with Dr Tyler Huth involving isotope water sampling related to climate science and his request to obtain permits for sampling through the IKC. Matt has reviewed the request and Carla shared an overview of the project proposed by Tyler. Carla will be making arrangements to collect samples at IKC caves on behalf of Tyler who lives out of state. *Laura Demarest made a motion to approve the research permit and support the sample collection with IKC volunteers. Danyele seconded the motion. 14-0 in favor with 1 absent. Motion passed.*

Recent Preserves Work Projects & Upcoming Preserve Projects/Updates

Buddha Karst Nature Preserve – Keith is preparing to mow soon ahead of the upcoming IKC field day. The kiosk was recently painted by Jeff Cody, Mel Litson, and Bambi Dunlap. Carla mentioned that Wyatt Williams, Community Ecologist for the Div of Nature Preserves recently shared a plant species inventory conducted on the property.

Lowry Karst Preserve – Keith reported a recent garlic

mustard pull workday organized by Property Manager Ray Sheldon.

Orangeville Rise Nature Preserve – Carla reported a successful recent workday removing invasive species. All is well.

Robinson Ladder Cave Preserve – Members of the IKC Board walked the property prior to today's meeting. John reported that some Tree of Heaven will still need to be treated as this work is ongoing. The chestnut tree planting was also mowed prior to today's meeting and some of the trees are showing damage related to a root disease. John also reports that there needs to be some limb trimming along the driveway lane to improve vehicle access. Mowing by Jamie Winner is occurring as needed throughout the summer.

Shawnee Karst Preserve – Keith reported a mid-April tree planting with volunteers. He also planted 13 additional hybrid American chestnut trees that he recently received from The American Chestnut Foundation. Keith plans to mow the trails in the next couple of weeks. Tom also did some spraying along the driveway. The Upper Twin cave entrance has enlarged and washed out after recent rains.

Sullivan Cave Preserve – There was a very successful spring workday with many volunteers planting hundreds of trees. Porta-potty maintenance was also conducted and reported, as tradition demands.

Wayne Cave Preserve – Danyeale announced that there will be an invasive species removal workday at the property on June 11th. She posted event details on the Monroe County IRIS (Identify & Reduce Invasive Species) Facebook page and got a great response. Autumn Olive and Burning Bush will be the main target for the upcoming workday. Some camping has been requested. There will be a field day/bat hike on October 1st with Goni Iskali as the main speaker.

Indian Creek Easement – no report though the in-

spection is scheduled to be conducted soon.

Items from the Floor

Jim Adams had a question about electronic waiver signatures. Matt talked about the possibility of adopting an electronic signature program for IKC waivers as is used by other organizations and businesses. Currently the IKC waivers are not electronically fillable. Carla also uses 'jotform' with good success and others talked about how the SCCi (Southeastern Cave Conservancy, Inc.) uses electronic waivers. Others weighed in on the merit of electronic versus paper waivers and some discussion ensued. Keith iterated that the Cave Patron has the authority to accept or not accept an electronically "signed" waiver and can insist that the waiver come from the individual's email address to prove ownership. Matt will talk to a legal consultant about electronic signatures and what is/isn't acceptable.

Keith and Carla showed a new tool for invasive species removal: stump treatment 'dabbers' for applying herbicide following a cut stump treatment.

John Benton recently became aware of a property in Harrison County that is for sale (Walk's Cave aka Davis Cave). He sent the real estate link to Keith; it is pricey, though the listing indicates that the owner would be willing to split. There are a lot of historic signatures in this cave. It was suggested that someone should follow up and check it out.

Next Meeting Date and Place Selection

The next IKC Quarterly meeting will be Sunday, September 11th at 1:00 EDT at Danyeale Green's home in Bloomington. A pitch-in lunch is scheduled at 12:00 before the meeting.

Adjourn

The meeting was adjourned at 3:46 PM EDT.

*Respectfully compiled and submitted by Laura Demarest,
IKC Secretary*

INDIANA KARST CONSERVANCY, PO BOX 2401, INDIANAPOLIS, IN 46206-2401

I would like to help the IKC protect Indiana's unique caves and other karst features. Enclosed is:

\$ _____ for IKC membership dues at \$15 per year (dues expire March 31st of each year, please pro-rate @ \$1.25/month).

\$ _____ donation to the general IKC fund.

\$ _____ donation restricted to a specific IKC project. Please specify: _____

_____ I know of an area worthy of protection. Please contact me.

_____ I would like to volunteer to help. Please contact me.

NAME _____

ADDRESS _____

CITY/STATE/ZIP _____

PHONE # _____

Make checks payable to the Indiana Karst Conservancy, Inc. and mail to the IKC Treasurer, c/o Indiana Karst Conservancy, PO Box 2401, Indianapolis, IN 46206-2401. The IKC is an IRS recognized 501(c)(3) non-profit organization with membership dues and donations fully tax deductible.

