

IKC UPDATE

A Quarterly Publication of the Indiana Karst Conservancy
September 2023

Number 150



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 24th, 1:00 PM EDT

Wayne Cave Preserve

8307 W Gardner Rd, Bloomington, IN

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 cave 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 projects; Education/Outreach/Field Days; Electronic scheduling and waiver system; Cave/land acquisition activities including the Wayne Cave Preserve expansion; Henderson Park MOU; Bloomington development project; and more...

Meeting Details: The meeting will start promptly at 1 PM. Those wishing to participate in a pre-meeting stewardship activity on the property (firewood hauling) or to visit the expansion project should arrive by 11 AM. If rain is forecasted to be likely, the meeting may be moved to Danyele Green's home (6888 E Bender Rd, Bloomington, Indiana). Decision by 9 AM. If you have questions about the meeting, please contact Matt Selig or Danyele Green as appropriate (see contact information on page 2).

ACTIVITIES CALENDAR

Sept 24 – IKC Quarterly Board Meeting/Stewardship Activity (see above)

Oct 7 – Wayne Cave Preserve Geology Hike/Tour (see page 7)

Oct 14 – Buddha Karst Nature Preserve: October Big Day (see page 10)

Nov 4 – Sullivan Cave Preserve Hike/Stewardship Activity (see page 24)

Nov 15 – Art & Peggy Palmer Zoom Presentation (see page 5)

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...

In late July 2023, IKC Secretary Laura Demarest, Brandon Chasteen, and I were picking our way through the very large vadose canyon passage between Camp I and Camp II in the IKC's Wayne Cave.

We had crawled through the fabled crawlway (with the Stalactite Squeeze, the Torpedo Tube, and the infamous "Why-the-Hell Squeeze") and would have that experience to repeat as we dragged ourselves out of the cave. But we were excited, caught up in the joy of and our love for caving. We shared the enthusiasm of our underground experience, surrounded by a place of beauty and repose, as unique and inspiring as any wilderness I've visited on the surface.

Over the decades, volunteers from the IKC and supporting grottos have done mountains of work to clean trash and graffiti out of Wayne Cave, to repair the damage caused by thoughtless visitors.

And yet... Laura and I peered into a crack between several large pieces of breakdown and found a beer can with a pop-top closure and a heavily corroded 6-volt lantern battery that no caver in our modern day and age would use.

I remember how last year I wrote in these pages about finding a pop-top beer can in the entrance room of Buckner Cave and how I learned those cans haven't been sold in the United States since 1975.

Fast forward several weeks and I was walking the surface of the Wayne Cave Preserve with Property Manager and IKC Director Danyele Green, Treasurer Keith Dunlap, and Director Carla Striegel-Winner. The surface of the Wayne Cave Preserve is a grand tribute to our predecessors in the IKC who had the vision of what could be done and the scores of volunteers who have worked tirelessly to make this special and beautiful piece of Monroe County a tangible representation of that vision.

We walked onto the "Connection" property (see page 6) to take a close look at this important piece of property the IKC has committed to adding to its conservation portfolio.

It's beautiful. This expansion of the existing preserve contains the same classic karst landscape as the Wayne Cave Preserve and the National Speleological Society's Richard Blenz Nature Preserve, where cavers have also dedicated years of backbreaking underground work to haul trash out of Buckner Cave and remediate the vandalism in this

cave that was once known as the "Most Trashed Cave in the United States."

But with a closer look, the Connection property will need work to bring it up to the IKC's high standards of stewardship. There are piles of trash here and there. There are invasive species to eradicate: multiflora rose, autumn olive, bush honeysuckle, stiltgrass, garlic mustard, and more.

As we walked, someone pointed at something orange on the ground and said, "This looks like shag." I thought to myself, "Wow, that's a weird looking fungus. It must be some kind of mushroom." On closer inspection we see it actually *is* shag carpet.

Trash somebody left lying on the forest floor.

We continued down the sandstone caprock to Jim's Hole (see page 9). I remember when my dad took me there in the 1970s to help Mr. Blenz and others work on this project. We were excited because we believed it just had to go somewhere! Investigating/pushing on a promising lead in cave country can become a years-long obsession.

Carla and I crawled into Jim's Hole and saw graffiti. I'm mystified and saddened that someone walked through this forest, crawled into this cave, and spray-painted some unintelligible letters on the wall. More future conservation work for the IKC's volunteers. I also found a button in the cave. I have friends who collect lost buttons they

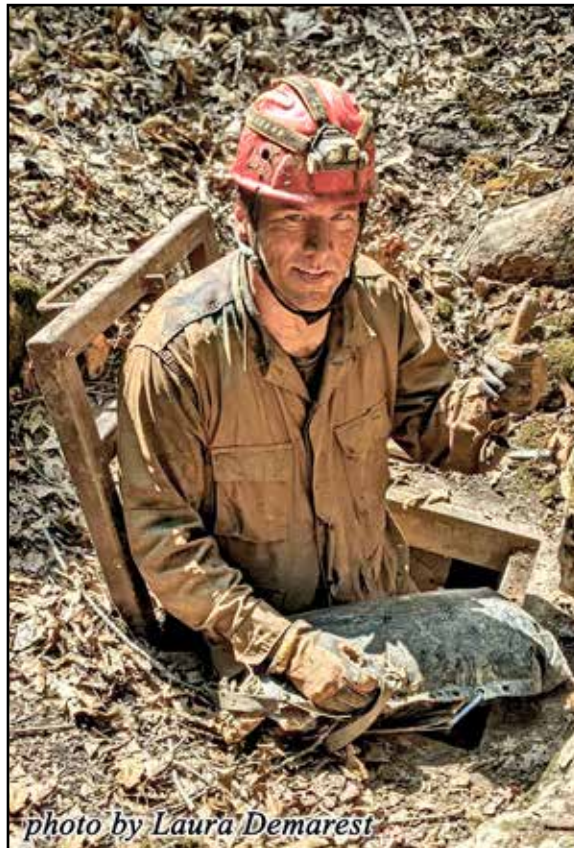


photo by Laura Demarest

find in caves. There seems to be a limitless supply of them in heavily travelled wild caves.

We also see the dye-tracing “bugs” placed in the cave stream to potentially collect the non-toxic dyes we released in Wayne Cave a few weeks before. Our group on that trip injected fluorescein dye while another group of cavers injected eosine dye in Wayne Cave’s two underground rivers to track where the water travels through the rocks to emerge from the springs in Blair Hollow. The results of these dye traces are being studied as I write.

Water flows and the geomorphology of Garrison Chapel Valley where the expansion property is located have been studied for decades (the first dye-traces were performed by the Windy City Grotto in the mid-1960s). Data was collected, reports were written and what was learned has helped to develop our foundational understanding of karst processes in Indiana and the world.

But like the conservation work to be done in Garrison Chapel Valley there remains much to learn. Indiana’s karst still holds many secrets (and some unwanted trash). The hard work of dragging dyes deep into Wayne Cave to unlock these mysteries, and hauling trash out of the cave on the way out is fulfilling, however.

When Laura, Brandon, and I exited Wayne Cave, we roasted hot dogs with other members of the Studebaker-Wayne Cave project and some of the cavers who work hard to conserve and restore the Buckner Cave property. We told each other stories of the day’s work and shared that unique and tired fellowship that comes after a rugged and strenuous cave trip. With groups like these, the IKC shares goals of science, exploration, and con-

servation that support each other’s endeavors.

Weeks later, after Keith, Danyele, Carla, and I finished our surface exploration of the Connection property, we returned to the same picnic tables on the Wayne Preserve and discussed what a great opportunity we have to continue the decades long conservation project in the Garrison Chapel Valley, and how we can restore this new addition of property to its potential as a fully integrated and cared for piece of the current Wayne Cave and NSS preserves. Beautiful.

Another article in this issue reports on our fund-raising efforts to pay for this land (see page 8). The IKC’s Board appreciates the enthusiasm we’ve experienced among cavers for this acquisition. If you can and would like to support our work financially, please consider a potentially tax-deductible donation. Even small donations help to show potential large donors the strength of community support for our conservation work.

Our Executive Board and volunteers work hard to earn this confidence. We’re an all-volunteer not-for-profit organization whose exempt purpose states in part that we are “dedicated to the conservation and preservation of caves and karst features in Indiana and other areas of the world.”

We take that mission seriously! We are excited to bring the Connection property into the IKC’s conservation portfolio, and we need your help. First to pay for it, but more importantly to help restore its grandeur for future generations to enjoy, study, and explore.

Until we meet again, above ground or under,

Matt Selig

NEWS BRIEFS...

- ❑ Save the Date – November 15, 7:00 pm EST – The IKC is excited to host esteemed karst geologists Art & Peggy Palmer in an online Zoom presentation about their early days of exploring and studying Indiana’s caves. This husband and wife team met as students on a karst field trip at IU in 1964, and the rest is history! Follow us on Facebook for more details on attending this virtual event.
- ❑ Indiana Forestry and Woodland Owners Association (IFWOA) has invited the IKC to speak for their Friday evening program at their annual conference in Jasper in November. Carla Striegel-Winner will present *Indiana Caves and Karst – Discover the karst system that lies beneath our Hoosier state and its ecological importance*. The annual conference on November 3 and 4 includes field tours and slide presentations pertinent to forest owners from throughout the state. It is open to any landowners. For more info go to: www.ifwoa.org/event/annual-woodland-owner-conference-and-ifwoa-annual-meeting.
- ❑ Where did the summer go? A reminder to cavers that our furry flying friends will be returning to their fall/winter habitat soon (if not already) so bat caves like the IKC’s Robinson Ladder Cave, Spring Mill State Park’s Endless and River caves, and several caves within the Harrison-Crawford State Forest (e.g.,

Continued on page 29...

WAYNE CAVE PRESERVE EXPANSION – “THE CONNECTION”

by Keith Dunlap

As was announced in early July, the IKC Board approved a motion to acquire a 20-acre mostly-forested tract to expand the existing Indiana Karst Conservancy's Wayne Preserve in Monroe County, Indiana. This is the third expansion of the Wayne preserve since the original acquisition in 2003. This expansion is significant in that it will physically **connect** the IKC's preserve with the National Speleological Society's Richard Blenz Nature Preserve, yielding over 120 acres of contiguous and protected karst landscape in the important and well known Garrison Chapel Valley karst region. The strategic **connection** of these two preserves has been a long-term goal of both organizations. And while some may think a preserve expansion is not as exciting as acquiring a new cave property, this expansion has many benefits:

- Maintain/protect the watershed and karst terrain to the Blair Hollow drainage complex to the west which contains over a dozen caves.
- Maintain/protect a globally imperiled sinkhole swamp (one of only nine known in Indiana) that also contains the rare log or cypress-knee sedge (*Carex decomposita*).
- Maintain/protect Indiana bat summer habitat with five winter hibernacula (two of which are Priority I hibernacula) less than a mile from the property.
- Maintain/protect an important wildlife corridor between the two preserves and the large (over 600 acres), contiguous undeveloped land owned by Pike Lumber to the west (an aspirational acquisition in the future).
- Prevent the property from being developed as there have been several mega-homes constructed in the area on similar sized tracts in the past few years.
- Permanently protect two caves (Sassafras Pit and Jim's Hole) located on the property.
- Allow for responsible management of the property with invasive plant control and good stewardship of the natural resources. A recent bio-inventory by the Indiana DNR Division of Nature Preserves described the woodland as high quality and a very unique mesic upland forest.
- Expand the opportunity for continued scientific



studies (the IKC is currently having a vascular plant bio-inventory performed on the existing preserve, conducting a bat inventory using acoustic detection, conducting a wildlife inventory as part of an EQIP grant, and participating in a dye-tracing hydrology study of subsurface drainage).

- Provide the opportunity to create a larger hiking trail system by connecting the two existing loop trails on the existing preserves.

The IKC has had a long history of conservation and cave access management with Wayne Cave since 1986. The cave **now** consists of five-plus miles of mapped passage which is the longest cave in Monroe County, and the seventh longest cave in Indiana. Wayne Cave was a very popular cave in the 1970s and 1980s due to its proximity to a large college town and a controversial guidebook that was widely distributed in the area that disclosed its location. The IKC took steps to regulate visitation and stop the vandalism, and then invested significant resources to clean-up and restore the cave.



As mentioned above, in 2003 the IKC acquired the original 20 acres containing the entrance of Wayne Cave. Our overall objective was to restore the cave, keep it accessible to responsible cavers, and to preserve the karst terrain and watershed of this important part of the Garrison Chapel Valley karst area. In 2014, an additional 12 acres was added to the Preserve, followed by another 25+ acres in 2018. With this latest 20-acre expansion, the Wayne Cave Preserve will protect over 77 acres of Indiana karst landscape.

The 20-acre tract was appraised for \$200,000 (\$10,000/acre) and is being acquired by the IKC for that amount. With appraisal, survey, title insurance, closing, and other direct costs, along with an appropriate contribution to the IKC's Stewardship Endowment fund, the total project cost will be approximately \$225,000. This is the IKC's most expensive project to date, but one the Board feels justified in pursuing and comfortable we could raise the funds through individual donors and various granters from within the caving community and broader conservation-minded groups.

Our goal is to have all the funding identified, the property transferred, and it enrolled in the Classified Forest Program before the end of this year.

Additional references:

Link to more details on the property ikc.caves.org/wayne-cave-preserve-expansion

Link to additional photos ikc.caves.org/wayne-cave-preserve-expansion-photos

Link to recent Indiana DNR Nature Preserve report on the expansion property ikc.caves.org/sites/default/files/uploads/WilliamsReport.pdf

Link to the Wayne Cave Preserve webpage ikc.caves.org/wayne-cave-preserve

Link to the Wayne Cave Preserve biodiversity page ikc.caves.org/biodiversity-of-the-wayne-cave-preserve

Link to the Wayne Cave fauna report ikc.caves.org/sites/default/files/uploads/wayne_fauna.pdf

WAYNE CAVE PRESERVE AND THE GEOLOGY OF THE GARRISON CHAPEL KARST AREA HIKE

Saturday, October 7 – 10 AM to 1 PM EDT

Hike with IKC President and karst geology enthusiast Matt Selig on our beautiful wooded and sinkhole-plentiful Wayne Cave Preserve in Monroe County! This field hike includes a deep dive into the geology of the Garrison Chapel Valley Karst area and the way water interacts with these rocks to form the surface landscape and miles of below-ground cave passages. On our interpretive ridgewalk on our existing preserve and our new expansion, we will apply these principles to better understand how cavers can “read” the geology seen on the surface to look for new caves. We will include an optional 20 minute trip to crawl into a cave on the property as well. Attendees should expect a rigorous two mile hike over rugged terrain both on and off trail. The hike goes rain or shine! Attendance is by registration only and limited to 20 participants. Go to ikcFieldTourOctober2023.eventbrite.com to register and for more details. Registration opens on September 8, but before registration begins, click “remind me” to have a registration reminder sent.



photo courtesy Keith Dunlap

Questions may be directed to Carla Striegel-Winner (CarlaStriegel@gmail.com or 812-639-9628).

WAYNE CAVE PRESERVE EXPANSION FUND-RAISING STATUS

by Keith Dunlap

On July 8th, The IKC Board announced to the membership its Wayne Cave Preserve expansion acquisition project and a few days later we went public on Facebook. Since that time we have received significant individual support ranging from \$5 to \$5,000, totalling \$47,276. Adding that to the pre-project donations of \$35,782 that we had banked since our last acquisition project, we are now at 37% towards the project budget of \$225,000. While we still have a long ways to go, we are diligently pursuing several small and large grants that we hope can fill this funding gap. Initial response from the granters we have approached has been very positive, but one never knows the amount each can provide until the grant requests have been evaluated by their respective review boards. This, of course, means that we need help from our individual members and supporters until we meet our goal. So if you have not contributed yet, or would like to contribute more, please consider sending a check to **IKC, PO Box 2401, Indianapolis IN 46206** or making an on-line donation via the donation button at the bottom of the ikc.caves.org home page, or using the QR code below:



WAYNE CAVE PRESERVE EXPANSION		
\$10,000 or more		
Bar Keepers Friend Anonymous		
\$5,000 to \$9,999		
Keith Dunlap Sam Frushour Richard Blenz Nature Conservancy	Matt Selig Anonymous	
\$2,500 to \$4,999		
Richard & Sue Vernier Environmental Solutions & Innovations		
\$1,000 to \$2,499		
Joshua Abdulla Miriam Ash Bruce Bowman Carla Striegel-Winner & Jamie Winner Mark Longacre in Memory of his Wife Nancy Hiller In Memory of Glenn Lemasters In Memory of Ray Sheldon	Barb & Don Coons Matt Laherty Tom Sollman	
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Project goal: \$225,000 \$83, 058 raised (36.9% of goal) as of Aug 31, 2023		

JIM'S HOLE (RODEMAKER CAVE)

by Tom Nugent and Richard Blenz

(reprinted from the August 1991 Mid-Hoosier Grotto Newsletter Vol 2#4)

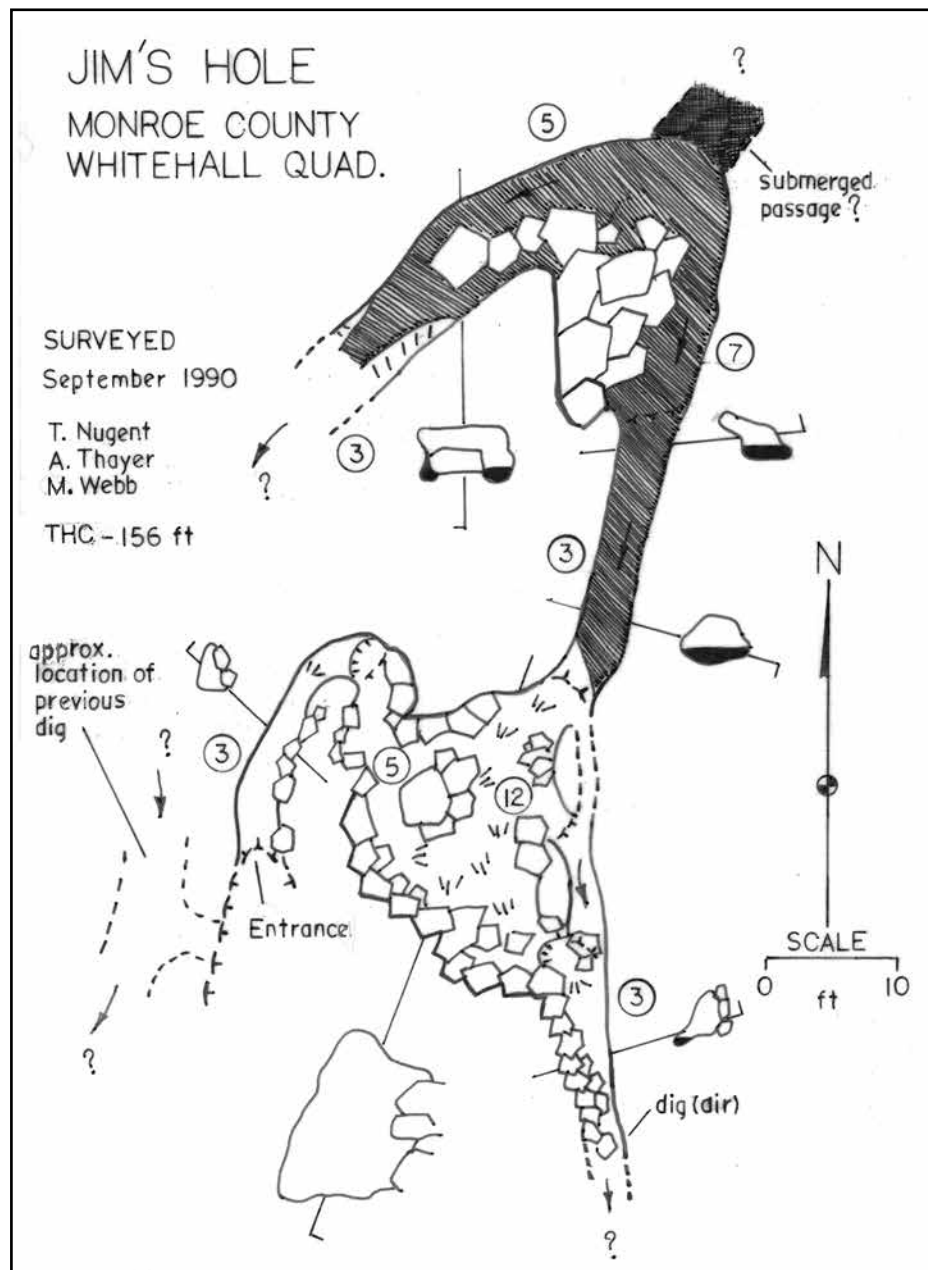
Jim's Hole was discovered by James Rodemaker of the Southern Illinois Grotto in the early 1970s. At that point it was nothing more than a small hole about the size of a human foot, blowing air like crazy. Jim, Dick Blenz, Art Gahaimer, and others began work moving rock and with the help of Doctor Nobel's Rock Persuader soon reached a stream passage. Downstream proved too tight to navigate and upstream terminated in a sump. Apparently, this was enough to discourage any more work for almost ten years.

In the summers of 1987 through 1989, Dave Strickland, Blenz, and others decided to excavate back down to the stream passage which had by that time mostly filled itself in from slumping. This was never accomplished due to more rock slumping and the knowledge that the hillside area of the sinkhole had more promise of access because of air issuance from another small hole. After some blasting and much more rock removal, the original sink was refilled completely and a new passage produced. One day, long before a human-sized entrance could be gained, Blenz was showing a friend the newly excavated passage. A bat flew out, circled the sink, and returned into the hole.

This spurred much more work. By February of 1990, the passage was seen to be trending downward and to the right. With a little more rock removal and a couple small blasts, the passage soon opened into a

room. In March of the same year, Spike Selig entered and explored the cave. A few months later, Tom Nugent and others explored and mapped the new little cave.

The left-hand stream passage from the main room led to another room with much water and breakdown. There was no visible upstream passage from the second room. There were two exits from this room, both downstream. One seemed to lead to the original stream passage accessed in the 1970s. The other led back to the entrance room. There may be a submerged pas-



sage leading upstream, but this cannot be confirmed without diving. The right-hand passage out of the entrance room led to a small, unstable crawl where digging and rock removal would be necessary. Unfortunately, this is also the area of most promising air movement. We may never know where this passage will lead.

Jim's Hole blows copious amounts of air in the

summer indicating a lower entrance. There is still some debate as to whether this cave is related to A) Queen Blair Cave, B) Wayne Cave, or C) an entirely separate undiscovered system altogether. Several water and air dyeing tests on caves and holes in the general vicinity have yielded no information to support or disprove any theories of hydrological (or any other) connections.

BUDDHA KARST NATURE PRESERVE: OCTOBER BIG DAY SATURDAY, OCTOBER 14

For the second year, the IKC is teaming up with other land trusts and the Indiana Audubon Society to hold Big Day birding hikes throughout Indiana, all on the same day! Join us at the Buddha Karst Nature Preserve southeast of Bedford on Saturday, October 14 at 9 AM EDT for a birding outing with expert birder and Lawrence County resident Amy Kearns.

Amy is passionate about sharing her love of birds and the natural world with others. As a girl growing up in southeastern Wisconsin, she immersed herself in nature, catching toads, snakes, and crayfish from the dunes of Lake Michigan to the streams and glaciated rolling hills of the Kettle Moraine. Later, during her studies, she developed an obsession with birds that continues to this day. In her ornithological career, Amy focuses her efforts on endangered bird species and conservation measures that may improve their plight.

This Buddha Preserve hike is designed to be enjoyable for beginner and expert alike. Due to limited parking, the hike is limited to 20 pre-registered folks. Registration is through Indiana Audubon's Eventbrite page and you will get more details once registered. To register, go to www.eventbrite.com/e/2023-october-big-day-hikes-with-ilpa-tickets-704875460477. Once on that page, hit the "Get tickets" button (note: the event is free) and then scroll down to "Buddha Karst Preserve" and select the number of desired tickets, then hit the "Check out" to complete the registration process.

Questions may be directed to the IKC's Outreach Chair Carla Striegel-Winner (CarlaStriegel@gmail.com or 812-639-9628) or Indiana Audubon Outreach Manager Whitney Yoerger (wyoerger@indianaaudubon.org or 765-205-1255).



INDIANA LAND PROTECTION ALLIANCE PRESERVE VISIT

by Carla Striegel-Winner

Sometimes an acquisition is not about obtaining that classic Indiana cave we dream of owning. Occasionally it is about connections – connecting property boundaries, connecting organizations, connecting hydrologically, and perhaps most importantly, connecting people to the natural world. What we do – our Board, our members, our volunteers and supporters... is actively conserve while allowing responsible access so that people can connect and feel the importance of that surface topography and the karst beneath it. I loved helping introduce two non-cavers to the IKC and to Wayne Cave Preserve recently. One of them, Gabby Robles, came back on her own so she could continue to geek out on all the fungi we found. Below is what the other, Andrea Huntington, was inspired to [write and post on her blog](#) after her visit, which included a short jaunt into Jim's Hole on the Connection Property (also see the cover photo of this issue).

Exploring Hoosier Caves with the Indiana Karst Conservancy

by Andrea Huntington, Executive Director,
Indiana Land Protection Alliance

Exploring Wayne Cave Preserve – In July, Gabby Robles, ILPA's McKinney Climate Fellow, and I explored the Indiana Karst Conservancy's Wayne Cave Preserve in Bloomington with IKC Board members, Carla Striegel-Winner, Keith Dunlap, and Danyele Greene (also the Property Manager for the preserve).

We also got a sneak peek at the IKC's newest acquisition, "The Connection", which connects the IKC's Wayne Cave Preserve with the Buckner Cave Preserve owned by the National Speleological Society.

Preserving Habitat Above and Below – We photographed mushrooms and native plants, learned about Indiana bats, discussed the ILPA/IAS-funded bioinventory work being done at the property, visited a rare sinkhole swamp, and peered into numerous sinkholes, which dot the preserve landscape. According to IKC's website:

Solution caves are huge plumbing systems. Rainwater contains small amounts of nitric and carbonic acids. As these dilute acids seep through the cracks and bedding planes in the vadose zone of the bedrock, they slowly dissolve some of the limestone. Over time, the vertical crevices enlarge and literally funnel rainwater into the drainage system below, creating sinkholes.

Discovering a New World in the Cave – Another highlight from the day was our first (for both me and Gabby) real caving experience. The IKC equipped us with helmets, headlamps, gloves, and a map for our descent. Together, we disappeared with Carla, an experienced caver, into the dark-

ness. Being underground surrounded by cool, smooth rocks was surreal – like discovering a new world. While caving, you use every single muscle in your body to contort this way and that to squeeze lower and lower, until finally, you can squat into an upright position. We admired a small, orange cave salamander, who fortunately, didn't seem to mind us or our lights. Before making our way above ground, we held our breath in order to hear the water flowing beneath us.

Protecting Resources, Even Those Hidden Underground – I learned so much from our friends at the IKC during our visit. Descending into the cave was an important reminder that the way we protect, care for, and manage our land above ground directly impacts our land, water and wildlife below. We are all connected.

The Indiana Karst Conservancy, similar to their land trust peers throughout the state, is a lean, but powerful non-profit organization. The work they do has a profound impact on the communities they serve and this unique resource, and their work is accomplished entirely by volunteers!

Since going underground, I've shared a few photos with friends and family. Many had the reaction, "I could never do that." In reality, I don't think anyone really knows unless they try – but only while outfitted with the proper equipment and an expert guide (of course).



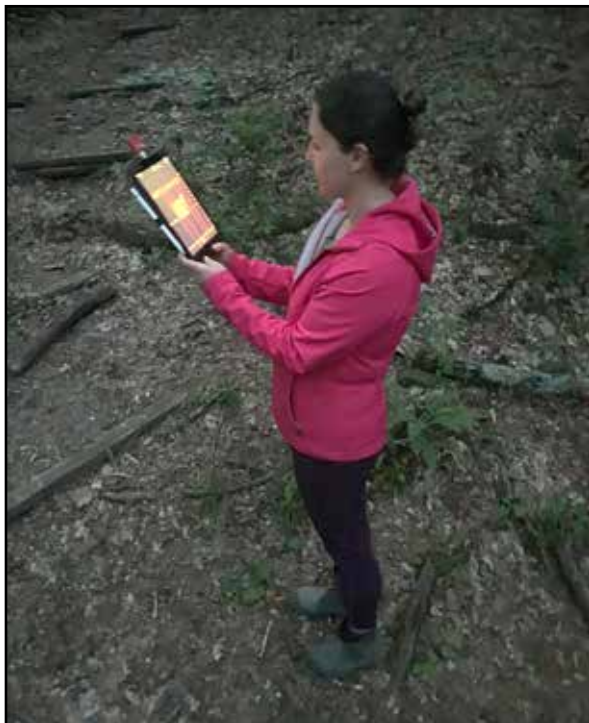
Carla and Gabby take a break from exploring the cave.

photo: Andrea Huntington

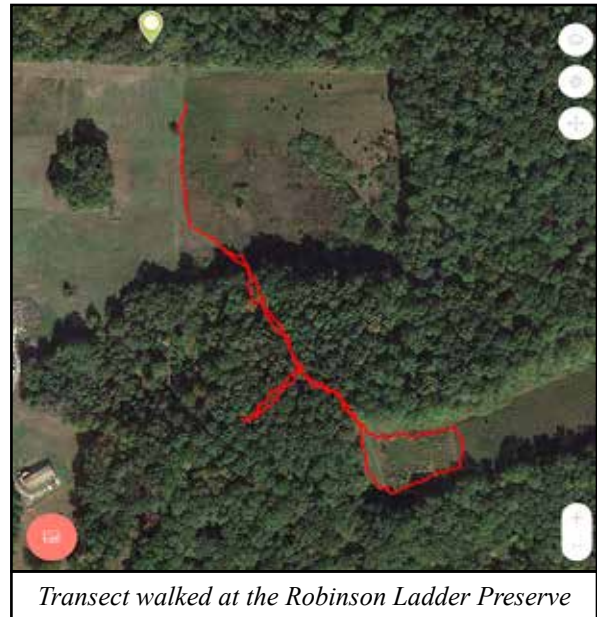
BATTY SUMMER AT OUR IKC PRESERVES

by Goni Iskeli and Danielle Brady-Hafele

Six of the preserves owned by the IKC were surveyed this summer to determine which bat species use our properties during the maternity season, generally thought to be from May 15 to August 15 in Indiana. Most bat species in Indiana (with the exception of the gray bat) do not use caves in the summer to roost, but rather roost in trees. The size and variety of trees that bats use depends on the species' preferences and the size of the maternity colony that each of the species tends to create. For example, Indiana bats tend to be more gregarious and can form large maternity colonies, and therefore may require larger trees. Northern long-eared bats, on the other hand, are less picky about their roosts and form smaller colonies, and their roost trees can be as small as 3-inch diameter at breast height (DBH). Maternity colonies are generally only composed of female bats and their pups, while males tend to be solitary or cluster in smaller numbers in "bachelor colonies" in nearby trees (and occasionally caves). The maternity roosts also tend to be larger and warmer compared to the male roosts in order to keep the hairless babies warm when they are first born (typically in June). During this vulnerable time when the pups are not yet volant (able to fly), the female bats don't tend to switch roosts as much, and are much more vulnerable to roost disturbances. However,



Goni using our bat detector at Sullivan Cave



Transect walked at the Robinson Ladder Preserve

bat pups can become volant as early as 6 weeks after birth and are essentially the same size as adults by the end of the summer season when they get ready to migrate with the rest of their "family".

Trees with holes, loose bark, and hollow trunks (e.g., shagbark hickory or old growth trees and snags) are a favorite of *Myotis* species such as the Indiana (*Myotis sodalis*), Little Brown (*Myotis lucifugus*) and Northern Long-eared bat (*Myotis septentrionalis*). The US Fish and Wildlife Service's Endangered and Threatened species found in Indiana include the Indiana, Little Brown, and the Northern Long-eared bats; with the Tricolored (*Perimyotis subflavus*) and Little brown bats thought to be listed soon. Other species such as the Eastern Red (*Lasiurus borealis*), Tricolored, and Hoary bats (*Lasiurus cinereus*) are perfectly happy roosting in foliage and try to mimic leaves. Regardless of the type of roost they occupy, all species of bats are busy flying around and feeding at night during the summer to satisfy their high caloric needs as they take care of themselves and their pups.

Our surveys aimed to capture this nightly activity during the summer by walking transects and collecting acoustic calls of bats. We generally sampled from 15 minutes before to 30 minutes after sunset, on nights with no precipitation and low wind conditions. Within the IKC preserves surveyed, where there are well-maintained trails/drive lanes like at Sullivan, Buddha, Wayne, and Robinson Ladder, we mainly followed the existing trails. With Lowry, we walked past the gravel

photos courtesy Danielle Brady-Hafele

Preserve	Date	Time	Sunset	Temperature	Species*	Number of Calls	Time in Seconds
Sullivan	5/27/2023	8:48-9:33	8:57	69	Eastern Red/Evening Bat	12	52
Sullivan	5/27/2023	8:48-9:33	8:57	69	Big brown/silver haired bat	26	193
Sullivan (Total)					Total	38	245
Buddha	6/10/2023	8:43-9:30	9:11	68	None	N/A	N/A
Wayne	7/15/2023	8:54-9:39	9:09	70	Eastern Red/Evening Bat	6	32
Wayne	7/15/2023	8:54-9:39	9:09	70	Big brown/silver-haired bat	4	22
Wayne (Total)					Total	10	54
Shawnee	7/22/2023	8:56-9:41	9:06	70	<i>Myotis</i> Spp.	1	4
Lowry	7/29/2023	9:05-9:50	9:00	81	None	N/A	N/A
Robinson Ladder	8/12/2023	8:37-9:30	8:45	72	<i>Myotis</i> spp.	6	26
Robinson Ladder	8/12/2023	8:37-9:30	8:45	72	Eastern Red/Evening Bat	21	154
Robinson Ladder	8/12/2023	8:37-9:30	8:45	72	Big brown/silver-haired bat	2	21
Robinson Ladder (Total)					Total	29	201
*Big Brown and Silver Haired bats, and Eastern Red and Evening bats have very similar call characteristics and the Echo Meter Touch tends to have difficulty differentiating between them. Similarly, <i>Myotis</i> calls are very difficult to distinguish between species and were therefore combined even if the detectors assigned a specific species identification.							

cave trail and did a few transects following the edge of the overlook cliff in areas that looked the least cluttered. At Shawnee, Keith Dunlap led the way as we followed several trails that traversed both the expansion and the older area of the preserve, and we sampled activity near the cave entrances, the small pond, the edges of fields, etc.

The ultrasonic acoustic detector that we used for the surveys was the Echo Meter Touch 2 sold by Wildlife Acoustics. The detector does have some limitations in terms of the sensitivity and range of activity it can capture. This device

is great for bat enthusiasts, citizen scientists, and environmental educators. The Echo Meter Touch 2 interfaces with Apple products such as iPhone/iPad and it's very easy to use. During the survey, we gathered temperature readings throughout the survey using an infrared thermometer. Each survey area within the preserves were also documented using the GPS Field Area Measure App on an Apple Ipad.

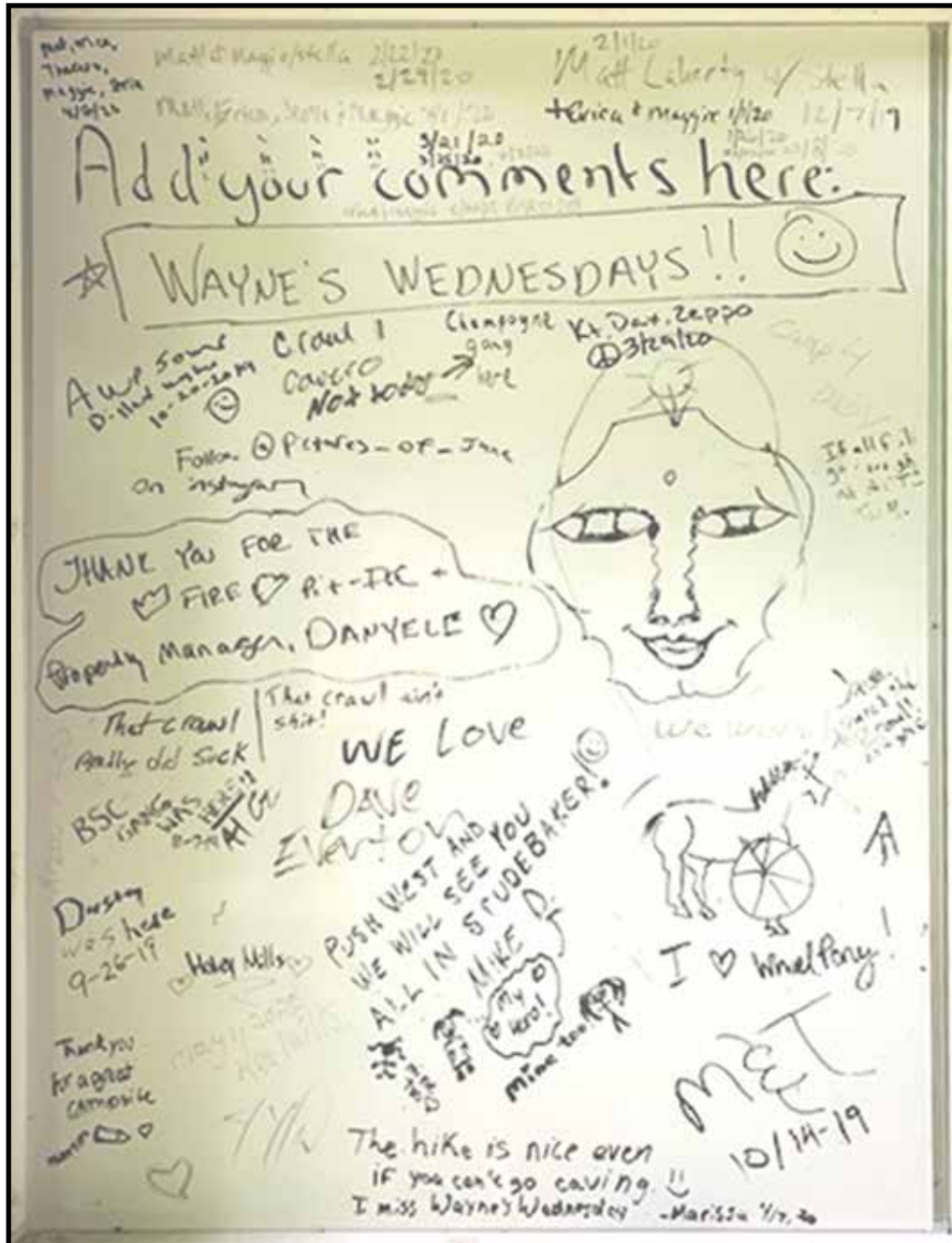
We did not record any bat activity at Buddha or Lowry, but the conditions at these preserves included cluttered vegetation and no water,

Continued on page 29...

MODERN 'GRAFFITI' AT WAYNE CAVE PRESERVE

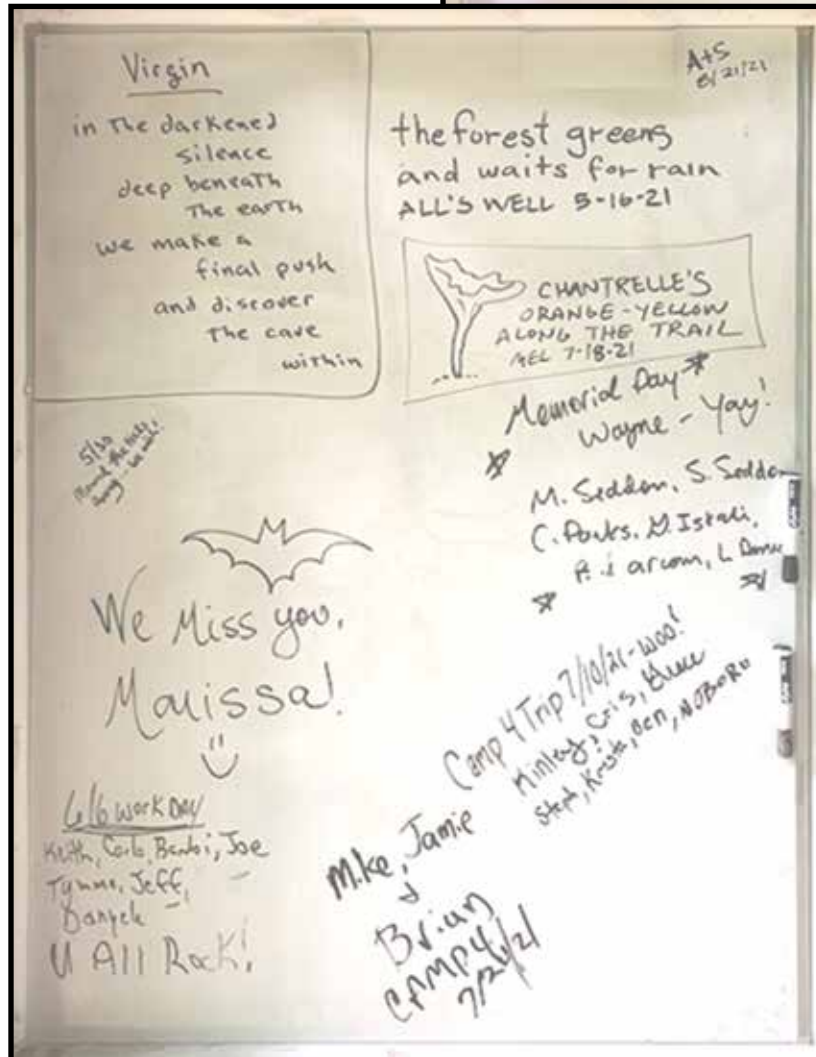
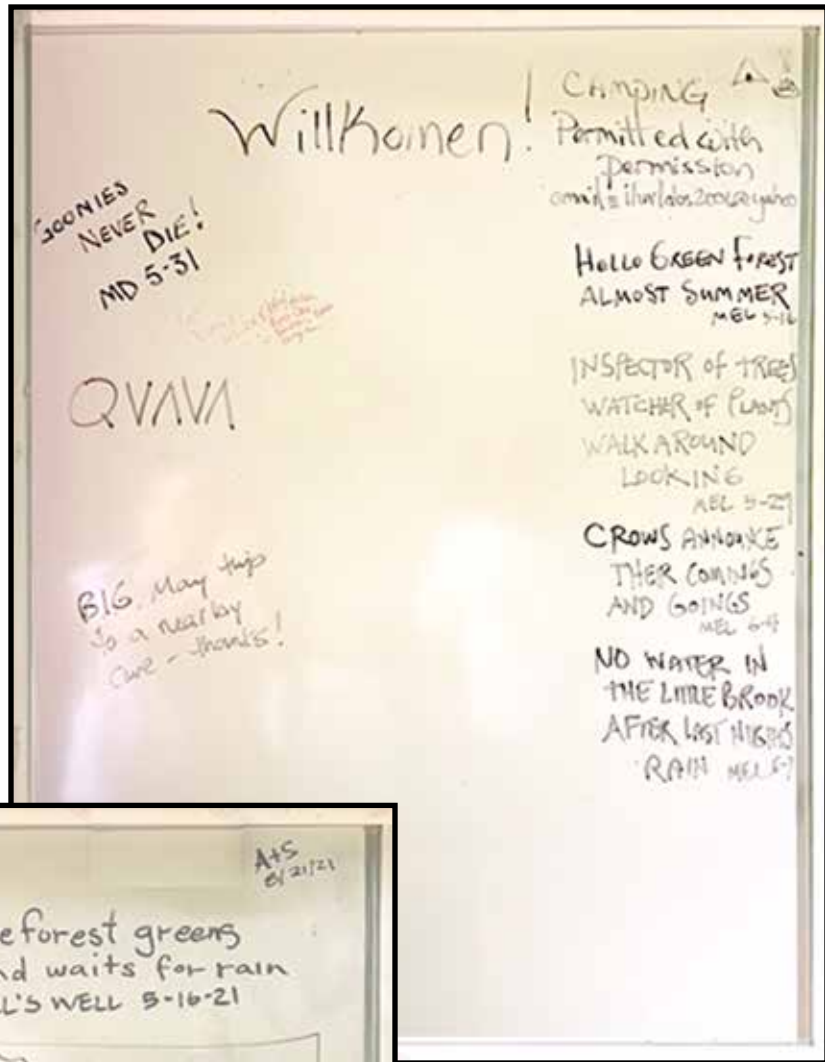
by Danyele Green

I'm not quite sure whose idea it was to put a **huge** whiteboard up in the Wayne Cave Property kiosk, but I believe they may have envisioned capturing some of the most beautiful, exciting, awe-inspiring, and thoughtful moments from visitors to the property. Cavers, hikers, and those who wander, but are not lost, have left their thoughts and inspirations on the white board. As Property Manager for the preserve, I try to make sure I get a photo before anyone wipes the history clean... to ensure the musings live on, at least in the digital world.



Fall 2019 / Spring 2020 – This is the first picture I was able to save. Look at all the **love** expressed to our visitors and friends! Not so much for the long crawl ;-)

Nice Wheel-Pony art!



Spring / Summer 2021

Our resident poet graced us with some thoughtful reflections.

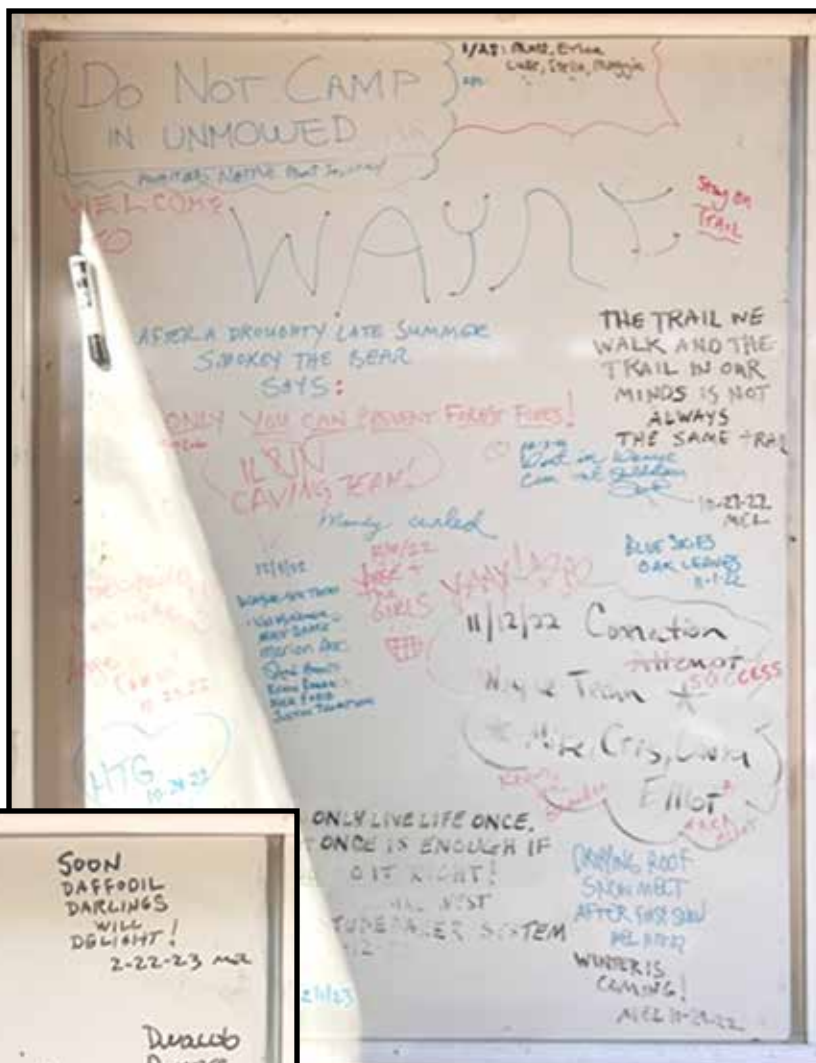
It looks like someone (cough, cough) moved and was missed – our Wayne's Wednesday organizer – Marissa.

Winter 2022

As is life, there are highs and there are lows. Winter of 2022 saw quite the high when the board captured a group going into Wayne's and a different group coming out!

The connection with Studebaker Cave was a success!

"You only live life once, but once is enough if you do it right!"



RECAP OF OUR DEEP DIVE INTO THE SHAWNEE CAVE SYSTEM

by Carla Striegel-Winner

We had an amazing day on July 8 during our Deep Dive into the Shawnee Cave System at our Shawnee Karst Preserve and Spring Mill State Park near Mitchell, Indiana. A little rain did not stop us that morning. Well, okay, the huge downpour did slow us down a bit and we had a few cancellations, but those 16 hardy souls who showed up got a treat the rest of the day. We peeked in several entrances of the Shawnee Cave System, both on our Preserve and at Spring Mill State Park. Our new Sollman Entrance was a hit, with more than half of our participants choosing



photo courtesy Keith Dunlap

to check out the room in the cave below. I must say it was a tad bit muddier than anticipated, after the heavy rain. The hand line we rigged in addition to the ladder was well used (sorry about the muddy clothes, folks!). Tom Sollman, who has logged dozens of trips into the cave system, regaled us with stories of his own trips in the cave and some of the interesting history.

Keith Dunlap gave us great background of the property and the cave system. It was especially neat to have the aerial image map overlaid with the cave passage and to trace that passage with our



photo courtesy Carla Striegel-Winner

above ground steps (okay, full disclosure.... everyone's maps from Keith and the amazing packet Tom put together were ruined by the rainstorm early on... but it was awesome all the same!).

After hiking along our trails, we hit the road (literally) and crossed the highway, hiking down the county road to Spring Mill State Park, who had given us special permission to enter and waived our walk-in entry fees as well. Along the way we stopped to hear a story about a local trickster using the Matthew/Corkscrew entrance to enter the cave near the boat turn-around point to mess with the tourists and guides (see story on next page).

Upon entering the park we headed to the Bronson Entrance, where we had again been given special permission by the Park to go past the overlook platform and enter the cave. The water was a bit murky, but everyone in the group got to see at least one blind cavefish, and some of us saw three. After plenty of time for Tom to chat and answer questions in the cool of the cave, we headed back out and retraced our steps to the Twin Cave parking lot. Some of our group parted ways and hiked back to their vehicles at Shawnee Preserve, while 12 of us had reserved a special treat... a boat ride



photo courtesy Carla Striegel-Winner

into Upper Twin. It was a perfect end to our field trip, and the boat ride guides did a great job. We want to thank Spring Mill State Park and their staff for partnering with the IKC to make it a great adventure hike. We certainly owe them a guided tour of the Shawnee Preserve in the future. And if you are reading this and wish you had come, we hope you can join us at one of our other our preserves outings this fall (see the calendar page 3).

UPPER TWIN CAVE TALE

by G. Edward Marshal, PhD.

reprinted from Spring Mill Park: Its Environs and People (1986)

Twin Cave, known among geologists as one of the best examples of a karst window, is near Bronson Cave. Why window? Well, the water flows out from the bottom of a precipitous hill. A few rods it is above ground and then disappears into a wide cavern to proceed to Donaldson Cave. At an earlier time this span of open water was covered over and the surface was much like the wooded surface at other places in the big woods. However, so much erosion took place at this spot that the roof of the cavern fell in.

Now it is as though one travels through the cavern and comes to a window before he plunges into the dark again, farther downstream to emerge at Donaldson.

There are probably more true and fictitious stories about this cavern than any other in the park, but let me tell you a true one that should be interesting. When the writer's spouse played harp two or three hours for the dinner guests at the inn on Sunday, those hours sometimes seemed long indeed. Spelunking filled in part of the time. A cave entrance large enough to permit a belly crawl was located about half a mile south of Donaldson, outside the park on the south. Finally, after more than one trial, I crawled far enough that I succeeded in my quest.

At the point of a tiny branch cavern's juncture with the Twin Cave's main stream, one could stand erect behind a tongue of stone and be hidden from the boats plying nearby. It was here they turned around for the return trip to discharge the sight seers and take on another load. Where the small stream flowed into the larger, a mud bar of silt had washed in, making a little delta out into the larger stream at Donaldson.

The writer sat for some time, obscured from sight, and listened to the perhaps brilliantly conceived, but considerably distorted, lecture of the history and marvels of the cavern. One woman in the boat asked how far man had been back of the point where the boat was turning. The oarsman's reply was, "I've been around here 30 years and I've never heard of anyone having gone back of this point." The very audacity of this statement gave the writer an idea. He carefully formed a little effigy of a man of mud on the end of the silt-formed delta. When the oarsman, "long on yarns", returned with another boatload of sight seers, a pre-teenage youth in the boat suddenly burst out, "Oh!

Look at the little mud man." The fellow plying the boat said, "Someone in one of the other boats had his nerve; getting out of the boat to play in the mud." The boat turned and floated on out, and while gone, another effigy of mud was set up. The boat returned with a load of people. Directing her question to the oarsman, a lady saw the two little mud men and said, "I wonder who put those mud pie statues there?" The talkative oarsman, in a staccato statement, said, "It must have been Daniel Boone." With that, he quit talking about the matter though when his boat returned again two or three people asked questions about the former two mud men and a third one that had been placed on the bar. The following three boatloads of people noticed the crude art work more quickly, though the meager light provided in the otherwise totally dark cavern was furnished by a single gasoline lantern. Why were the effigies more noticeable? Because this writer, using a torn-up red handkerchief and a match stick, had made a little red flag and stuck it in the folded arms of each effigy; first one then second, and third after each boat load of sight seers were floated away toward the entrance. Each such addition described above very apparently increased the oarsman's wonderment and superstitious bewilderment after each of the six boatloads. This took considerable time and it was very evident from the way the boatmen evaded any attempt at explanations as to the mud men's presence, that he was near to, if not altogether, a true believer in haunts, pixies, or goblins.

The molder of mud men with flags tired of that sort of recreation and decided to change pace after the seventh turn of the boat in the half light and after the floating party had passed around the corner. My yell vibrated through the cavern, "Hey! Come and take me out of here." The boat was now fairly far distant and the oarsman in a hushed and most revealing voice replied, "I'll be back tomorrow."

Thus ended this chapter in the cave for the boatman never came back that far to see about the ogre who had adorned the bar. The long belly crawl was retraced and the surface gained. After changing clothes, for the crawler was covered with red muddy soil, he went to and descended the steps to Twin Cave. The dock was crowded and the boats were loaded with passengers. A couple of oarsmen were sitting on the bench

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A LOOK BACK AT INDIANA KARST

by John Benton

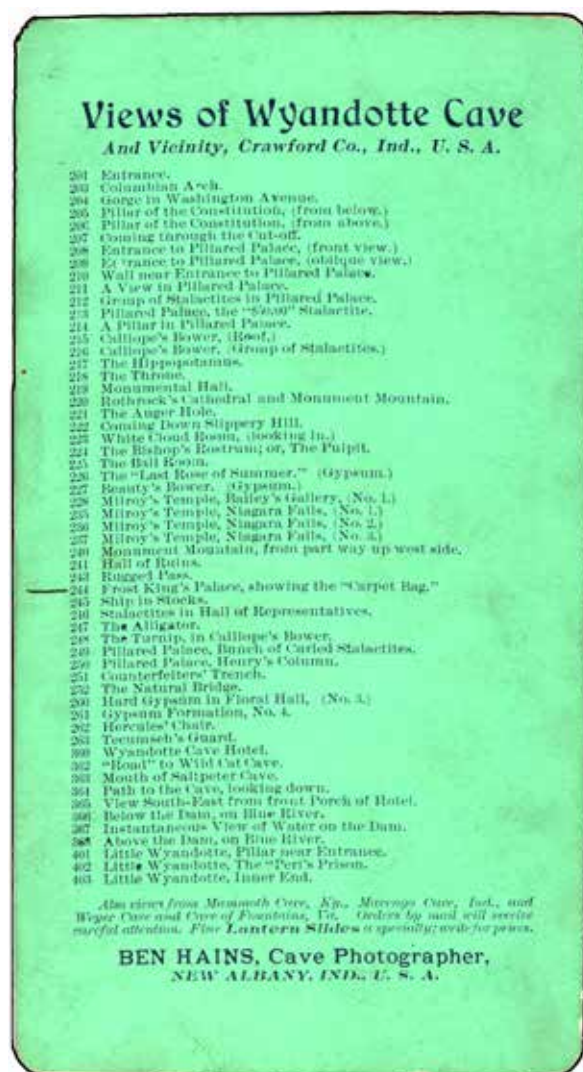
Benjamin "Ben" Hains, 1865-1904, was a professional photographer from New Albany, Indiana. Hains died at a relatively young age of 39 of an unknown cause and is buried in Los Angeles, California, but the location of the cemetery remains unknown.

Hains was attracted to cave photography by the Reverend Horace C. Hovey about 1887. During that time, Hovey was giving lantern-slide lectures and required new and better cave photographs. Hains proved very efficient at this task. Following a lecture in March 1889, the *Scientific American* magazine proclaimed, "These are pronounced the very best specimens of subterranean photography yet produced." Hains quoted this statement on his cards with the proud title: "Ben Hains, Cave Photographer."

Hains deserved this fame, but the claim that his pictures were the best ever should be considered in the context of advertising, as his cards were reproduced for sale. He specialized in photography of Mammoth Cave (KY), Wyandotte and Marengo caves (IN), and Fountain Cave (then Cave of Fountains) and Grand Caverns (then Weyer Cave), both in VA. However, Hains was also unusual in that he had a genuine interest in the caves he photographed and helped to explore in several of them.

Many of Hains' views were used as post cards, but others were published as stereoview cards. Stereoscopes (for viewing stereoview cards) were first made in the 1850s and most popular between 1870 and 1920. Stereoviews consist of two nearly identical photographs, paired side by side to produce the illusion of a single 3-dimensional image. Some stereoviews are slightly curved to accentuate the effect of 3-dimensions. Depicted on the next page are three examples that Hains took at Wyandotte Cave. Listed on the back of each card (see above right as an example) were different views offered. Gordon Smith, founder of the National Cave Museum in Park City KY, indicated there are at least 12 different backs listing Wyandotte views, starting in 1887. The National Cave Museum has several hundred of Hains' cards, but nowhere near all of them that were produced (thought to be at least 62 from in and around the cave). The stereoview cards were printed on stiff cardboard material, and are still sought by collectors at flea markets and antique stores. One card can sell for over \$10, if the image is a desirable one.

Hains' endeavors were fortunate to have occurred just as flashpowder was coming on to the

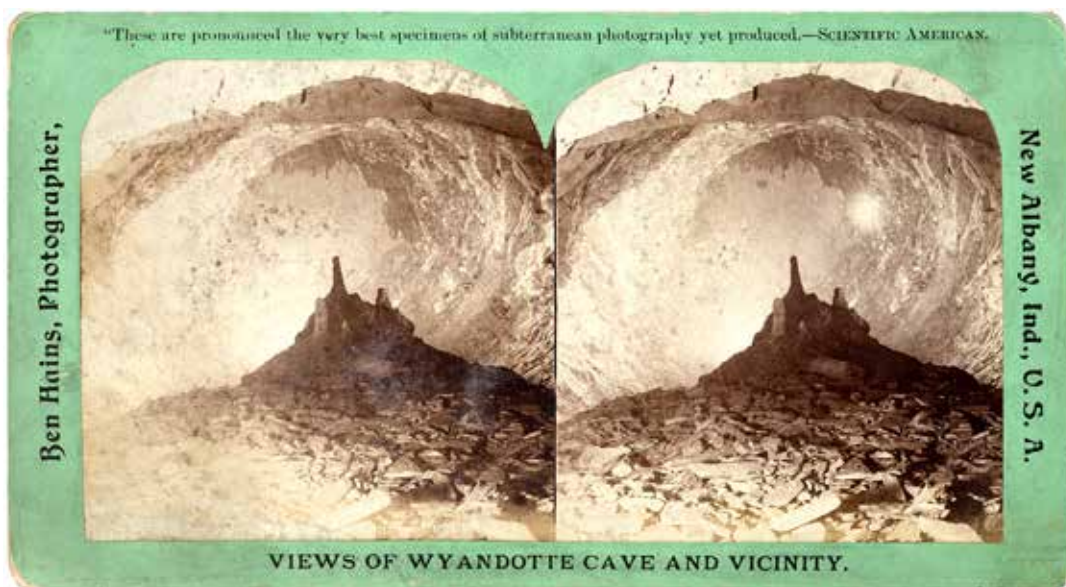
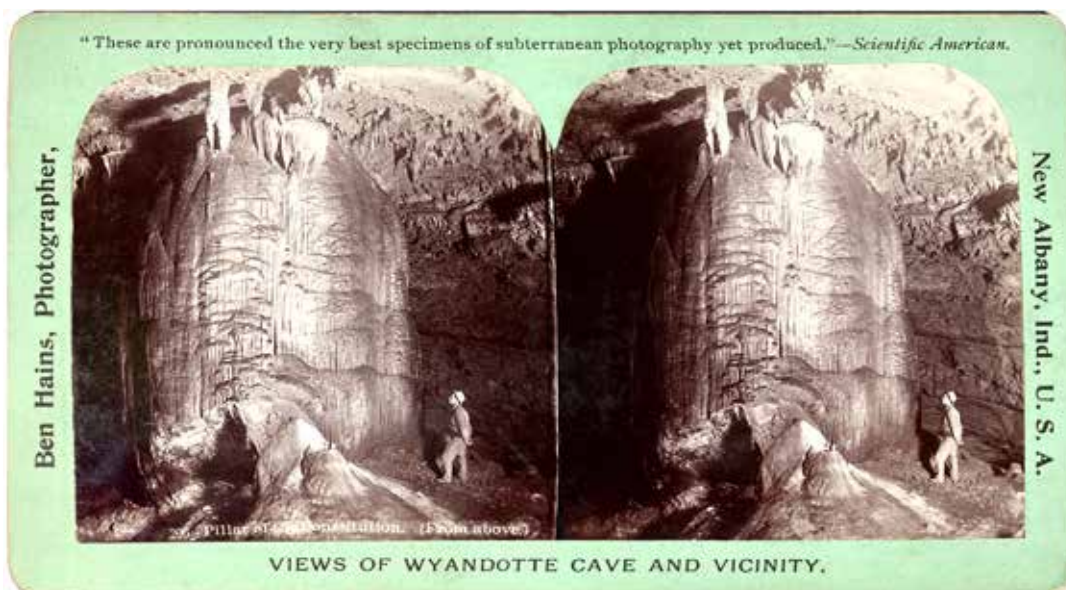
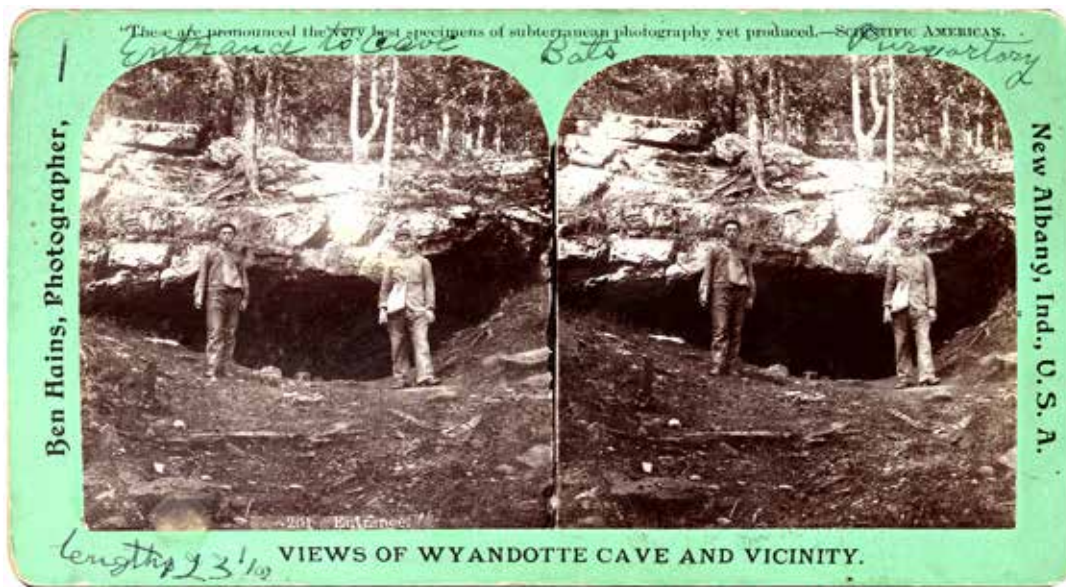


market. Hains exploited it underground. Flashpowder gave an instantaneous light that enabled Hains to photograph moving objects such as the boats on Echo River in Mammoth Cave. It still produced the same "smoke" as burning magnesium, but the flashpowder gave a true advantage in that its fumes came after the exposure, not during it, thus not interfering with the picture itself.

So be on the lookout for those lost scenes; you just may come across some spelean history!

References:

- *Ben Hains: Stereo Views; Journal of Spelean History, Vol 33#2, July-December 2003, pages 43-44.*
- *Wikipedia; Stereographs, internet.*
- *Personal Communication, Gordon Smith, Park City KY, August, 2023.*



CAVERS CAN HELP – DISCOVER INDIANA'S PACKRAT

an interview with Brad Westrich by Carla Striegel-Winner

I was thrilled to be able to interview Brad Westrich, nongame mammalogist for the Indiana DNR Division of Fish and Wildlife, Wildlife Science Unit, about one of my favorite Hoosier mammals, the Allegheny woodrat (*neotoma magister*). When we think of cave mammals, bats may come to mind, but we also have this adorable little native rodent eking out a living in our caves and cliffs.

What is the Allegheny woodrat and where does it live in Indiana? The Allegheny woodrat is a type of a packrat that is specialized to complex rocky habitats across Appalachia's deciduous forests. They are about the size of a squirrel, with large, rounded ears, huge eyes, long vibrissae (whiskers), and a very gentle demeanor. Their fur is brown to tan on the back and sides, and creamy white on the underside. Even their tails are furred in this bicolored manner.

In Indiana the species can currently be found on cliffs and caves along the Ohio River in Crawford and Harrison counties, though the species used to be found as far north as Bloomington. The type of rock formations these woodrats live in need to be complex. The more fissures, tunnels, or breakdown the better. In these small areas woodrats do what they do best – cache. They will forage materials from the environment to build up a massive house, or midden, in which they will store food, raise young, and evade predators. Because these woodrats are nocturnal, most people in their habitat would see a midden long before they caught a glimpse of the animal itself.

I just love that we have a native packrat here in Indiana. I know of a gated cave in Kentucky where I was told not to leave the key laying on the ledge as the resident packrat had stolen a key once! What types of items have you found in their middens and why do they do this? I broadly mentioned some of the items we've found in their middens earlier, but I wonder what is going on in their small mammal brain that drives them to haul some of the items back to their middens. Most items serve a pur-

pose; deer bones can be used for gnawing to wear down teeth or to obtain minerals, certain vegetation for parasite control, but human items... decoration maybe? Perhaps their artistic flare is just a way to make their conspicuous midden blend in with littered environments? Here's a short list of some of the items found in middens: bottle caps, shotgun shells, a Barbie doll, moustache comb, single-use camera, a 10-foot gasoline hose (minus pump handle), sunglasses, and more.

I understand the Allegheny woodrat is in decline in Indiana. What factors have led to that? I read that there are fossil records beyond today's range and I wondered if you could tell us more about that? As the story goes with many wildlife species in the United States, there are many

factors associated with the decline of Allegheny woodrats. These include the loss of the American chestnut, changes in forest management practices, increase in raccoon density, mortality caused by raccoon parasites, habitat fragmentation, and loss of genetic diversity. Knowing how each of these factors impacts Allegheny

woodrats provides management opportunities to address them. Genetic diversity can be increased by translocations of woodrats from outside of Indiana, habitat fragmentation can be addressed by connecting woodrat sites or building artificial habitat between sites, supplementing middens with mast purchased locally, and much more.

Fossil evidence of Allegheny woodrats has been identified across the karst region in Indiana. Indicating that the species once occurred as far north as Bloomington, and maybe with a little positive PR they may once again.

Are there any projects going on right now to help the woodrat in Indiana? The Indiana DNR has ongoing monitoring projects to track trends in the local woodrat population. Through these efforts we collect data on occupancy, sex ratio, age structure, even genetic diversity. Through these monitoring programs we can learn about how woodrat populations have responded



to previous management actions. This is how we've discovered the lasting benefits reintroductions had on modern woodrat genetics. Reintroduction efforts were initiated from 2006-2012 to boost the genetic diversity of the Allegheny woodrat population, which was at such low values that inbreeding was a very real concern.

The Indiana DNR is partnering with other state agencies to help recover Allegheny woodrats across the species' range. Individual state efforts to recover the species have been slow, but together we are working with zoos to establish captive breeding programs to address low numbers in the wild and alleviate low genetic diversity. This project is just beginning, but we hope to see juvenile woodrats returning from zoos over the next few years. As they are reintroduced to Indiana's habitats, the juveniles will be monitored by the DNR, local students, and hopefully the caving community as they encounter them.

Although I think they are adorable, I imagine some folks hear the word "rat" and need to be convinced... What can you tell those folks? I'm completely biased in thinking they are adorable! The first comment people have on their first woodrat encounter with me is that the animal is "much cuter than they expected". And that is because they hear "rat" and perhaps unconsciously they make a connection to the scaley-tailed "Old World" rats that we all fear – Norway and black rats.

First thing to know about woodrats – they belong to the *Cricetidae* family, also known as the "New World rats and mice" and these rodents generally have furred, or sparsely furred tails. Somehow this trait alone makes them much more adorable to many folks I've brought with me on surveys. What I always appreciate about this species is how curious and docile they are compared to most other wildlife we need to handle. Upon capturing one, we will put it in a restraining cone to help keep it calm and safe, we then take our measurements and a tissue sample, and then we release it. Those released woodrats will either slowly move a foot or two away to check you out, or they will dash up a 20 foot cliff and peer over the edge at you until you leave. Either way,

you feel a connection to these gentle rodents after you encounter one. Though I try to share video and photos of these encounters through the DNR, there is something about the experience as a whole that makes it all the more special.

Cavers are not only going in to caves, but also doing a lot of hiking to get there and also walking along ridges and bluffs looking for new caves, or just out exploring for fun. What areas might woodrats be attracted to and what signs might indicate woodrat activity? When out ridge walking or caving in southern Indiana, keep an eye out for signs of woodrats. The middens will be placed in caves or underneath rock formations in areas that you wouldn't expect flood debris to occur. There is an order to the madness of middens; they will appear much less compacted and be much cleaner than other piles of debris. Middens can be 2-10 feet long, and comprised of

sticks of all sizes, leaves, bones, feathers, and even human trash (aka woodrat treasure).

Woodrats are very fastidious and will maintain their midden year-round. This is one way we can identify active woodrat occupation compared to a site that was used 1-5 years ago. In keeping their middens clean, woodrats establish a

latrine somewhere within 100 feet and still tucked under rocky cover. This was how we identified woodrats had moved back to Wallier Cave a few years back – the latrine of woodrat droppings, but the clean-snipped spellogger cable was also a dead giveaway.

I know earlier this year on a cave trip with my grotto (caving club) we found what we thought might be woodrat activity. I took photos and sent them to you. If cavers or hikers think we have found woodrat activity in a new or unknown location, what should we do? If you believe you have found sign of woodrat presence, the DNR would be very interested in that information. Whether you encounter a possible midden or latrine, there are a few things you can do to help the DNR review the information later:

- Take multiple photographs. Just in case you get a blurry one, multiple pictures are always a good idea. Also try a few different angles just in



case one side looks possible, but the other tells a story of floodwater.

- Provide a sense of scale! In the photo either measure or place a common object next to the item to help yourself and those like myself better understand the size.
- Share the location of the site with coordinates, if possible. This will help us understand where woodrats are naturally moving and if there are additional areas to consider for future projects.
- Report it to us. Email me (BWestrich@dnr.IN.gov) or use the Report-A-Mammal tool

(www.in.gov/dnr/fish-and-wildlife/wildlife-resources/animals/report-a-mammal)

Brad, thank you so much for helping us understand more about Indiana's native packrat! I for one, will be on the lookout while I am caving and exploring in the southern part of the state this fall and winter. What final thoughts would you like to share? All hope isn't lost for this species in Indiana, but as their habitat choice may have foreshadowed, they certainly are between a rock and a hard place. Collaborations between the DNR and groups like the IKC or other nonprofit organizations can help this species recover.

SULLIVAN CAVE PRESERVE HIKE: HOW WE PROTECT THE KARST BENEATH OUR FEET!

**Saturday, November 4: 10 AM to Noon EDT (hike)
12:30 PM to 1:30 (optional stewardship activity)**

Discover and explore the surface of the Sullivan Cave Preserve and the efforts we have made to protect the karst beneath our feet! We will hike through the woods and fields of the preserve and adjacent land we help manage. Our focus will be on the stewardship here – woodland management, tree plantings, invasives removal, demolition work to protect our watershed, and more. Hear from Property Manager Joe Kinder about the work he does to ensure our most visited property is in tip top shape and tour with Keith Dunlap, who will share our history of Sullivan Cave management and ownership as well as our continued efforts to protect this and the surrounding land (including the story of the infamous Diaper Shed and its demise!). This event will be followed by an optional stewardship activity – Joe has got some good November projects lined up for us – including working on firewood, trimming limbs, and various other early winter tasks. A light lunch will be provided for those who stay and help with the afternoon activities!

The hike goes rain or shine! Attendance is by registration only and limited to 20 participants. Go to ikcFieldTourNovember2023.eventbrite.com to register and for more details. Registration opens on October 6, but before registration begins, click “remind me” to have a registration reminder sent.

Questions may be directed to Carla Striegel-Winner (CarlaStriegel@gmail.com or 812-639-9628).

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waiting till a sufficient number of people gathered to make a load. Sidling up to the man so eloquent with the long stories of the cavern, the “mud man artist” stooping close to his ear said, “I’m Daniel Boone.” Jerking himself erect, he said, “Where did you come from? How did you get in there?” The spell broken, I explained that there were two or three places one might enter besides the one at the boat dock.

There was a 30-year lapse from that time until I saw that cave yarn spinner again. One day, in a neighboring town, I had the occasion to meet,

on business, a fellow I did not know. Before the conversation was finished he said to me, “Did you ever spend time around Spring Mill Park years ago, about 1945?”

“Why, yes, as a matter of fact,” I said.

He then asked, “You don’t happen to be a certain Daniel Boone of that day, do you?”

My memory took flight back over the years as I recognized the occasion he was recalling. “Yes,” said I, “I am one and the same.” We then reviewed the events of that day both enjoying the conversation immensely.

INDIANA KARST CONSERVANCY TREASURY REPORT

Income/Expense Statement From April 1, 2023 to June 30, 2023

INCOME:

Dues Apportionment and Residuals	928.75	
Donations - General	878.32	
Donations - Land Acquisition Fund	1,522.00	
Wilderness First Aid Class	2,285.00	
Bio-Inventory Grant	1,200.00	
General Investment Earnings	1,624.15	
		\$8,438.22

EXPENSES:

IKC Update (printing, production, mailing)	767.93	
Education / Outreach	314.71	
Stewardship / Conservation	663.42	
Property taxes	284.59	
Bio-Inventory Grant	600.00	
Land Acquisition Appraisal	375.00	
Business (PayPal fees, renewal letters, meetings, etc)	103.99	
Transfers to/from restricted funds/other adjustments	4,032.00	
		(\$7,141.64)

NET OPERATING EXCESS (DEFICIT) THIS PERIOD: \$1,296.58

Balance Sheet June 30, 2023

ASSETS:

Cash in Checking/Saving/Brokerage accounts	657,999.27	
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>\$1,340,012.43</u>

FUNDS & OPERATING EXCESS:

Land Acquisition Restricted Fund	87,062.42	
Bio-Inventory Grant	600.00	
Wilderness First Aid Class	2,285.00	
Deferred Dues Restricted Fund (255 members)	7,668.75	
Stewardship Endowment Fund (+6.72%)	91,506.04	
Gale & Ray Beach Endowment Fund (+7.28%)	375,094.27	
Previous General Fund (total)	92,499.37	
Net Excess (Deficit) This Period	<u>1,296.58</u>	
Current General Fund (unrestricted)	93,795.95	
Current General Fund (committed)	1,972.87	
Real Estate Basis (excluding value of CE)	<u>682,000.00</u>	

Total Liabilities & Operating Excess \$1,340,012.43

IKC EXECUTIVE BOARD MEETING MINUTES

Sunday, June 18th, 2023 - 1:00 PM EDT

Residence of Goni Iskali – 9990 Bennett Lane, Bedford, IN 47421

Board Members Present:

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

* represented by proxy (see below)

Board Members Absent:

none

Others Present: Nate Vignes, Brad Barcom, Sue Vernier

Call to Order – IKC Exempt Purpose & Introductions

Meeting was called to order by Matt Selig at 1:01 PM EDT.

Acceptance of Proxies

Kevin Strunk for Dave Haun.

Approval of Previous Minutes

The minutes from the December meeting were approved as published in the March 2023 *IKC Update*.

E-mail Motions Since Last Meeting

Motion for offer on “Kinser” property (June 8th, 2023) – *Bruce Bowman made a motion that the IKC fund the Kinser property acquisition at \$200,000 with the understanding that we will engage in further discussion and vote at the upcoming June 18th Board meeting. Laura Demarest seconded. Motion was tabled for discussion at the upcoming meeting.*

Continuation of Tabled Email Motion:

Keith Dunlap (new Kinser property owner of the 23-acre piece of land that connects the Wayne Cave and Buckner Cave Preserves) recused himself from the discussion. Keith has decided to split off the 3 acres that comprise the home site to sell to the neighbor. Matt led discussion regarding associated closing costs, appraisals, fund-raising, and other information related to this deal. Bruce Bowman withdrew the original email motion. *Scott Frosch moved that the IKC offer \$200,000 to Keith Dunlap for the 20-acre Kinser property contin-*

gent on financing with closing costs split 50/50. Rand Heazlitt seconded. 13-0-1 abstain (Keith was absent during the discussion and vote). Motion passed.

Treasurer Report

Dunlap outlined the current financial status of the IKC:

Assets:

Cash assets totaling	\$651,428.09
Land assets totaling	\$682,000.00
Total Assets	\$1,333,428.09

Dedicated Funds:

Land Acquisition Fund	\$87,175.42
Stewardship Endowment	\$90,789.46
Gale & Ray Beach Endowment	\$372,254.18
Deferred Dues	\$7,320.00
General (unrestricted) Fund	\$93,889.03
Total Dedicated Funds	\$651,428.09

Additional information on the Stewardship Fund and Beach Endowment investments were provided with the financial report.

Membership currently stands at 251 paid members. There are 35 members (aside from the 251) that still need to renew and will be sent a final reminder.

Wayne Cave Preserve Bioinventory Grant

Danyele provided an update on the first round of Nic Garza’s bio-inventory of vascular plants, which has been conducted in three separate areas of the Wayne Cave Preserve. More repeated visits are scheduled. This grant was funded by ILPA and the Indiana Academy of Science at \$1,200 to learn about which species are present and to inform future conservation/stewardship planning efforts.

Education/Outreach Committee

Upcoming and Recent Field Days – Carla provided some updates as follows:

- The spring Lowry Field day went very well with good participation, local connections, and some garlic mustard pulling at the conclusion of the event.
- July 8th, 2023 – Shawnee Karst Preserve surface tour with Tom Sollman as the presenter. Registration spots are still open.
- Oct 7th and Nov 4th – Save the Dates for upcoming field days – more information will be forthcoming and ongoing updates are posted on the IKC website homepage.

IKC Table at Cave Capers – Carla will prepare some info on local IKC preserves and host the informational



booth at the upcoming event in August in Corydon.

Other:

- Limestone Fest report (June 17, 2023) – Goni and Danyeale spent the day at the event in Bloomington and gave an overview; it was well attended and there were many youth visitors. It was a great promotional opportunity for IKC and other local cave organizations. They also raised about \$65 in donations during the event.
- Wilderness First Aid class (July 29-30 at Lawrence County Independent Schools) – Danyeale provided an update on the class and Carla provided an update on the number of registrants. Carla asked if it might be possible for the IKC to furnish up to \$160 for snacks and a donation to the school in the event that the registration costs don't cover these additional costs. *Carla made a motion to approve the use of up to \$160 for snacks and a facility donation for this event. Paul Uglum seconded. 13-0-2. Motion passed.*
- Other Education Opportunities – Carla also mentioned that Jerry Lewis would be willing to train others on how to set up and collect pit traps at the Lowry Preserve. More details will be forthcoming as this would be a 'pop-up' educational opportunity later this summer.
- Danyeale also mentioned that the bird article written by the Verniers at the Wayne Cave Preserve was very well received and appreciated by other birders.

Research Project Interviews

Carla shared information about some communications from Kai Bosworth who is seeking interviews with cavers and/or cave organizations about how they respond to environmental issues and impacts in their area. Those interviewed will remain anonymous. Carla would like to give the interview on behalf of IKC if there are no objections. There were no objections.

ILPA Update

Carla and Keith attended a recent state event hosted by ILPA and it was a great opportunity for networking with other conservation groups and government officials. She also shared the ILPA State of the Lands Annual Report that had the IKC featured on page 16 of that publication. Keith provided some additional information on the benefits of supporting ILPA and how their Executive Director has been successful in advocating for more funding for the President Benjamin Harrison Conservation Trust, which the IKC could potentially use in the future for land acquisitions.

2024 Cave Symposium Location and Date

Paul conveyed that the Indiana Cave Survey recently met to discuss the 2024 Symposium and that they would like it to be held at the same location in Paoli and that April 20th or 27th be the date. The ICS would like to work in

partnership with the IKC again. *Paul made a motion that the 2024 Symposium be held at the same venue with April 20th as the primary date and April 27th as the backup date. Scott Frosch seconded. 15-0-0 Motion passed.*

SCCi Online Waiver Update

Paul is working with Ray Knott of the SCCi on this initiative and has been set up as the administrator of the site, which is soon to be populated with information. Sullivan Cave will be the first location used for testing and Keith is working to help develop the electronic waiver. Paul is studying the content of the SCCi waivers and working to build our own based on existing templates. Paul would like some additional volunteers to help with editing/testing soon. Key management will need to be discussed in the future as well.

Preserve Bat Survey Project

Goni gave information that surveys have been completed on the Sullivan and Buddha Preserves. Wayne will be next, and she is hoping for a total of six surveys to be conducted this year. It's been a great promotional opportunity and is relatively simple to collect the data. She can provide future dates if others are interested. Goni has also been talking to the Sycamore Land Trust about contributing to an article on Indiana bats with a mention of the IKC for cross-promotion.

Henderson Park MOU

Matt, Keith, and Kevin Strunk have been in discussions with Tom Swinford of The Nature Conservancy to develop a three-way MOU for the IKC to manage access to the caves in Henderson Park. They will be meeting with the Mayor of Salem in the near future to present the MOU for signature and approval. Scott volunteered to be the Access Coordinator for the site. Some discussion ensued. *Keith Dunlap made a motion that the IKC authorize the execution of the MOU. Paul Uglum seconded. 15-0-0. Motion passed. Paul Uglum made a motion that Scott Frosch be appointed to the position of Access Coordinator for Henderson Park. Kevin Strunk seconded. 14-0-1 abstention. Motion passed.*

Cave-Land Acquisition Activities

Kinser property - Keith was updated on the motion previously made pertaining to the offer and some additional discussion ensued about fund-raising options. Keith provided some information on possible resources for donations and the tentative timeline of the transaction was also discussed, with August/September seeming to be a feasible closing time. A formal purchase offer will be drafted by Matt in the near future.

Expansion of an IKC Preserve – There was discussion of an opportunity to pursue a small (~3 acres) tract of land that is adjacent to one of our preserves. While we have not talked to the owner directly, we were told by a reliable source that he was preparing to sell his home, lot, and the tract of interest. It was decided that Matt



would contact the owner to see if he would be interested in selling the 3-acre tract separately as a private sale.

Lamplighter Cave Entrance – Scott has no new information to report, but conveyed that the owner would be open to offers. Scott can arrange a trip in the future for other board members to investigate the possibility more. Other organizations could also possibly be alerted in the event they may be interested in acquiring the property.

Research Permits

Appointing an *Ad Hoc* Committee – Matt reviewed the language in the bylaws that states that the President oversees reviewing/approving research permits. Matt considered making a committee consisting of the Officers and the associated Property Managers/Cave Patrons who can make those decisions without the entire Board needing to be consulted each time. Discussion on the most appropriate way to handle future permit requests ensued and it was determined that when there is a new permit request, the President can form an ad hoc committee consisting of the IKC Officers, respective Property Manager/Cave Patron, and any necessary experts for consultation. Any requests that supersede the judgement of the *ad hoc* committee can be brought before the board on a case-by-case basis. The permit info can be shared with the rest of the board, but no vote would be needed for each individual request.

Dye Tracing at Wayne Cave – Matt shared information from Mike Drake regarding dye tracing in Wayne Cave and will approve this request.

Purdue (acoustic bat monitoring) – Matt was also contacted by some representatives from Purdue with a request. He will send them permit information and Goni offered to help with consultation.

Recap of Preserves Work Projects and Upcoming Preserves Projects

Buddha Karst Nature Preserve – Keith has mowed the trail recently and reported some invasive species that will need removal towards the back end of the property.

Lowry Karst Preserve – Jasper Beavers is the new Property Manager and had no new information to report at this time. Kevin mentioned that the interior lane may need some shaping and gravel for the camping area. Anything over \$100 may need a funding request from the Board. The Management Plan needs to be updated to allow for camping and anything else relevant.

Orangeville Rise Nature Preserve – Carla had no update.

Robinson Ladder Cave Preserve – Jamie recently mowed, and Wyatt Williams visited the property to inventory rare plants on the cliffs and found Allegheny Stonecrop. Some discussion about adding a porta-potty on-site was considered and rejected due to lack of demand and difficulty to service.

Shawnee Karst Preserve – Keith, Carla, and Bambi

Dunlap recently cleaned out the shed, removing recyclables and other trash in preparation for the upcoming July 8th event on the property. Tom sprayed some weeds along the driveway.

Sullivan Cave Preserve – Joe recently addressed the wood shed roof with the help of other volunteers; it was determined that the current roof could be repaired and secured. Joe purchased some paint and Goni offered to help paint the shed. Some mowing and weed eating were done recently. Paul provided some new locks and there are plans to construct a kiosk in the future.

Wayne Cave Preserve – Danyeale did some recent spraying, but noticed that the driveway gate is in need of repair. She obtained a quote for a new gate and Tymme will install it. A galvanized, heavy duty gate is \$350. *Laura made a motion to fund up to \$375 for Danyeale to purchase and install a new gate. Rand seconded. 15-0-0. Motion passed.* Danyeale and Keith have been taking care of invasive species removal for the EQIP contract. Also, Wyatt Williams, Community Ecologist Division of Nature Preserves and Danielle Williams, Central Region Ecologist, Division of Nature Preserves visited the property and the expansion tract for an additional bio-inventory recently.

Indian Creek Conservation Easement – Rand had no updates.

Items from the Floor

- Danyeale mentioned that Julie Schenk-Brown, NSS Nature Preserves Chair, recently complimented the *IKC Update* as being a very useful resource.
- Kevin Strunk notified the Board of recent activities in the Mitchell Plain involving a concrete company that has expanded operations and seems to have opened a cave based on aerial maps. There is also another company in Owen County that may be in the process of damaging caves with their activities. Kevin asked if the IKC has a means to discuss these issues directly with those companies to educate or weigh in on the matter. Is there any way we could approach these companies effectively and is there anyone willing to investigate this as an option to educate or incentivize better practices in these types of cases?

Next Meeting Date and Place Selection

The next IKC Quarterly meeting was tentatively scheduled for Sunday, Sept. 24th at the Wayne Cave Preserve – meeting at 1:00 PM EDT with a work opportunity to be scheduled beforehand. Alternative rain location will be Danyeale Green's residence.

Adjourn

The meeting was adjourned at 4:07 pm EDT. *Paul moved to adjourn. Scott Frosch seconded. Unanimous consent.*

Respectfully compiled and submitted by Laura Demarest, IKC Secretary

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Langdon's Cave) are closed from September 1 to April 30. Likewise *all* caves on the Hoosier National Forest are closed for recreational caving.

- ❑ The IKC has gained *fifteen* new members in the last quarter. Welcome John Brown, Linda Byer, Steve Dodds, Betty Dodge, Nathan Hafley, Alex Hurst, Scott Hurst, Scott Johnson, James Margraff, Daniel McDaniel, James Reyome, Cyndi Wagner, Michael Wilson, Bobbie Yoder, and Bristol Yoder. The IKC membership currently stands at 285.

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which makes it difficult to attract and detect bats. We also noted that low air quality (Canadian wildfire smoke) was recorded and observed at Buddha Preserve. The most bat activity that we recorded was at the Sullivan and Robinson Ladder preserves. At Sullivan, all the bat activity was recorded by the wooded area near the cave entrance, and we suspected that it was the same two bats flying around and being recorded by our detector. At Robison Ladder, the survey recorded the greatest number of species, which is not surprising because we surveyed this preserve right before migration and possibly when Indiana bats were swarming near the cave. Swarming is when bats congregate around a hibernaculum in order to mate right before they go into hibernation. The females will then store the sperm all winter, and fertilize their egg(s) in the spring before beginning the long and arduous migration back to the maternity colony areas, sometimes hundreds of kilometers away.

Despite the limited time that we spent recording bat activity at our preserves, this data indicates that bats are using the forested areas, in addition to the caves. The variety of habitats (forest vs open areas/

grasslands vs water features), forest age (old growth vs younger trees) and roost structures (live trees vs snags) that are all available within IKC preserves, likely make it possible for multiple species of bats to co-exist. As we manage our preserves, it's important to keep this variety of roosts available and keep these areas safe from disturbance so that bats can safely raise their young. It is also important to maintain larger areas of habitat intact because bats can forage miles away from their roosts in order to eat enough food to sustain their high metabolisms. Bats tend to forage near edge habitat and do not tend to fly over disturbed (e.g., cities) or open areas to avoid predation. As climate change, habitat destruction, disease, and other direct and indirect causes threaten bats, it is as important as ever to provide roosting, foraging, and hibernating habitat for our bats. When considering future expansions or acquisitions, assessing the quality of habitat and the connection value that the expansion provides is key to advancing bat conservation goals.

Editor's note: Goni is a bat biologist and serves on the IKC Board. Danielle is a wildlife biologist.

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.

