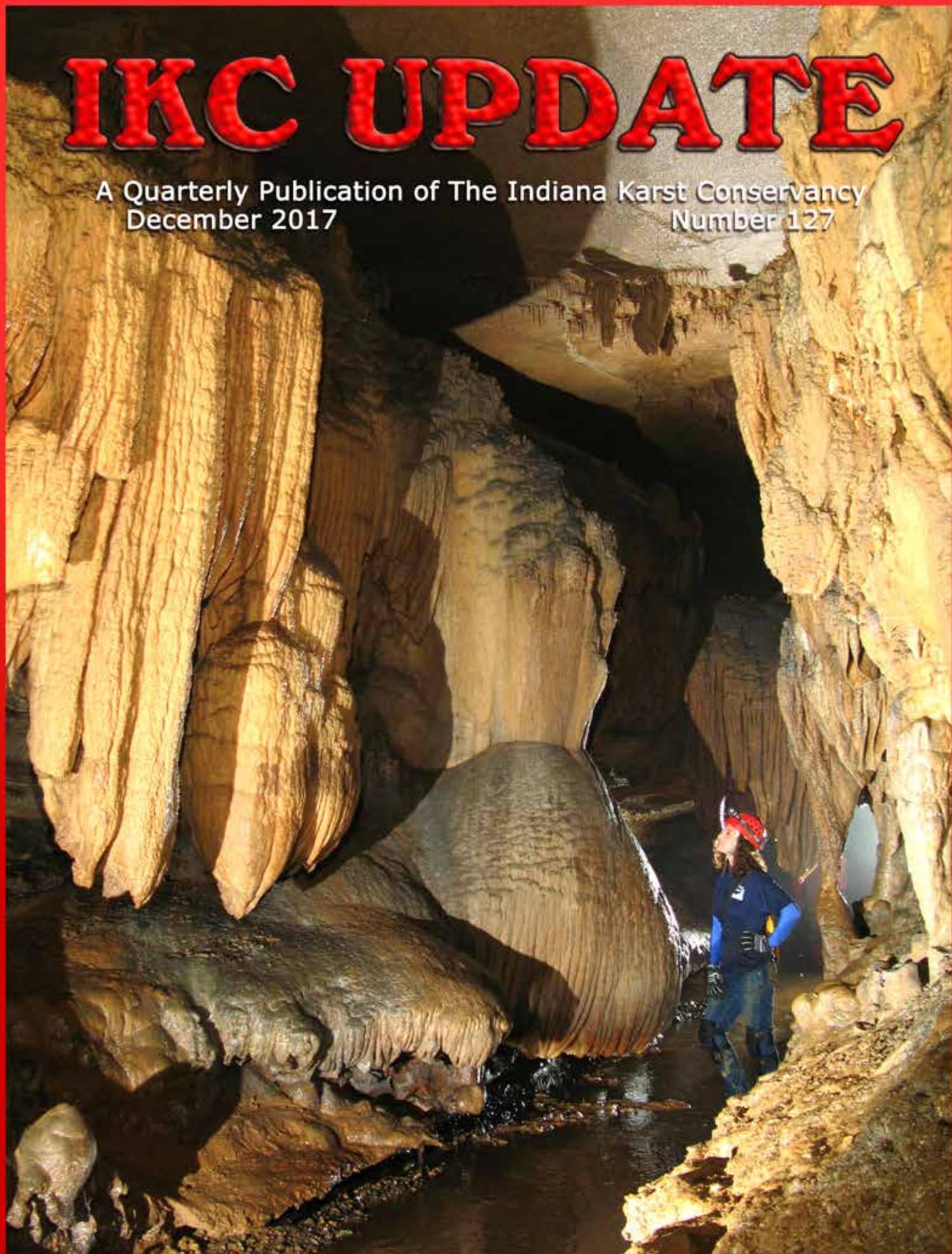


IKC UPDATE

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INDIANA KARST CONSERVANCY, INC

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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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Cover: Heather Bailey in the main passage of Shiloh Cave (Lawrence County).
Photo by Chris Bell, July 2017.

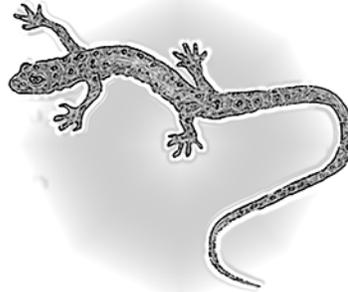


IKC QUARTERLY MEETING REMINDER
SATURDAY, DECEMBER 9th, 1:00 PM EST
BLOOMINGTON, INDIANA
MONROE COUNTY PUBLIC LIBRARY

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: Recap of recent work/stewardship projects and promotion of upcoming 2018 projects at our various preserves; Emergency planning activities; Kiosk activities; Education and Outreach activities; Update of current research projects; Financial reports; Land acquisition activities; and more....

Directions to the meeting location: The Main Library is located in downtown Bloomington at 303 E Kirkwood Avenue between Lincoln and Grant Streets. The parking lots are accessible from 6th Street. If you are travelling northbound on Walnut street, turn right on either Kirkwood or Sixth Street and go east two blocks. If you are traveling southbound on College Avenue, turn left on either Sixth Street or Kirkwood Avenue and go east three blocks.



ACTIVITIES CALENDAR

Dec 9 – IKC Quarterly E-Board meeting (see above)

March ?? – IKC Quarterly Board Meeting (date & location to be determined)

April ?? – Indiana Cave Symposium (date & location to be determined)

For more information on the Indiana Karst Conservancy, visit our website at ikc.caves.org 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. Donations can also be made by credit card using the donation button located on our website's home page.

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.

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RAMBLINGS FROM THE PRESIDENT...

My rambling thoughts are inspired by my recent return from the 2017 National Cave and Karst Management Symposium (NCKMS), held this year in Eureka Springs, Arkansas. More about the NCKMS later in this issue of the *IKC Update*, but for the moment I want to turn to a topic about which a session was dedicated at the symposium: the status and updates about White-nose Syndrome (WNS). On this subject I feel compelled to say that I feel that much of news on WNS falls into the category of having been whipped to death. As my friend Ken Bailey, a Louisville caver, told Salisa and I while we were enjoying one of highlights of the NCKMS – the banquet dinner – when it comes to WNS, it's easy to find oneself in a rut. And Ken then defined "rut" for us: "A rut is a casket with both ends kicked out". So in full disclosure and in the spirit of staying out of anything that resembles a casket, I have to tell you that I passed on attending the NCKMS session on WNS. Having looked over the preview of the session suggested a forecast of same stuff, different day, so we opted for a walking tour to visit some of the springs in the town of Eureka Springs.

My opinion on the probable content of the WNS session was strengthened when we ran into another group of friends from the symposium out taking a stroll along the quaint winding streets of Eureka Springs. This group of friends were at the NCKMS representing a government agency whose identity will remain anonymous to protect the innocent. They *had* opted to attend the WNS talks, but after a few minutes had fled the scene, citing having heard "the usual lies" so soon in the presentations that they'd found it distasteful. Their take on the session was that it gave every indication of becoming another exercise in the "agency talking heads" usual self-aggrandization for stroking their egos and building their cases for bigger and better funding, for themselves, ostensibly to find the magic WNS bullet.

Yes, that's pretty harsh, but remember, I'm just

the messenger here. And with that said, this was just the warm up for the "harshness meter", for what was coming from banquet speaker Tom Aley.

I've known Tom for a long time. Tom is probably best known for his groundwater tracing operations. He founded and operates the Ozark Underground Laboratory. For many years we both sat on the Board of the American Cave Conservation Association (ACCA) during that organization's incredibly long-winded Board meetings. I asked him why he had decided to depart from the ACCA Board after so many years, and he told me that he had finally found that in his mid-70s the all-day drive to the meetings in central Kentucky was just too long. The combination of the long drive and long meetings had turned the ACCA meetings



into multi-day investments of time. That said, Tom's passion for the conservation of caves and karst were obviously still burning brightly and his words as the speaker for the NCKMS banquet address were fiery.

Tom has never been one to mince words, but his banquet address left me with the impression that age had rendered him even more candid. He was pretty blunt about airing his opinions on the management of WNS by state and federal agencies as well as other organizations that have followed the government's lead, especially considering his audience was comprised largely of these same agencies. He told the symposium that the

policies to treat the disease or control its spread had been complete failures. And with the usual wisdom of the government, they “just keep on doing the same thing.” Tom went on to express his opinion that in mandating blanket cave closures, the reactionary government policies had resulted in summarily throwing away one of the greatest ally resources that could have been mustered: the caving community.

Again, I’m just the messenger, and none of this was new messages, but it was an interesting, if uncomfortable, experience to sit at the table during the banquet with folks from the USFWS while the speaker was up there at the podium overtly telling them their policies were failures. From my perspective, I’ve seen WNS sweep across Indiana like a wildfire with the plague taking a huge toll on Indiana’s bat populations. For example, at Robinson Ladder Cave, which the IKC purchased to protect (among other things) a hibernaculum typically inhabited by a few hundred Little Brown and endangered Indiana bats, after WNS swept through the bat population in the cave was reduced from about 600, down to 1 (a Big Brown bat not

susceptible to WNS). So, I’m painfully aware of the consequences of WNS. I’m also aware that cave closures appear to have accomplished nothing in Indiana. As a friend working for The Nature Conservancy once pointed out, it’s questionable at best to enact policies that are unenforceable. That is to say, a mandate of cave closure only works to keep out the people who would observe the closure. The reality of the situation is that this means that the bozos who drink beer in caves – as evidenced by the trails of cans – haven’t observed the “closure” at all, while the members of the organized caving community have taken it to heart, granted, begrudgingly.

The Indiana DNR is starting to embrace change and moving on to a new policy. Here in Indiana, we’re moving from an era of blanket cave closures to one of the doors gradually opening with some of the DNR caves available for visitation again. With a little luck soon the cavers will again outnumber the spelunkers (if this doesn’t make sense, ask any caver to explain).

Jerry Lewis

2017 NCKMS: EUREKA SPRINGS, ARKANSAS

by Jerry Lewis

Our voyage to the 2017 National Cave and Karst Management Symposium (NCKMS) in Arkansas started with an extraordinary geographic event for Salisa. On the morning of Friday, October 13, she returned from a business trip in Minneapolis. Arriving home around lunch time, we threw our stuff in the car and off we went to the NCKMS. She had driven across the Mississippi River that morning in Minneapolis to reach the airport, and a few hours later we drove across the Mississippi again... 560 miles to the south at St Louis. The first night found us in the Missouri Ozarks. We spent most of the next three days collecting isopods from springs and making new friends (see the photo on page 4) as we made our way to northern Arkansas.

We arrived in Eureka Springs, Arkansas on Monday afternoon, October 16, the home of the 22nd NCKMS – I think this was the fourteenth that I had attended personally, and Salisa has been to six or eight past symposia. It was being held at the Basin Park Hotel, built in 1905 during the heyday of the town as a resort centered around the town’s springs. Our initial impression of the hotel

was that it was “quaint”. That opinion leaned more toward “run-down” over the course of the week as the frailties of the hotel became more apparent, with its one tiny, glacially slow elevator and listing floors. The entire town had reportedly seen hard times by the mid-20th century, when many of the businesses had been boarded up. While historic, the hotel was ripe for a renovation. That said, the entire business district has been placed on the National Register of Historic Places, and there were several good restaurants and numerous fun shops to explore.

NCKMS workshops were offered on Sunday and Monday, but the NCKMS officially kicked off on Tuesday morning, November 17. A faux pas of the symposium – neither the hotel restaurant or any other place within walking distance was open for breakfast – found Salisa and I eating stale crackers and cheese with some really terrible hotel room coffee for breakfast. At the opening ceremony we were honorably greeted by the mayor of Eureka Springs, representing the 2,073 residents of the town. The first sessions were biology, followed by geology/hydrology. The official



theme of the symposium was “An ancient land with modern problems”, but the unofficial theme became “I don’t have enough time”. That was a problem largely created by the steering committee when they elected to shorten the talks by 25% the week before the symposium, cutting all presentation times from 20 to 15 minutes. Presenter after presenter complained of not having enough time to give their planned presentations, resulting in flipping through slides without saying anything about them.

Tuesday afternoon was the second biology session, which I “chaired” and was tasked with keeping on a tight schedule. I presented during the session, giving a terse synopsis of a year’s work on endangered species that I’d conducted at the Smithsonian Institution and subsequently in the field in Virginia caves. Tuesday evening finished with a poster session and the howdy party.

The highlight of the NCKMS is usually the field trips, and three were offered on Wednesday: a walking tour of some of the springs in Eureka Springs; a trip to the Ozark Underground Laboratory in adjacent Missouri; and a canoe trip down a section of the Buffalo River. Salisa and I had previously done most of the featured field trip activities and opted to conduct our own field work – collecting more isopods – but reportedly the field trips were excellent, informative, and entertaining. We did take the opportunity to do the springs tour ourselves and found them quaint and interesting,

with each spring being a mini-town park.

Thursday featured more sessions in the areas of biology, geology/hydrology, and conservation management. Another “Basin Park Hotel moment” occurred when some sort of ceiling failure occurred and speaker Tom Aley found himself at the podium in mid-sentence with water pouring on him from above. Tom recovered quickly and remarked that he hoped there wasn’t a bathroom above him. That evening he was the banquet speaker (the banquet was at the Crescent Hotel up the mountain from the Basin Park Hotel) and pointed out that he was watching out for waterfalls, but his address was excellent (see my Ramblings on page 4) and uninterrupted by any fluvial events.



The symposium finished with a few last presentations on Friday morning. Although marred by the last-minute time restrictions for presentations, there were many interesting talks during the symposium. Topics ranged from the exploration of the geology and hydrology of Yellowstone’s geysers – actually caves filled with near-boiling water – to the management problems created by the influx of road gravel into Missouri caves. About 100 people were registered for the 2017 NCKMS, which from our experience seemed typical. Departing on Friday, we travelled to Hot Springs National Park to spend a day being tourists at the unusual thermal springs, and then returned safely to Indiana, looking forward to the 23rd NCKMS in Virginia in 2019.

NEWS BRIEFS...

- ❑ Thanks and congratulations to Salisa Lewis for volunteering to be the IKC’s Education and Outreach Coordinator. This position had been vacant for a year and is a significant and important aspect of the IKC’s mission. It can be a fun task, but as with many volunteer positions, the time demand is greater than the ability to supply. If you would like to assist Salisa or volunteer occasionally, please contact her (see page 2 for contact information).
- ❑ John Benton pointed out that the editor neglected to credit Gordon Smith for providing the historic photo of the Marengo Cave entrance building on page 15 of the September 2017 *IKC Update*. My apologies.
- ❑ The IKC has gained three new member in the last quarter. Welcome Chris Lubienski, Chris Gibson, and Shawn Hogbin. The IKC membership currently stands at 193.

MARK WEBB (1964 – 2017)

by Jeff Cody

On the evening of September 25, 2017, long-time Indiana caver Mark Webb (NSS 23543) passed away after a brief illness. He is survived by his father Donald, his mother Judy Walters, and a brother Gary. Thoughts also go out to his longtime girlfriend Jodi Taylor, who he lived with along with her grandson Isiah. We were best friends since Junior High school and this is a huge personal loss for me as well.

Mark was born on June 24, 1964, in Franklin, Indiana where he spent all of his life. After high school, he went to work for the State of Indiana working for conservation officers and the Department of Natural Resources. He then worked for the City of Franklin as the sexton of the city cemetery. He eventually went into business for himself, working in the funeral industry up until his passing.

Mark always had a passion for his interests. We both began caving in 1981 in the Bloomington, Indiana area with high school friends as “party cavers” common in that area around that time. We soon met Dick Blenz who told us about the NSS and organized caving. We soon were at local regional events like Indiana Cave Cavers where we then met many other cavers. Dick encouraged Mark to start his own grotto and he did. In 1986 Mark was the driving force in starting the Mid-Hoosier Grotto and worked hard publishing a nice cover stock newsletter before the aid of modern computers. He was the glue that held the grotto together and was always our leader. Mark also had that ability to find caves he had never been to, back before GPS. All of my first out-of-state cave trips to eastern Kentucky were with him starting around 1982.

In the late 1980s, myself and other Mid-Hoosier cavers began to get into vertical caving doing the pits of southern Indiana and eventually TAG. Mark never got into this as he had a close call with death where I saved his life doing a bottom belay on him at a 90-foot cliff in Indiana. He was always a bit on the heavy side and when starting this rappel he was instructed up top by someone who suggested he use too few bars for a guy his

size and soon got out of control. This near miss steered him away from vertical caving while the rest of us went on to many vertical trips in TAG. At that time his passion was more into surveying caves and ridge walking.

From there, Mark helped start the Eastern Indiana Grotto and assisted in many surveys of caves in the lesser traveled eastern Indiana karst region. Up until his passing, he always held office in the Eastern Indiana Grotto. For the last few years, his job demands did not allow him to cave much, but he still always tried to assist the grotto however he could. Mark was also one of the first members of the Indiana Karst Conservancy, joining at its first organizational meeting as member #9. He also encouraged me to join early as well. He also helped out on a few Mammoth Cave restoration weekends in the late 1980s. He inspired other cavers to assist in this effort as well. A few still continue to this day and likely would never have gotten involved without him. He had that effect on others.

In addition to caving, Mark also had a passion for long bicycle rides in the beautiful central Indiana countryside. This is also something we did together as he encouraged me to ride further than I would have otherwise on my own. He was with me when I did my

first 100-mile bicycle ride. His encouragement prompted me to ride in several Hilly Hundred bicycle weekends. His other favorite pastime was attending IndyCar races. With both of us growing up in central Indiana, we both were taken to the Indianapolis Motor Speedway as young kids with our parents. We both had attended over forty Indianapolis 500 races dating back to the late 1970s, many times together. We also attended many practice and qualifying sessions for the race over the same time frame.

His passing leaves a hole in the Indiana caving community. Over the years his passion for caves was contagious to others around him. He encouraged myself and others to stay involved in organized caving and was always willing to give back to an activity that gave him so much. He will be greatly missed by many.



1987 photo by Jeff Cody

INDIANA'S KARST – WHAT DO WE CONSERVE? (PART 2)

by Matt Selig

In the September 2017 *IKC Update*, we began a discussion of the integrated scientific disciplines involved in cave sciences. These categories are based on Roger Brucker's 1997 notes from his Speleology class I took through Western Kentucky University (WKU) in the Mammoth Cave system. These six scientific disciplines include geology, hydrology, chemistry, biology, archaeology, and history.

Previously we looked at how the landscape made up of Mississippian-age rocks in southern Indiana was created by the interaction of these rocks with carbonic acid transported by water through the joints in limestone bedding planes to create the voids we call caves in a geography described as "karst."

Now that the geology, hydrology, and chemistry are in place, this second installment looks at the remaining three integrated disciplines of speleology: biology, archeology, and history.

These disciplines look at how life in general, and more specifically, how humanity uses (and has used) the cave resources the IKC seeks to conserve. Life has exploited caves through the millennia as shelter, habitat, resource provider, and in the case of humans, a resource for mythology, art, and economic opportunity.

Biology

I remember not being able to enter a cave in Texas (Honey Creek Cave, during another WKU karst hydrology class) because beavers were swimming in the spring exit and we didn't want to disturb them. We didn't go in the cave that day, but I learned a lesson that has stuck with me in the years since – the variety of organisms that have found a way to take advantage of the cave environment is *astounding*.

As mentioned in Part 1 of this article, I am no expert in any of the scientific disciplines that make up speleology. And frankly, biology is my weakest subject among the six (although the IKC is fortunate in this regard to have a professional research biologist, Dr Jerry Lewis, as its President). In my research for this article, I have come to understand the terminology I will use has become somewhat dated, and again, but I believe they are still a useful framework. And if I commit any scientific whoppers here, please correct me. Gently.

I take these terms from the book *Speleology*,

The Study of Caves (1964), where they discuss animals found in caves based on how far the organisms make it into the cave and to what extent they have adapted to life in caves. For specific examples of cave organisms, I reference *Cave Biology, Life in Darkness* (2009)

The first bio-zone described in *Speleology* is the area around cave entrances that is accessible to animals not specifically adapted to cave life (such as the beavers noted above). Species that only occasionally visit or use the cave environment are called *trogloxenes*, from the Greek word *troglo-*, meaning cave and *xene*, meaning guest.

In Indiana, we see many normally surface-dwelling animals that use cave entrance areas when available. I have seen snakes in the spring exit of Porter Cave, Racoons that seem to break the rules by exploring all of Marklander Cave, mice in the column of the entrance room of Selig Cave (and in the T-Room of Buckner Cave), fish in the spring entrances of several caves and birds flying around the IKC's Orangeville Rise (along with the occasional snake).

Regarding extinct animals, it is possible to find evidence of cave bears in Indiana's caves, such as in Big Forking Tree Cave. In the exploration of Binkley Cave, remains of bison, bears, owls, and snakes were found behind an entrance that had closed after these animals perished and remained unfound until they were discovered as the result of that cave's long surveying project.

The list of *trogloxenes* that use Indiana's caves could of course be far longer, but our purpose here is not to make an all-inclusive list, but to give examples of each group that any experienced caver would find familiar from their own cave adventures.

The next group of cave-using creatures are the *troglophiles*, or "cave loving" organisms. *Troglophiles* can live inside and outside caves. A great example are bats. They are often found hibernating in Indiana's caves during the winter months, while living on the surface at other times. The IKC has an important interest in protecting bats from habitat loss, and disruption, and diseases such as White-nose Syndrome. Because of these hazards, access to some Indiana caves is prevented during bat hibernation season.

Finally, *troglobites* are cave dwelling organisms that spend their entire lives in caves and are



specifically adapted to living in cave environments. *Troglobites* have lost functions/features that surface animals have, such as eyes and skin pigmentation, because they are useless in a lightless environment.

Troglobites in Indiana's caves such as "blind" cave fish can be seen in Blue Springs Caverns and the IKC's Upper Twin Cave, as well as many other caves. Eyeless, de-pigmented cave crayfish are also a common site in Indiana's caves (as are their surface dwelling cousins, which can be washed into caves). Cave beetles and isopods are commonly seen during slow-moving survey trips. And let's not forget that we still have a lot to learn about the microbiological inhabitants of Indiana's caves.

Why are cave animals worth protecting and conserving? In Brucker's opinion, it is because we still know relatively little about these creatures that live their lives in and around quiet and dark caverns. Dr Lewis has himself discovered new species in Indiana's caves and karst landscape (for example see the December 2015 *IKC Update*) and beyond what we've discussed here, it is estimated there could still be thousands of undiscovered species in the caves of Indiana, Kentucky, Tennessee, Alabama and Georgia.

We don't know enough about these types of creatures to write them off as collateral damage to human use of karst landscapes. There is still so much to learn! It is easy to be optimistic because cave biology is still a young science and there is much left to discover.

It is also important to consider the several endangered and threatened species (gray bats, Indiana bats, northern long-eared bats, and several mussels – fanshell, rough pigtoe, and sheepsnose – in the East Fork of the White River), that rely on Indiana's caves and karst landscape for survival. An unhealthy cave environment puts them at further risk. And finally there are many invasive species in Indiana that threaten native species living in Indiana's karst region.

We will now turn to a specific set of *troglophilic* animals, homo sapiens, which specifically

interests us, because they *are* us. We'll start with humanity's use of caves before the beginning of the historic record.

Cave Archeology

Note: If you encounter potential archeological remains in Indiana's caves, please contact professional archeologists. Amateur archeology does more harm than good!

Brucker recounted a study done in Mammoth Cave to simulate the way paleo-Indians (or as some call them paleo-Americans) would have caved in Mammoth Cave. Brucker and his fellow cavers went into Mammoth Cave dressed only in swimming trunks and with reed torches made in the same manner of the numerous torch fragments that litter the areas of Mammoth Cave explored by the paleo-Indians.

Having been convinced their modern technology (carbide lamps at the time) made them superior cavers, they quickly realized that paleo-Indian cavers could have gone anywhere in Mammoth Cave that modern explorers visit. The paleo-Indians of course lacked modern technologies such as surveying tools that

would have allowed them to understand what they were exploring. But they were prodigious cavers, in any event. As a side note, torches made of shagbark hickory were used by paleo-Indians to explore numerous Indiana caves.

Regarding the paleo-Indians' use of Indiana's caves, Dr Patty Jo Watson states in *Of Caves & Shell Mounds* (1996) her belief that any cave in the Kentucky-Indiana region that had an accessible, dry entrance was explored by the paleo-Indians. Brucker agreed with this sentiment because he believed the paleo-Indians were like us, that they would have found the same interest and fascination that draws us into caves. And the paleo-Indians also found economic resources in Indiana's caves.

We know that cave resources were taken out of Indiana's caves by the paleo-Indians for food, medicine, and trade goods. A June 2017 *IKC Update* article traces the path of aragonite taken from Wyandotte Cave and carved into a small statue or



Orconectes inermis inermis. Photo by Dave Black (2009)

charm known as the “Snowy Owl Man.” Aragonite from Wyandotte has also been found in Iowa, Illinois, and Ohio, according to the article. These and other relics allow us to trace the paleo-Indians’ trade patterns.

And we must also consider not just the things the paleo-Indians took out of Indiana caves, we should also think about and preserve the things they took into the caves and left there. At Mammoth Cave, for instance, charred reeds used as torches, clothing, climbing poles, human remains, food, and petrified feces have been examined by archeologists to learn more about how these people lived and used caves.

Caves are important archeological sites because they protect what is left in them and collect many items in one place for archeologists to find. Caves have also been used as burial places and the artwork found on cave walls in France are world famous.

But the archeological record in Indiana’s caves is comparatively thin. Perhaps this archeological evidence was destroyed by earlier modern cavers that didn’t know any better, or by the geological forces still forming caves. Perhaps more archeological evidence is lying in Indiana’s undiscovered caves, waiting to be found by patient cavers who are on the alert for evidence of the paleo-Indians’ use of Indiana’s caves.

Let us not also forget that “cave country” has many archeological sites on the surface, above the underground caves. Shell middens (mounds) in Kentucky have been studied to better understand what paleo-Indians ate, and their economies and lifestyles. Some farmers fields in Indiana’s karst landscape are well known as good places to find arrowheads. Evidence of paleo-Indian communities still exists on the surface of Indiana’s karst regions and whether we are out on ridge-walks or sitting in IKC Board meetings, we should consider what surface archeological resources need preservation, as well.

Speaking of odd things on the surface of Indiana’s karst region, deep within the heart of Garrison Chapel Valley, there are weird circles of rock on the side of a sandstone cap. They are eight

to ten feet in diameter and perhaps a foot tall. I counted seven or eight of them on a recent ridge-walk and I couldn’t help but wonder, were these placed there by ancient paleo-Indians, or was their origin a result of more recent human activity? Which leads to our discussion of...

Cave History

One day in the late fall of 1775, a caver made the long trip through the entrance crawlway in Buckner Cave and entered the T-Room. He then turned right, climbed down a breakdown pile and scratched “LV Cushing, Nov. 23, 1775” on a rock. Some speculate Cushing was a Revolutionary War soldier looking for saltpeter to aid the war effort. Perhaps he was a local teenager looking for adventure. Who knows? The historical record doesn’t make any other mention of L.V. Cushing (aside from a couple of speculative guesses), perhaps the first identified Indiana caver of the modern historical era.

We do know that Indiana’s caves in historical times have been used for shelter, access to drinking water, cold storage of perishables, and for the mining of saltpeter. I recently spent the weekend in New York City and was startled

to think that in that metropolis, I was literally surrounded on all sides by millions of pounds of Indiana limestone covering the Art Deco buildings there, and a minerals industry exists to this day in Indiana’s Mississippian karst region.

Many caves such as Boone’s Cave, Sullivan Cave, and Pine Valley Cave contain historical signatures and dates from the late 1800’s. It would be an interesting historical study to collect these names and see what can be found in the historical record of their life and times.

Indiana’s caves have been featured in news reports, magazines, and in local memory. And there are great questions to research such as just how did Suicide Cave get its name? Who (and when) was the boy lost in Lost Boy Cave? Books have been written about the history of the exploration of Binkley Cave, Indiana’s longest cave, and the December 2016 *IKC Update* features an excellent and detailed study of the exploration of Wayne Cave, and the *IKC Update* includes the regular

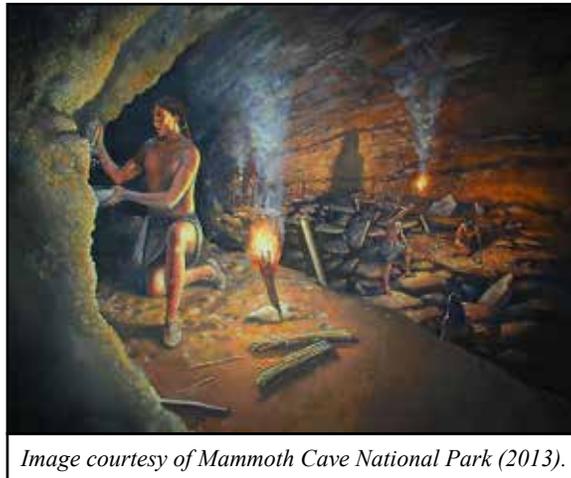


Image courtesy of Mammoth Cave National Park (2013).

feature “A Look Back at Indiana Karst.” Much more interesting material remains to be researched and written about the history of the exploration of Indiana’s caves.

And the numerous cave clubs and NSS grottos that have published newsletters with articles about Indiana’s caves provide a rich resource to study the exploration of Indiana’s caves, as well.

There are several wonderful commercial caves in Indiana where non-cavers can experience the thrill of exploring Indiana’s caves in a safe and ecologically prudent manner. How these attractions have gone from “shoddy” operations that told tall tales and created problems all their own during the Cave Wars (in the Mammoth Cave region) to responsible stewards telling scientifically accurate stories about cave science is in itself an interesting story.

Finally, caves have been and continue to be used by mankind for recreation. As with the paleo-Indians, modern mankind is drawn to Indiana’s karst regions for all the reasons mentioned, but I think there is something else that draws cavers (modern and pre-historic) to Indiana’s karst – what Brucker described as “the thrill of jumping over the fence and going where you’re not allowed to go.”

While this article strongly discourages trespassing in Indiana’s caves (stay out of caves you don’t have permission to enter!), I believe it is easy to relate to exploring Indiana’s caves as a grand adventure into the unknown. If you’ve ever pulled a survey tape through a *virgin* wet crawlway and gazed in wonder at speleothems, animal bones, historical signatures etc., I think you might agree.

This recreational use of Indiana’s caves has also led to conservation problems. In Garrison Chapel Valley, and on other IKC properties, the vandalism of caves was extensive. Landowner relations have been damaged by thoughtless spelunkers. Bat populations have suffered, water resources were polluted with carbide dumped in streams, eons old speleothems have been thoughtlessly destroyed. The damage is real and as many of us started our caving adventure in Buckner Cave, we have seen the tons of trash, graffiti, and human waste littered throughout the “most trashed cave in the United States.”

But there is hope. This two-part article wanted to take a closer look at cave sciences, and at just what organizations like the Indiana Karst Conservancy are trying to conserve, and why their conservation is important. Anyone who visited Wayne Cave or Sullivan Cave before they were gated in the mid-1980s, or Buckner Cave before the massive cleanup effort, is well aware of the conservation problem. In looking at the results of cleanup and restoration efforts, we can take hope that these volunteer efforts have a real and positive effect in protecting karst resources and the wildlife that depends on it.

Ultimately, we preserve Indiana’s caves because they are important to our humanity. Not just in terms of natural resources to be recovered and exploited, but also in ways that speak

to mankind’s connection with the earth, with art, with symbolism, with our deep history as “cave-men”, and with our hopes for exploration in the future. As they did for our ancestors, caves provide for modern mankind’s physical needs and speak to our spiritual connection with the Earth.

In Indiana’s karst region, it is still entirely possible to find some-

thing or to step somewhere no human has ever seen or visited. What a unique opportunity and thrill! And I believe there is no reasonable end in sight to what we can learn about Indiana’s caves and that the responsible stewardship of significant karst features by the IKC is an important component of this process of scientific discovery and exploration. The IKC not only preserves karst resources, but also sets a leadership example to others regarding conservation of karst resources.

I hope this (admittedly) breezy look at the integrated scientific disciplines involved in speleology has been interesting. I hope that as we cavers head out into Indiana’s karst regions that we are mindful of the complex web of things happening both above and below the ground, and how they all relate with each other. And finally, I hope we can continue to gather more data, learn more about Indiana’s caves, and share with each other what we’ve discovered!



Wayne Cave, RPI area. Photo by Willie Lunsford (2003)

UNDER THE WATERSHED FIELD DAY

by Jerry Lewis

It was a dark and stormy morning – 42 degrees and a steady rain – with the water obligingly illustrating a vibrant karst as it drained from the surface into Buckner Cave below us. The IKC’s new Education and Outreach Coordinator, Salisa Lewis, and I were there to participate in the “Under the Watershed Field Day” on November 15, an event sponsored by the Plummer Creek Watershed 319 grant, in partnership with the Richard Blenz Nature Conservancy, the Indiana Karst Conservancy, and the Bloomington Indiana Grotto.

The event was being held at the Richard Blenz Nature Preserve near Bloomington and the picnic shelter near the cave entrance was filled with several dozen attendees enjoying coffee and doughnuts graciously provided by our host, Laura Demarest, the Plummer Creek Watershed coordinator. The first thing on the agenda was a greeting by Laura, and then introductions of Anmar Mirza and Sam Frushour (representing RBNC), and Salisa and me (representing the IKC). We did the first talk, which was about the IKC, conservation, and subterranean ecosystems. The karst conservation mission of the IKC was discussed, along with a run down of the preserves and some of their features. The longer part of our talk was about the subterranean ecosystem present in the Plummer Creek Watershed, with discussion of the different kinds of animals inhabiting sinkholes, soil interstices, the epikarst, and finally the caves themselves. We brought “show and tell” specimens of a variety of cave and karst invertebrates illustrating points made during the talk. The tale of the extirpation of the subterranean fauna once inhabiting the spring under Jordan Hall, the biology building at Indiana University, was presented as an example of the need for karst conservation. Three rare subterranean crustaceans – one of them known only from that spring – were extirpated by

the use of termiticides around the building. We finished our talk by emphasizing the need for just the thing that was happening... karst education... and active conservation efforts to preserve caves and karst in preserves like those at Buckner Cave and the IKC’s adjacent Wayne Cave.

Anmar Mirza next talked about the checkered progression of Buckner Cave from its pristine state at the time the first pioneers visited to that of a “sacrificial cave” filled with spray painted graffiti, garbage, and human waste. The slow recovery of the cave involved drastic measures, including sand-blasting of the walls, and removing massive quantities of garbage. Sam Frushour finished the talks with a discussion of the karst geology of the region, including the complex groundwater hydrology revealed by numerous dye traces that had been conducted. He noted that he had seen people filling up water jugs at the local springs, a misguided practice from the folk belief that spring water was adequately “filtered” on its journey underground. In actuality, water in local springs travels in conduits (caves) that provide almost no filtration of the fecal coliform bacteria and other contaminants replete in the water. After the morning talks, lunch was provided for the participants, and then a trip into Buckner Cave (we opted out of the cave trip).

We want to thank Laura for inviting the IKC to the workshop and allowing us the opportunity to participate in the program.



BEHAVIORS OF THE CAVE SALAMANDER

by J. Gavin Bradley

As part of my doctoral research, I'm pursuing work on the natural history, ecology, and behavior of the Cave salamander, *Eurycea lucifuga* (Rafinesque, 1822). This species' association with caves is known to be related to certain environmental characteristics of this habitat, particularly the cool temperature and high humidity microclimate. However, caves may also provide ample refugia for these salamanders, and therefore their association with these habitats may also be related to the safety and protection this environment provides. The Cave salamander is an excellent climber and is often found clinging to vertical surfaces (i.e. walls) in caves, so frequently that it seems, they may choose this microhabitat over horizontal



Above: The "production line" of making the clay salamanders, then painting them orange with black spots.

Right: A deployed surrogate salamander placed on a tree just outside of a cave that has been attacked by predators.

habitat (e.g. the floor). To begin to address this observation, in July I started a behavioral project using surrogate clay models of Cave salamanders to see what types of "interactions" may be occurring with other wildlife that use caves and the surrounding forest environment. This is possible because the soft clay used retains marks, such as teeth and claws, left behind by curious animals and potential predators. For this study, clay models were positioned on the walls and floor in different caves, as well as outside of these caves, to see how often the models in different positions are damaged. One of the caves used in this study was Buddha Cave due to its ample habitat and accessibility. As suspected, this study has shown that clay models in low-lying floor areas are generally damaged more than those on walls, and are generally damaged more outside of caves than in caves. This may indicate that caves are safer habitats for salamanders than the surrounding forested areas right outside of them.

Gavin Bradley is a Doctoral Candidate in the Department of Biology at the University of Louisville.



A LOOK BACK AT INDIANA KARST

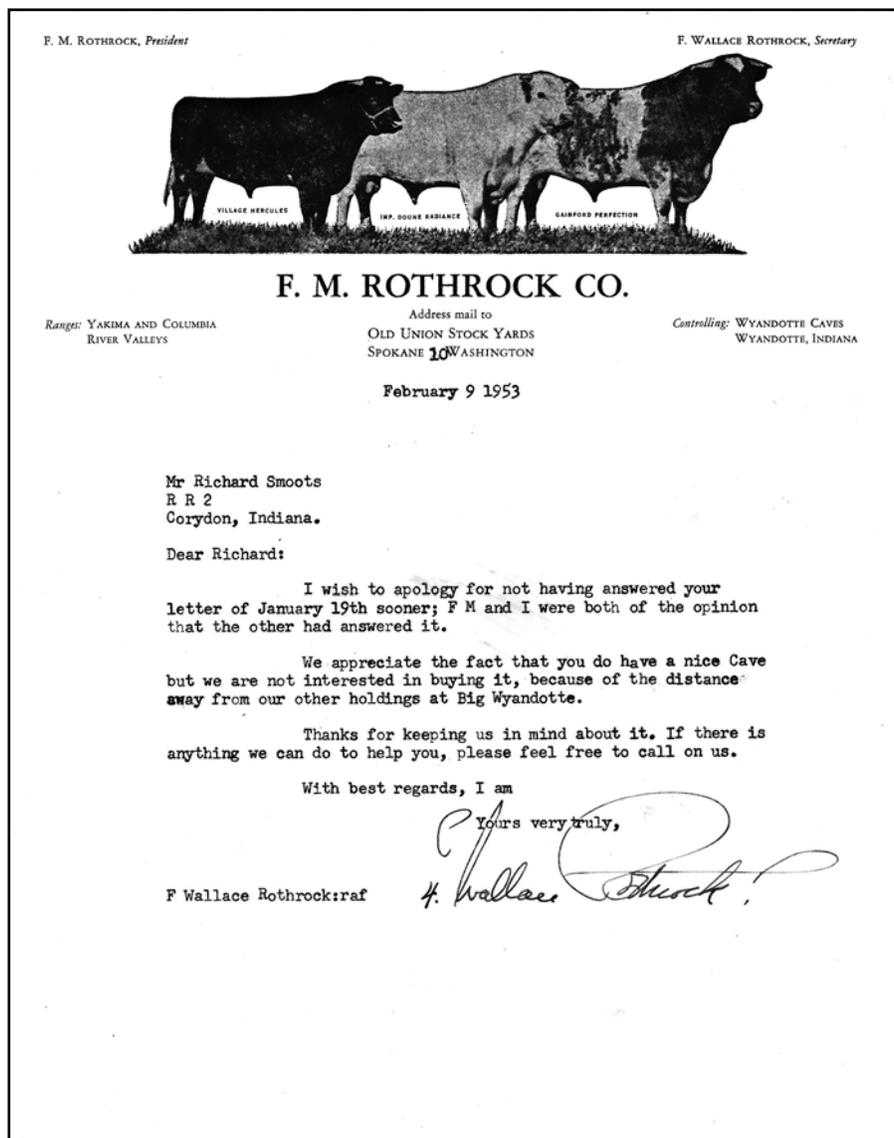
by John M Benton

Jewel Box Cave (sometimes called Richard's or Smoots Cave) in Harrison County was discovered by landowner Richard Smoots circa 1949, when he sat down to rest against the base of a tree on his farm while hunting. He noticed a cool flow of air coming out of a small sinkhole. Richard knew there were caves in the area, with Mauck's Cave being on the adjoining neighbor's farm. Returning the next day with some digging tools, he soon opened up a small passage and crawled into the virgin cave. It contained thousands of delicate cave formations, especially an alcove literally packed with hundreds of long soda-straw formations, probably the largest quantity of long soda-straws known in any Indiana cave.

Several years later, in 1953, Smoots attempted

to sell his cave and land to the Rothrock family, who owned nearby Wyandotte Cave at the time, and also to the State of Indiana. Accompanying this article are three "rejection" letters, courtesy of Smoots' grand-daughter, Anne Cabaniss, of New Albany, Indiana.

Despite the initial rejection, some seventeen years later, circa 1970, Smoots did sell his land and cave to the State. At that time, the Division of Forestry had Jewel Box Cave gated as it remains today. Before the DNR closed all caves for White Nose Syndrome in 2009, occasional permits could be requested to visit Jewel Box Cave. Hopefully, in the not too distant future, that can be done again, as WNS has come to our caves despite the closures, and that policy seems to have out-lived its justification.



STATE OF INDIANA

George N. Craig
GOVERNOR
DEPARTMENT OF CONSERVATION



INDIANAPOLIS 9

CONSERVATION COMMISSION
JAMES M. TUCKER, CH.
ORA AX
ROBERT H. HELLER
HOWARD R. HIESTAND

January 21, 1953

Mr. Richard Smoots
Route #1
Corydon, Indiana

Dear Mr. Smoots:

Thank you for your letter of January 10 with its offer to sell to the State of Indiana the cave known as Smoots Cave. This is to advise you that the Division of State Parks is not interested at this time in the purchase of such property. The normal method of creating a State Park is for local groups to organize into a park commission and obtain the land through private subscriptions or donations. This policy has been in effect for many years, McCormick's Creek being the first obtained in this manner and Whitewater State Park being the most recent created in this manner.

Since you have mentioned that the property is bordered on three sides by State Forests we are passing on the Division of Forestry your letter in the event such a purchase would fit in with their land acquisition program.

Even though we are not in a position to purchase property of this type, we sincerely appreciate your interest in writing to this office.

Very truly yours,

K. R. Cougill
K. R. Cougill, Director
State Parks, Lands and Waters

KRC/RDS/paw

cc: Forestry Div.
w/letter

STATE OF INDIANA

HENRY F. SCHRICKER, GOVERNOR
DEPARTMENT OF CONSERVATION
KENNETH M. KUNKEL, DIRECTOR



INDIANAPOLIS 9

CONSERVATION COMMISSION
JAMES M. TUCKER, CH.
ORA AX
ROBERT H. HELLER
HOWARD R. HIESTAND

January 26, 1953

Mr. Richard Smoots
R. R. 1
Corydon, Indiana

Dear Mr. Smoots:

Mr. Cougill, Director of the Division of State Parks, Lands and Waters, has kindly provided me with a copy of your letter to him dated January 10 and his reply to you dated January 21 pertaining to your cave property.

Naturally, the Division of Forestry is not constituted nor financially able to purchase specialized property such as yours. Our main functions, among other things, are to operate such programs as the purchase and development of low value lands for state forests, protect the woodlands of the state from fire, operate the state tree nurseries, and assist private woodland owners in the better protection, care, and management of the private woodlands of the state.

I am sure Mr. Max Parker, Forester in charge of the Harrison State Forest, knows about your cave and the location of your property. For my own information, I would appreciate a note from you giving me the legal description of your property so I can check it with our land acquisition map to see in what portion of the state forest purchase area we are neighbors. I do not get out of the office as frequently any more as I would like to do so but some time when I am down your way and have time I would like very much to meet you personally and see just where our ownerships lie.

In the State Forests we do not have the intensive type of recreational facilities provided so well in the state parks although we do encourage the more extensive types of public use such as you see in operation over in the public use portion of the Harrison Forest. The State Forests also are open for hunting, a feature not within the policy of the operation of the state parks for obvious reasons.

Very truly yours,

Ralph F. Wilcox
Ralph F. Wilcox,
State Forester

RFW:D
CC: Max Parker

BECKHAM BIRD CLUB VISITS IKC PRESERVE

by Jerry Lewis

Nine members and guests of Louisville's Beckham Bird Club visited the IKC Shawnee Karst Preserve on October 28 for one of the club's regular weekly birding trips. The field trip was led by Jerry Lewis and Mike Callan. A total of 31 species were seen. The day started out at 8:30 AM with the group watching a flock of Cedar waxwings in a tree near the entrance of the preserve while we waited for late arrivals. We then moved the cars to the circle at the end of the driveway and started walking the 1.6 mile nature trail that winds through the property. A total of 10 Northern flickers were seen flying into a grove of pine trees along the trail, an unusually large number of these woodpeckers. Most of the species seen are typical winter inhabitants of Indiana woodlands: Golden-crowned kinglets, Yellow-rumped warblers, and White-throated sparrows. The highlights were an Orange-crowned warbler, a late fall migrant and a Barred owl that was seen in the cedar grove. Owls commonly roost in the protection of evergreen trees and this one was apparently spooked by the oncoming group as we approached the area next to the sinkhole pond. It flew over the cedar grove and then was seen again on the wing over the entrance lane as we departed from the preserve.

The group had an excellent lunch at the Spring Mill Inn and then spent the afternoon searching Spring Mill State Park for additional birds. A total of 39 species of birds were seen in Spring Mill, slightly higher than at SKP due to the addition of a few common water birds seen on the lake (Canada goose, Mallard, Pied-billed grebe) and greater grassland species diversity. One species that never appeared was the Red-headed woodpecker, a bird that was common at Shawnee Karst Preserve for the first years after purchase of the property, but the species seems to have waned there. Usually a regular at Spring Mill, the woodpecker also failed to make an appearance at the park. The best observations in the park were ironically in a "waste" area behind the park swimming pool where the dredged soil removed from the park lake was dumped two years ago. Recommended as a good spot by park naturalist Wyatt Wil-

Beckham Bird Club Observations: 28 October 2017		
Species	SKP	Spring Mill
Graylag Goose (Domestic type)	0	1
Canada Goose	0	2
Mallard	0	2
Pied-billed Grebe	0	2
Black Vulture	1	2
Turkey Vulture	5	4
Cooper's Hawk	0	1
Red-tailed Hawk	1	2
Northern Harrier	1	0
Barred Owl	1	0
Great Horned Owl	0	1
Belted Kingfisher	0	1
Red-bellied Woodpecker	5	3
Downy Woodpecker	4	4
Hairy Woodpecker	2	2
Northern Flicker	10	3
Pileated Woodpecker	0	2
Eastern Phoebe	0	1
Blue Jay	7	10
American Crow	3	5
Carolina Chickadee	5	7
Tufted Titmouse	1	6
White-breasted Nuthatch	3	5
Brown Creeper	0	1
Winter Wren	0	1
Sedge Wren	0	1
Marsh Wren (palustris Group)	0	1
Carolina Wren	5	2
Golden-crowned Kinglet	15	1
Ruby-crowned Kinglet	2	1
American Robin	7	2
European Starling	1	0
Cedar Waxwing	83	0
Orange-crowned Warbler	1	1
Yellow-rumped Warbler	7	4
Field Sparrow	0	8
Dark-eyed Junco	0	5
White-throated Sparrow	7	4
Song Sparrow	1	5
Lincoln's Sparrow	0	1
Swamp Sparrow	0	2
Savannah Sparrow	1	0
Eastern Towhee	3	0
Northern Cardinal	6	4
American Goldfinch	0	7

liams, the area has grown up in tall weeds, cat tails, and willow saplings; a habitat that is very desirable to sparrows and other birds that love to hide in such places. Indeed, we found six species of sparrows, including



Lincoln's and Swamp, but the most interesting finds were late migrant Sedge and Marsh wrens that were brought in by playing their songs.

For the day, a combined total of 45 species of birds were seen at the Shawnee Karst Preserve and Spring Mill State Park. It was mostly a

typical assemblage for a winter day in southern Indiana, with a few late migrants lingering on their way to their winter grounds along the Gulf Coast. A good day was had by all and we're looking at adding other IKC properties to the field trip list of the Beckham Bird Club.



photo by Jerry Lewis (2017)

Two people safe after rescue from Bedford cave system

BEDFORD – Indiana Conservation Officers are investigating after two subjects were rescued from Donnehue Cave earlier today.

At around 10:45 AM, Indiana Conservation Officers and other responders were notified of a missing person search, and that the person in question may have entered into the Doghill-Donnehue Cave system in Bedford.

The Lawrence County Sheriff's Department had initiated a search for Joshua Patton, 31, Bedford, after family members were unable to make contact since Tuesday evening. Patton had told family members that he had planned on entering the cave.

Indiana Conservation Officers, along with several other

trained cave rescue responders, entered the [Culvert Entrance of the] cave at around 11:50 AM, and conducted a search of both the upper "maze" portion of the cave, as well as the lower stream passage. At 12:05 PM, the responders made verbal contact with Patton, and to their surprise, a female subject with him, Samantha East, 38, Bedford. They were located approximately 2000 feet inside the cave.

Patton advised responders that the two had entered the cave at around 6:15 PM on Tuesday using only a cell phone light to negotiate the cave's passages. After damaging the phone and losing their light source, Patton and East attempted to use cigarette lighters to exit the cave, un-

til their fuel was exhausted. The two then stopped and waited in the total darkness.

Patton and East were treated inside the cave for hypothermia, dehydration, and exhaustion. They were assisted from the cave and transported to IU Health in Bedford for further evaluation.

Assisting agencies on scene were Bedford Police Department, Lawrence County Sheriff's Department, and AMR Ambulance Service of Bedford. Local cave rescue responders from Bedford and Bloomington were invaluable for their knowledge and experience with the cave system.

Reprinted from the September 1, 2017 posting on NewsAndTri-bune.com

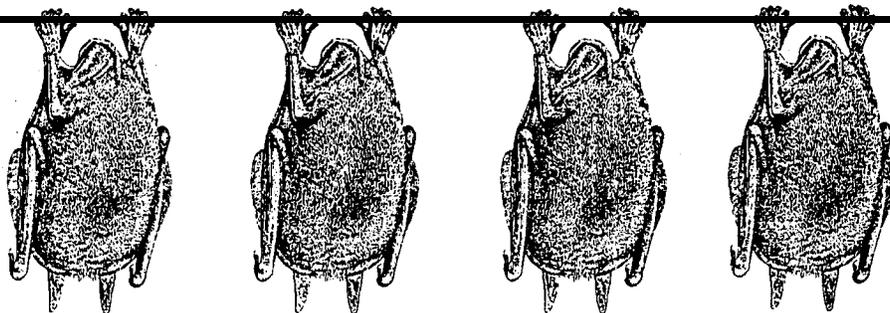
INDIANA KARST CONSERVANCY TREASURY REPORT

**Income/Expense Statement
From July 1, 2017 to September 30, 2017**

INCOME:		
Dues Apportionment and Residuals	684.00	
Donations - General	1,056.25	
Donations - Land Acquisition Fund	365.00	
Spelloggers (12)	2,654.00	
Interest	255.94	
	<u> </u>	\$5,015.19
EXPENSES:		
IKC Update (printing, production, mailing)	248.42	
Education / Outreach	0.00	
Stewardship/Conservation	230.17	
Spelloggers	2,235.46	
Business (safety deposit box , donation fees, etc)	33.50	
Transfers to/from restricted funds/other adjustments	577.93	
	<u> </u>	(\$3,325.48)
NET OPERATING EXCESS (DEFICIT) THIS PERIOD:		<u><u> </u></u> \$1,689.71

**Balance Sheet
September 30, 2017**

ASSETS:		
Cash in Checking / Saving Accounts / CDs	166,510.90	
Robinson Ladder Cave Preserve (73.48 acres)	162,000.00	
Shawnee Karst Preserve (50.31 acres)	105,000.00	
Wayne Cave Preserve (31.85 acres)	85,000.00	
Sullivan Cave Preserve (28.00 acres)	72,000.00	
Buddha Karst Nature Preserve (36.84 acres)	29,000.00	
Orangeville Rise Nature Preserve (3.01 acres)	7,000.00	
Indian Creek Conservation Easement (valued at \$1/acre)	13.16	
	<u> </u>	\$626,524.06
FUNDS & OPERATING EXCESS:		
Land Acquisition Restricted Fund	41,637.95	
Deferred Dues Restricted Fund (193 members)	3,952.50	
Stewardship Endowment Restricted Fund	57,375.02	
Previous General Fund (total)	61,868.88	
Net Excess (Deficit) This Period	<u>1,689.71</u>	
Current General Fund (unrestricted)	63,558.59	
Current General Fund (committed)	2,100.00	
Real estate liquidity (basis value)	<u>460,000.00</u>	
Total Liabilities & Operating Excess		<u><u> </u></u> \$626,524.06



IKC QUARTERLY EXECUTIVE BOARD MEETING MINUTES

Saturday, September 16, 2017, 4:00 PM EDT – Borden, Indiana

Board Members Present:

Jerry Lewis, President
 Sue Vernier, Secretary
 Keith Dunlap, Treasurer
 Bruce Bowman (proxied by Salisa Lewis)
 Danyeale Green
 Dave Haun (proxied by Marc Milne)
 Everett Pulliam
 Matt Selig (proxied by Bambi Dunlap)
 Bob Sergesketter
 Kevin Smith
 Tom Sollman
 Carla Striegel-Winner
 Richard Vernier
 Jamie Winner

Board Members Absent:

Joy Baiz

The meeting was called to order by President Jerry Lewis at 4:00 PM EDT at the home of Jerry and Salisa Lewis, Burns Hollow, Borden, Indiana.

June Meeting Minutes

The minutes from the June Quarterly Board meeting were approved as published in the September, 2017 *IKC Update*.

Treasurer's Report

Treasurer Keith Dunlap reported cash assets totaling \$164,115.87 and land assets totaling \$460,000.00 for total assets of \$624,115.87. Funds include Stewardship: \$57,162.09; Land Acquisition: \$41,637.95 (Keith noted that \$13,057 is new money solicited for the next acquisition, while \$28,580 is the carryover from past projects); Deferred Dues: \$4,380.00; and General Fund (unrestricted): \$60,935.83. The IKC membership currently stands at 186 paid members with 13 not yet renewed.

Shawnee Karst Preserve

Tom Sollman discussed the condition of the road which he reported has a deep gully spreading from the ditch into the road – more crushed stone would fix the problem. He estimates four loads of stone are needed at a cost of \$250 to \$300 a load, preferably with larger rock graded in on the bottom and finished with smaller rock on top. Jamie Winner is willing to do the grading with his tractor and blade. Salisa Lewis made a motion to spend up to \$1500 for road repair. Carla Striegel-Winner seconded. Motion approved. Jerry Lewis asked about the condition of the trails. Tom said he had to clear a portion of the trail to the cave and sprayed some weed killer. Jerry and Jamie will schedule a work day.

Tom received a permit from the state to census the stream population of cave fish and crayfish in Upper Twin Cave. Tom reported that he has been going every two weeks – eight trips to date. The water is now crystal clear and he's had a high count of 134 cave fish and 90 crayfish. The permit expires at the end of the year, but he'll ask for an extension. Jerry will lead the Beckham Bird Club on a birding trip to Shawnee on October 28. Jerry has plans to build a kiosk, but wants the panels completed first. Tom will ask Robert Sollman to supply information for having the panels printed on coroplast.

Sullivan Cave Preserve

Jerry said Cave Patron Paul Uglum received a request from a film maker to film in Sullivan's, although they have not been in the cave and know nothing about it. It's not known what type of film would be made, and there has been no further follow-up. Jerry advised Paul to decide if he wanted to allow the project and if so, to obtain more information and bring the matter back to the Board for consideration. Danyeale Green mentioned that another group had done GoPro filming in Sullivan which might be turned into a documentary. Jerry believes the IKC Board would need to review the contents. Carla suggested that the Cave Patron be advised that any filming will require IKC approval.

Jerry said that graduate student Gavin Bradley, who was granted permission to conduct ecological research on salamanders in Sullivan, had switched his focus to Buddha Karst Preserve and as a result is unlikely to need to use Sullivan Cave as a research site. Keith Dunlap, Tom Sollman, Bruce Trotter, and Jerry Walker did a major overhaul of the 27-year old cave gate with new hinges and safety bar. Keith followed Ellen Jacquart's (now retired as invasive species specialist for The Nature Conservancy) suggestions for stiltgrass control but he's not sure of the results. He'll check next week to see if only the stiltgrass was killed or if the other grasses were affected. Only the lower half of the camping area was treated. Danyeale Green said the port-a-john is clean and has been sprayed with peppermint oil to control the spiders. Keith will ask our septic service to pump it out in late fall.

Wayne Cave Preserve

Jerry reported that he had written a letter of support for a 319 water quality grant request from Laura Demarest for Greene County. Jerry asked the The Nature Conservancy about supporting acquisition of the property south of Wayne Cave, and they pledged \$500/acre toward funding of the acquisition. Keith has had discussions with the owner, but it will be a few months before we know the results. The kiosk information is



now available and Jerry asked Tom Sollman to pursue completion.

Buddha Karst Nature Preserve

Jerry described Gavin Bradley's research at Buddha that involved making life-size salamander surrogates from clay. The surrogates were deployed both in the cave and outside, and Gavin observed what species of predators attacked the models.

Robinson Ladder Cave Preserve

Keith Dunlap gave an update on the chestnut trees. He has checked once since the last meeting and sprayed around the trees. Almost all look good except for the dozen or so that didn't survive. Trees are six to eight feet tall inside of the fenced area. He will mow next month. Trees that were in tubes in the lower field didn't grow as well; he has removed the tubes. Jamie Winner suggested the tree limbs that are hanging over the road need trimming.

Land Acquisition Activities

Keith advised that the price of the 88-acre Eller Cave property has dropped to \$100,000 (USFWS has an easement that prevents entering the cave).

The 293-acre Hancock property price has dropped to \$300,000 (contains Coon, Grotto, and Shaft caves). Jerry said he received an e-mail from the Indiana Division of Nature Preserves people advising that the property was for sale, and he thanked them for the heads up. The property has a conservation easement. Keith explored it and said it is a nice piece of property.

IKC Preserves Emergency Protocols Update

The committee to evaluate emergency protocols on IKC properties has been making progress. Jerry distributed copies of a spreadsheet that lists whom to call and in what order for each preserve. The key is to have the protocols displayed in every preserve kiosk or on a post if there's no kiosk. Paper copies should also be available to people going into the cave. Danyelee Green has taken a leadership role in working on the individual plans. Keith will send her the street address information for each preserve. Jerry asked about Suicide and Shiloh for which the IKC manage access, but does not own. The general consensus was that if the IKC manages these two caves, then they should be included. Discussion followed on how to display the protocols (laminated versions inside the entrance room?) and whether they required the owners' approval. Tom Sollman thought this could be a problem with the Shiloh Cave owner but he will check with them. Something else to consider is how to deal with the two kinds of cave emergencies—one inside the cave and one on the surface. Jerry said individual names would not be used on the call-out protocol, just phone numbers and titles. The protocols would have to be updated periodically.

Telephone/Skype Proxy for Meetings

Jerry discussed the idea of whether to establish a telephone/Skype proxy. Occasionally our meeting locations can be a long drive involving an overnight stay for some of our Directors. Another suggestion is online video conferencing, basically a webinar. There was consensus that nothing equals the face-to-face contact at Board meetings. Salisa Lewis volunteered to attempt to set up a webinar at the December meeting to see how it works.

IKC Website Update

Jerry offered commendation to Bruce Bowman, webmaster, for his continued updates to the IKC website.

Initiative with IDNR/Div of Forestry to Allow Recreational Cave Access

Keith Dunlap, Ron Adams, and Ty Spatta have been talking with the Indiana Department of Natural Resources Division of Forestry about allowing recreational cave exploration at selected caves in the State Forests. They are listening and appear engaged, but much work is still needed.

Indiana Cave Advisory Board

Jerry said Ty Spatta is trying to form an Indiana Cave Advisory Board that will meet at least once a year with the Indiana Department of Natural Resources management. Ty asked Jerry to designate an IKC representative to sit on the Board. Ty wants to work out the structure of the Advisory Board before talking with state personnel. His idea is in the opening stages. Jerry is not asking for a vote at this time, but wants to know if the IKC Board would support it – the majority were in favor.

Education & Outreach

Jerry discussed Salisa Lewis's willingness to be Education and Outreach Coordinator. Keith Dunlap made the motion to approve Salisa Lewis as Coordinator, seconded by Bambi Dunlap. Motion approved. Spring Mill State Park has periodic events about caves and Jerry and Salisa did a presentation at the nature center for the park's "Cave Weekend".

Sauerkraut Cave Gate Project Update

Jerry brought the Board up to date on the cave gate project. After months of delay, personnel from the State of Kentucky responded that the contract might need to be sent out for competitive bids. The USFWS is constrained by the state. Even though the IKC would likely be the low bidder, we would still insist on a cave access policy before signing any agreement. The IKC does not intend to be in the position of locking Kentucky's grottoes, nor the researchers from the University of Louisville, out of the cave.

Items from the Floor

Richard Vernier requested reimbursement of \$262.76



for expenses incurred building Spelloggers for the IKC. Keith explained that these were specialized data loggers used to record visitations to caves and mines and are produced primarily for the DNR and USFWS. Jerry asked the Treasurer to make the payment and he thanked Richard for his donation of labor.

Danyelee Green reviewed Keith's list of non-renewed members and received confirmation from a couple of people that they will renew. Kevin Smith asked if it would be possible to handle cave liability waivers electronically online (SCCI does this). Jerry asked Kevin to contact Bruce Bowman with the inquiry.

Tom Sollman said the Wyandotte Cave manager had a tour-guides reunion. Tom managed to get an invita-

tion and heard many fascinating stories from the past. There might be a booklet written on their stories.

Next Meeting

The next meeting will be December 9 at the Ellettsville Library at 11:00 AM EST. If unavailable, the second choice location will be the Monroe County Library in Bloomington. [*The location was later confirmed to be at the Monroe County Library at 1:00 PM EST—secy.*]

Adjourn

The meeting was adjourned at 6:04 PM EDT.

Respectfully submitted, Sue Vernier, IKC Secretary



A storm drain marker in Eureka Springs, Arkansas that became the unofficial logo of the 2017 NCKMS. Photo by Jerry Lewis.

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 _____

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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.

