



IKC UPDATE

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INDIANA KARST CONSERVANCY, INC

PO Box 2401, Indianapolis, IN 46206-2401

ikc.caves.org

Affiliated with the National Speleological Society



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

EXECUTIVE BOARD

President

Matt Selig (2024)
317-258-9983
MSelig@hotmail.com

Secretary

Laura Demarest (2024)
812-320-5973
LadyLauraDemarest@gmail.com

Treasurer

Keith Dunlap (2024)
317-882-5420
Keith.Dunlap@juno.com

Directors

Bruce Bowman (2026)
765-720-1483
Bowman46118@gmail.com

Jeff Cody (2025)
317-888-9898
CodyJpme@att.net

Scott Frosch (2026)
317-250-9535
Frosch.Apple@gmail.com

Danyeale Green (2025)
317-370-7891
mudandogs@gmail.com

Dave Haun (2024)
317-517-0795
DaveHaun@ExploringEarth.com

Rand Heazlitt (2024)
502-445-9532
Pyrometric@aol.com

Goni Iskali (2025)
BattyCaver85@gmail.com

Joe Kinder (2024)
812-322-3328
KinderJoe@yahoo.com

Tom Sollman (2026)
812-753-4953
TPSollman@gmail.com

Carla Striegel-Winner (2025)
812-639-9628
CarlaStriegel@gmail.com

Paul Uglum (2024)
317-417-5596
Paul.A.Uglum@gmail.com

Richard Vernier (2026)
812-385-5058
rsavcaver2@gmail.com

COMMITTEES / CHAIRPERSON

Education/Outreach
Carla Striegel-Winner
(see E-board list)

Web Technologies
Bruce Bowman
(see E-board list)

IKC Update Editor/Publisher
Keith Dunlap
(see E-Board list)

Buddha Karst Property Manager
Keith Dunlap
(see E-board list)

Lowry Karst Property Manager
Jasper Beavers
812-343-7490
jay3130@yahoo.com

Orangeville Rise Property Manager
Carla Striegel-Winner
(see E-board list)

Robinson Ladder Property Manager
John Benton
830-305-1026
JMBenton1952@gmail.com

Shawnee Karst Property Manager
Keith Dunlap
(see E-board list)

Sullivan Cave Property Manager
Joe Kinder
(see E-Board list)

Wayne Cave Property Manager
Danyeale Green
(see E-Board list)

Indian Creek CE Monitor
Rand Heazlitt
(see E-Board list)

GROTTOES & LIAISONS

Bloomington Indiana Grotto*
Dave Everton
812-272-2300

Central Indiana Grotto*
Keith Dunlap
317-882-5420

Dayton Underground Grotto
Mike Hood
937-252-2978

Eastern Indiana Grotto
Jonathan Annonson
317-395-4325

Evansville Metro Grotto*
Steve Weinzapfel
812-630-7995

Louisville Grotto*
Susan Wilkinson
317-910-8023

Near Normal Grotto*
Ralph Sawyer
309-822-0109

Northern Indiana Grotto*
Cheryl Doan
260-385-0631

St Joseph Valley Grotto*
Joy Baiz
574-286-9404

Sub-Urban Chicago Grotto
Gary Gibula
GaryGibula@aol.com

Windy City Grotto
Susan Clark
708-415-1635

*grottos with liaison agreements

MANAGED CAVES / PATRONS

Buddha Cave
Jeff Cody
317-888-9898
CodyJpme@att.net

Lowry Cave
Jasper Beavers
812-343-7490
jay3130@yahoo.com

Robinson Ladder Cave
John Benton
830-305-1026
JMBenton1952@gmail.com

Shiloh Cave
James Adams
317-499-5451
JKAdams@aol.com

Suicide Cave
Kevin Smith
317-412-3667
FreeWheeler2Go@yahoo.com

Sullivan Cave
Paul Uglum
317-417-5596
Paul.A.Uglum@gmail.com

Upper Twin Cave
Dave Everton
812-272-2300
DEverton@indiana.edu

Wayne Cave
Dave Everton
812-272-2300
DEverton@indiana.edu

IKC QUARTERLY MEETING REMINDER

Sunday June 18th, 1:00 PM EDT

Home of Goni Iskali and Brad Barcom

9990 Bennett Lane, Bedford IN 47421

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

Preliminary Agenda Items: Financial reports; Recap of recent preserve work projects; Promotion of upcoming preserve projects; Education/Outreach/Field Days status; Electronic scheduling and waiver system; Cave/land acquisition activities; Henderson Park MOU; Wayne Cave Preserve bioinventory grant; and more...

Meeting Details: The meeting will start promptly at 1 PM. Those wishing to participate in the pitch-in lunch should arrive by noon. If you would like to explore Goni's and Brad's new home and 35-acre property, show up any time after 11 AM. Goni reports that Google map does not exactly get the location correct from the address, so use (38.9933255, -86.5680857). The driveway is just a short distance north of "The Loft" wedding venue. Look for the IKC yard sign.

ACTIVITIES CALENDAR

June 17 – Limestone Fest (see page 6)

June 18 – IKC Quarterly Board Meeting (see above)

July 8 – Shawnee Karst Preserve Hike/Tour (see page 17)

Jul 29-30 – Wilderness First Aid Course (see page 11)

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

Oct 7 – Wayne Cave Preserve Geology Hike/Tour (see page 28)

Nov 4 – Sullivan Cave Preserve Hike/Tour (see page 28)

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 the June 1987 *IKC Update* #5, then President of the IKC Keith Dunlap started the tradition of “Ramblings From the President” with the immortal words, “at some point in time I should sit down... and perform my expected duties as President by composing some words of wisdom to inspire the membership”

Now with a deadline fast approaching, and the editor emailing to remind me I haven’t produced any immortal words of inspiration yet for issue #149, I find myself in the same position he described all those years ago... fortunately there are at least a half dozen subjects I could write about that are relevant and important to cave conservation that I could discuss in this article. Where to start?

I found myself inspired by others’ work in the realm of cave and karst exploration and conservation at the recent Indiana Cave Symposium, which is co-sponsored by the IKC and our friends at the Indiana Cave Survey.

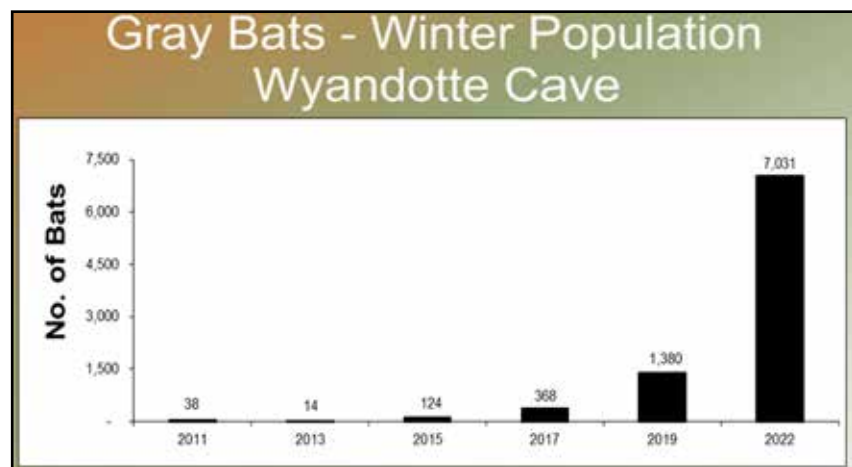
This is perhaps one of the points of the Symposium, to bring together an enthusiastic group of like-minded cavers to not only share stories of cave exploration and research, but also to inspire each other. As in Plato’s original *Symposium*, where the topic of discussion was love, at this modern-day Symposium the theme could have easily been our shared passion for and love of Indiana’s caves.

A particular point of wonder for me was the presentation of research that is part of the US Fish and Wildlife Service’s Recovery Plan regarding counts of bat populations in Indiana’s caves. These counts are conducted roughly every two years and their findings have been summarized in these pages, most recently in *IKC Update* #148 that recaps the findings of bat counts performed in early 2022.

What caught my interest, and what I would first like to ramble about is that there is now data that might indicate the beginnings of a recovery of Indiana’s bat populations from the devastations of white-nose syndrome (WNS).

This of course needs to be an extremely guarded and preliminary optimism. By no means have bats recovered from WNS, but there are hopeful indications, nonetheless.

The other data that caught my eye is evidence of a bat species that hasn’t been seen in Indiana’s caves in significant numbers in our lifetime, if ever – *Myotis grisecens*, the gray bat, which has been listed as an endangered species since 1976. Before the 2019 bat survey, gray bats hadn’t been recorded in Indiana caves as anything other than as occasional accidental, and rarely seen at other times of the year other than as transient visitors. Gray bats are the only species of bats in Indiana that is a cave obligate, meaning they use



caves during both the maternity and wintering season. Most of our other bats only use caves during the wintering season for hibernation and roost in forests and trees during the summer maternity season.

I reached out to Darwin Brack of Environmental Solutions & Innovations (ESI) to discuss these findings (as presented at the Symposium by his colleague Brandon Yates). In 2019 in Wyandotte Cave there was a noticeable (more than 1,000) winter population of gray bats and from 2020 to present, gray bats have been observed using Wyandotte throughout the year. The data also shows that during the winter of 2022 the number of gray bats jumped to over 7,000, which Darwin describes as “exponential population growth”.

I asked Darwin and IKC Board member Goni Iskali, a bat biologist, to speculate about why gray bats have begun to use Wyandotte and a few other select Indiana caves and they felt there is no

definitive answer to that question at this time, but offered some points to consider:

- Wyandotte Cave is a “bat Shangri-La.” It is an ideal habitat for bats in general and this cave has been gated and protected with a bat-friendly gate since 1991, which limits the disturbance to bats during such sensitive times as hibernation.
- Gray bat populations have been rebounding and increasing range-wide, largely due to efforts to protect caves that are known to serve as maternity roosts or hibernacula. Currently, 70% of known maternity caves and over 90% of hibernacula are considered “protected” by US Fish and Wildlife Service.
- WNS might cause gray bats to be pickier in choosing hibernation roosts, although this species is not harmed as much as other bats by WNS and have not experienced the same declines.
- WNS has decimated other populations of bats (example: northern long-eared, little brown and tricolored bats) that were once common in Indiana and there may be a shift in how these bats species compete for space.
- Increasing regional average temperatures might shift gray bats northwards to cooler climates. Previously, gray bats were not generally found north of the Ohio River.
- Gray bats may push out Indiana bats because the former wake more frequently during hibernation, which makes hibernation more difficult for the not as active Indiana bat.

In any case the jury is still out on this new phenomenon of gray bats inhabiting Indiana’s caves, but it raises questions for our relations with these bats, as both gray and Indiana bats are recognized as federally-listed endangered species.

For instance, if gray bats and Indiana bats are both competing for the same caves, for which species should we optimize the management of a given cave, in cases where their interests diverge? Will the potential appearance of gray bats in our caves during the summer change the

management of cave visitation? What effects will this new appearance of gray bats have on existing populations of Indiana bats? And just what is driving this change in gray bat population range?

We need more data, of course. Darwin predicts there will be 15-25,000 gray bats in Indiana caves by 2024-2025, more than double the count in 2022. The gray bats are coming, whether we are ready, or not.

Speaking of inspiration, I hope we are all inspired to get outside and get underground this summer. The IKC will continue to work hard to inspire, as well. We have upcoming tours of our beautiful karst preserves. We will conduct the first IKC-sponsored Wilderness First Aid training in July. There will be work opportunities at our preserves where volunteers can lend a hand to remediate impact caused by human activity. We will continue to refine

“...The *IKC Update* isn’t just the best at what it does, it’s the only newsletter that does what it does.”

how we use social media to fuel our members’ and well-wishers’ passion for cave conservation, and we are working on a potential property acquisition that, if it goes forward, will inspire more dreams about what we can do when we work diligently

to preserve Indiana’s caves and karst.

We also hope this issue of our newsletter inspires more love of caves and caving, as well! To paraphrase what I once heard about the Grateful Dead (a band I love), “The *IKC Update* isn’t just the best at what it does, it’s the only newsletter that does what it does.” Thanks to our volunteer authors and editors, this newsletter is one of our best tools to promote education about and love for the caves and karst of Indiana.

Until my next Ramblings, I wish you all the best in the pursuit of your passions and lots of inspiring (and safe) caving. Never forget that at the IKC, *we are inspired by our members*, and who knows, perhaps you might even look into the night sky soon and see a gray bat dart by pursuing a tasty Hoosier dinner and in turn be inspired by the wonder of it all.

Matt Selig

NEWS BRIEFS...

- ❑ The IKC Executive Board is excited to announce that Jasper Beavers has been appointed as the Property Manager for our Lowry Karst Preserve in Jennings County. Jasper will also serve as the Cave Patron for Lowry Cave. If you wish to visit the cave or the property, or camp at the property, please contact Jasper (812-343-7490 or jay3130@yahoo.com). His contact information, along with all of the other Property Managers and Cave Patrons, can always be found on page 2 of each *IKC Update*. To find out more about the Lowry Karst Preserve and cave, go to ikc.caves.org/lowry-karst-preserve.
- ❑ The caves at Wyandotte Caves State Recreation Area (SRA) in Crawford County have re-opened this summer, after being closed the past three years due to covid precautions. Now through Labor Day, guided tours are available on Friday, Saturday, and Sunday. The two-hour walking tour into “Big” Wyandotte Cave leaves at 11 AM and 1 PM and costs \$18 for adults and \$9 for kids ages 6-11. Tickets are only available at the ticket booth on-site and reservations are not needed. If you have never been in Big Wyandotte, it is very much worth your while (and the ticket price). The huge underground “Monument Mountain” is a highlight of the 1.5-mile trip through the deeper sections of the cave. Rare formations called helictites, plus gypsum, epsomite, and prehistoric flint quarries add variety. “We are looking forward to introducing a new generation of visitors to this unique cave system and its features while remembering the significance of this site as a winter hibernating location for the federally endangered Indiana bat,” said Terry Coleman, Director of Indiana State Parks. If you do not have time for the long tour, the alternative is the 30-minute stroll thru Little Wyandotte Cave (aka Sibert’s Cave) which runs

Continued on page 28...

LIMESTONE FEST – JUNE 17th

Come explore the geologic, cultural, and artistic heritage of Indiana limestone with this fun, family-friendly event! We are excited to take part this year, so come visit our booth to say hi to Board members Danyele Green and Goni Iskali! Play our guessing game for a chance to win (or extend) a one year IKC membership! We will also have IKC stickers (\$1 donation) and info on all our upcoming events, our preserves, and the projects that we are currently involved in. Make sure and stop by all of the other cool booths at this Indiana Geological and Water Survey sponsored event! You may also follow this event on Facebook to learn more or receive any updates (search for **Limestone Fest** or go to www.facebook.com/events/1236785253709421).

Who: Open to all ages and abilities

What: Activities include:

- ☑ Limestone carving
- ☑ Climbing wall
- ☑ Fossil crafts
- ☑ Cave critter exploration
- ☑ Historic preservation demonstrations
- ☑ And more!

When: June 17, 2023 from 10 AM to 3 PM

Where: Indiana Geological and Water Survey – Geology Building, 1001 E 10th St, Bloomington, IN 47405

Note: **Free parking** at the IU Forrest Avenue Parking Garage

Why: Because who doesn’t love limestone!

Questions? Contact Danyele Green (mudandogs@gmail.com) or Goni Iskali (BattyCaver85@gmail.com).



A LOOK BACK AT INDIANA KARST

by John Benton

I recently located an article on *Wilson the Bear Hunter*, with historical information from the early 1800s on Captain James Wilson, from Orange County Indiana. That paragraph is reproduced here. It seems that "Bear Jim", had quite a reputation among the locals for hunting bear in southern Indiana caves. Several caves known to us today contain bear wallows (circular depressions) where bears would dig out the dirt/clay in cave floors and hibernate over winter, or at least spent time in caves. While no caves in particular were mentioned in the story, Dillon Cave (Orange Co), Suicide Cave (Washington Co), and river passages near Big Bone Mountain in Binkley Cave (Harrison Co), among others, are known to contain bear wallows.

It appears that Wilson carried only the most basic cave gear, his rifle, torch for light, and dirk (knife or long spear). Wilson's un-named assistant companion who he posted at the entrance, was either scared away, or had more sense than to wait around for an angry disturbed bear at the cave mouth. It's believed the time period on this story was between 1800 and 1825, when the last bear disappeared from southern Indiana. This is an interesting, but disturbing look at how some caves were used in the pioneer days.

Now some 200 years later, a random bear or two have been recently reported roaming the same southern Indiana woods. So beware and be on the lookout for Bear Jim's possible hunting targets. I know of an encounter some other cavers and I had with an adult beaver in a cave a few years ago. It was enough of a TLA (True Life Adventure)! Fortunately there were no cuts, scrapes, or scratches as we hugged the cave walls and allowed ma' beaver (or pa?) to pass us without incident.

WILSON THE BEAR HUNTER¹

One of the historical characters of this part of the county, in its early settlement, was Captain James Wilson, familiarly known as "Bear Jim". He was one of the most famous hunters of the county, and to narrate one-half of the tales that are still told concerning his fearless and eccentric daring, would

fill a large volume in itself. He was especially fortunate in hunting the bear, and from this he derived his curious cognomen. One of the most thrilling episodes, in which he was the hero, and one familiar to everybody yet living in the neighborhood, was this: His favorite mode of capturing the bear was by going into the small caves, in which southern Indiana abounds, and where he knew a bruin to have its den. In these subterranean exploits he always carried a torch light and his rifle, besides his dirk that nearly always accompanied him. On this occasion he went into the cave, equipped as usual, and left a man who was with him, at the entrance. When he had proceeded into the cave but a short distance,



he saw the bear; which, in its turn, also saw him, and being no doubt partially blinded, and considerably scared by the light, it started for daylight in which to wage its conflict. But, in order to get that, it was necessary to pass the doughty hunter in the narrow passage-way, and at once began that business. Bear Jim at once saw the danger of his position and commenced a retreat, but the

bear advanced faster than he retired, and a fearful contest began for the right of way. He had no opportunity to use his almost unerring rifle, and in the struggle the light was put out. Instead of coming to his rescue, the man outside ran away through fear, and left Wilson to fight out his own battle. This proved to be a bloody one, for, when he finally managed to effect an escape from both the cave and the brute, the renowned hunter was much the worse for wear, having several severe bites about the shoulders, and being badly scratched on the head and face, with clothes torn in shreds. He recovered from these, however, and lived to prowl in many a cave in search for other bears, having profited but little by his former perilous experience. Probably the last bear killed in the county, was in this township about the year 1825, and Alfred Bruner tells of the excitement it created in the neighborhood, and that the meat was divided among the persons who helped kill it.

¹www.ingenweb.org/inorange/oc_history/history_chap3_7.htm

RICHARD L. POWELL (NSS #3217)

01/04/1936 to 04/23/2023

by Sam Frushour and Lee Florea

The caving and geological communities lost “Doc Dick” after a long decline in health. His influence on the understanding of the caves and karst of Indiana spanned more than a half century, starting in the late 1950s. He was a mentor, colleague, and friend across many generations and his contributions will impact generations to come.

Richard (Dick) Powell arrived at Indiana University (IU) as a student of geography in the Fall of 1953 from Evansville, Indiana. He soon discovered the Indiana University Spelunking Club (IUSC), made some life-long friends, and found his life’s love, Marion Sharp. Early on, Dick and Marion struggled to make ends meet and raised three of their four children in two prefabricated garages on the near south side of Bloomington, Indiana. In 1957, he was hired at the Indiana Geological Survey (IGS) as a draftsman in the Coal Section. His 1961 thesis for his master’s degree, *A Geography of the Springs of Indiana* also became a widely used reference for groundwater.

Dick’s supervisor at the IGS, Charles Weir, insisted that he should write a book on caves for the IGS. The resulting book, IGS Circular #8 – *Caves of Indiana* was published in 1961. That publication became the prime source for Indiana cavers to learn about Indiana caves and karst features and achieved the pseudonym of “most stolen book in Indiana” by IU librarians. It has been recently revised, excluding specific directions and maps, and published as open access by the Indiana Journal of Earth Sciences.

In 1957 Dick participated in his first cave rescue when four IU students tried to enter Saltpeter Cave southwest of Bloomington. Their hand line moved the large rock it was tied to at the cave entrance, blocked the entrance, and trapped three of the four in the cave. The remaining person went for help and several Bloomington cavers, including Dick, responded. Dick and another person entered the

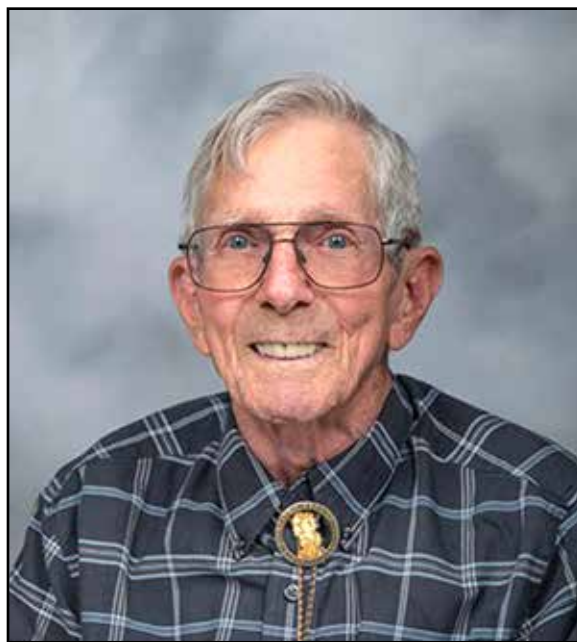
nearby horizontal entrance, located the trapped students, and led them out of the cave. Another rescue followed at Lost Boy Cave in Owen County where a young boy was trapped without light. Dick was also a major part of the July 1961 Show Farm Cave tragedy where two of his friends, graduate students Tom Arnold and Ralph Morland, entered the cave just prior to an unpredicted storm that flooded the entrance crawl and trapped them. A second storm drowned them as they sought refuge in a high canyon.

During the 1960s and 1970s, Dick participated in or led several more rescues, mostly of trapped spelunkers, in Shaft Cave, Wayne Cave, Buckner Cave, and IU Cave.

1958 was an important year to Dick. He was a founding member of the Bloomington Indiana Grotto and made notable discoveries. The most important of which was the re-discovery of Buckner Cave. In his re-telling, he was trying to identify which cave was on a map given to

him with other papers by the widow of the late Dr Clyde Malott. After becoming frustrated, he tossed the map on his desk where it spun to an orientation that he recognized as the Buckner Cave entrance room. James Langhammer, Robert (Bugs) Armstrong, and Dick soon visited the cave. While Bugs pulled rock from a collapsed passage at the end of the entrance room, Jim and Dick dug in a low, nearly soil-filled crawl with the message, “Turn down under and go to thunder” scratched on the wall above. In a half hour they broke through into more crawl that they raced down to the junction with large stream passage before returning to tell Bugs. In the crawl they found a 1908 Half Dime and determined that the crawl they dug open was closed by washed in soil. The survey of Buckner proceeded during the next two years and Dick produced the map.

More cave surveys followed in which Dick used a plane table and alidade to draw the map





in the cave. The most important of these projects was for the Indiana Department of Natural Resources (IDNR) when they purchased Wyandotte Cave as part of the Harrison-Crawford State Forest. IDNR had no cave management experience, but realized they needed an accurate map. Their efforts using standard survey techniques were a dismal failure; so the IGS was contacted for assistance and Dick was enlisted to lead the survey of Wyandotte Cave during 1965 and 1966 and to produce the map. He utilized the open sight alidade and plane table method (see above) for the large passages and compass and tape surveys in the many smaller passages. During the 1970s he did another extensive plane table survey in the Historic Section of Mammoth Cave for the Cave Research Foundation.

Dick remained with the IGS as a coal geologist and resource for caves and karst until 1972, after which he undertook his PhD at Purdue University, with a dissertation titled *Some Geologic and Hydrologic Implications of Jointing in Carbonate Strata of Mississippian Age in South-Central Indiana*. In the mid-1970s, he teamed up with Bob Aten to undertake a geologic reconnaissance requested by the Shah of Iran who was planning to construct multiple nuclear power plants. Later, Dick and Bob Aten formed a consulting company called Geosciences Research Associates where they hired cavers John Bassett

and Jim Keith to lead investigations in karst hydrology and cave biology, respectively.

After a couple of buyouts of their company, Dick retired. He returned to the IGS as a Research Affiliate and to study the Hindostan Whetstone beds that were important in the early history of Indiana for sharpening stones and grave markers. His studies included stone carver techniques and grave marker styles and distribution across the Midwest during the first half of the 1800s. During his tenure with the IGS and afterward, he produced numerous articles on caves and karst for the *Bloomington Indiana Grotto Newsletter*, the Indiana Academy of Science, the National Park Service's *A Guide to The Selection of Caverns and Springs in The United States as National Landmarks*, and IGS Miscellaneous Maps #64 and #65.

There were other endeavors that Dick pursued. He was a pretty good pool player and joined his caver friends at Rocky's Pool Hall next to his favorite tavern, Nicks English Hut. He was an avid fly fisherman and taught fly tying. He recorded data on geysers and was a volunteer at Yellowstone National Park. He remained busy, active, and scholastically engaged until his health failed in 2021. A portion of Dick's library and maps on caves and karst are now part of the growing library at the NSS Buckner Preserve. RIP old friend.

Dick's obituary may be found here: www.herald-timesonline.com/obituaries/psbn0475574



Dick Powell (left) and Tom Karr (center) after the rescue of Tom from Lost Boy Cave in 1959 (www.tomkarr.com/lostboy.html)

2023 INDIANA CAVE SYMPOSIUM RECAP

by Keith Dunlap

The Orange County Community Center in Paoli was the venue for the 29th Indiana Cave Symposium, which was held this year on April 22nd. The Symposium was again co-hosted by the Indiana Karst Conservancy and Indiana Cave Survey, with each organization splitting the venue's rental and food expenses. The meal included burgers, brats, pork loins, and pork rib entrées, along with buns, condiments, coffee, and soft drinks. Approximately 90 attendees helped out by bringing side dishes, desserts, chips, and the like to complete the pitch-in meal for the first part of the event. The program portion of the Symposium began promptly at 6:30 PM. The following summarizes the presentations:

- **IKC Cave Patron/Property Manager Appreciation/Recognition** – Matt Selig. Matt recognized each of the Cave Patron and Property Managers who volunteer their time to arrange access to the caves we manage and perform stewardship on the seven preserves the IKC own. They were also presented with custom screen-printed IKC T-shirts.
- **Molecular Phylogenetics of an Indiana Cave Isopod** – Jerry Lewis. Jerry started out by condensing a semester-length course on DNA molecular genetics to ten minutes. He then used this knowledge in defining that there are six species of cave isopods found within the karst regions of Indiana. Finally, he announced that for the next three years he will be working on the book *The Subterranean Fauna of Indiana*, basically compiling his life's biological work in Indiana.
- **Dog Hill – Donnehue Cave Updates** – Dave Everton. Dave discussed some of the prior history of the cave with the last system map completed in 1979. He then covered some more recent discoveries and mapping projects initiated by himself, Carl Tuttle, Andrew Coyle, Dave Schaefer, Brad Barcom, and others. With 733 feet added, this increases the new length of the cave to 3.39 miles.
- **Classic Caves of Indiana** – Carroll Ritter. Carroll (see right) dug deep into his photo archives to share some of his favorite cave slides from fifty years ago. Some of the caves like No Sweat in Lawrence County are no longer accessible. Carroll also experimented with flash filters and other film-camera techniques “back in the day” which he shared with the audience.
- **Wayne-Studebaker Cave System** – Mike Drake and Kevin Romanak. Kevin started with a brief introduction and then turned the rest of the presentation over to Mike who narrated a perfectly-timed 124 slide history of Studebaker Pit Cave, which was significantly extended and finally connected to Wayne Cave on November 12, 2022. The Wayne Cave System is now 5.08 miles in length, moving it from 8th to 7th longest in the state (surpassing nearby Reeves Cave).
- **Winter Hibernacula Counts & Other Bat-y Things** – Darwin Brack and Brandon Yates. Due to a scheduling conflict, Brandon did the presentation solo, utilizing slides put together by Darwin. The first part of the program covered the traditional census data from the latest (January 2022) winter bat census. Due to significant gains at Wyandotte Cave and Jug Hole (that more than offset some significant decreases in Ray Cave and Coon Cave), the total Indiana bat winter population exceeded 219,000; the highest population number since 2013. The winter population of little brown bats also showed a slight uptick in 2022, although still less than 20% the population prior to white-nose syndrome. Brandon also discussed the recent “explosion” of wintering gray bats (mostly in Wyandotte) that have been observed and their expanded range further into Indiana. Finally, some of Darwin's speculations/predictions were shared as to what we might expect in the near future.

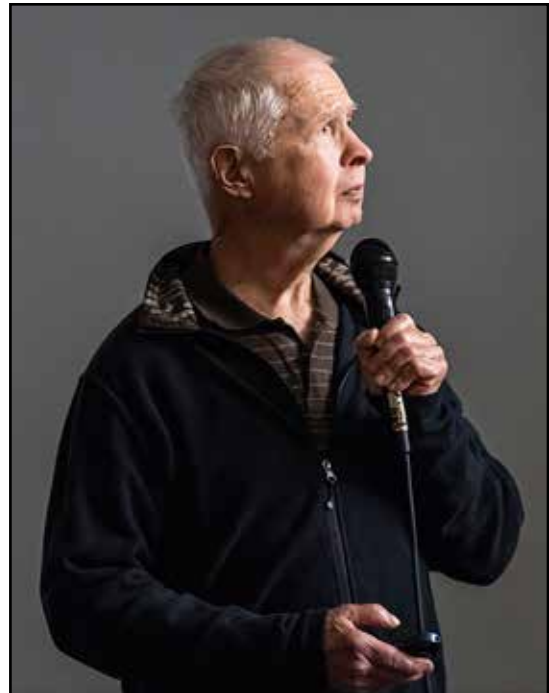


photo courtesy Dave Black



photos courtesy Keith Dunlap

- **The 2023 Binkley Cave Exploration Report** – Rand Heazlitt. Rand covered a number of new passages discovered and surveyed over the past year within Binkley Cave, as well as some nearby caves that are potential connections with Binkley. He also told of some radio location work that could lead to drilling a new entrance into the McLain River section. Nearly 2,700 feet were added to Binkley with the total length of 45.75 miles.

As was done last year, There was a pre-symposium karst field trip. This year Matt Selig was the subject expert who compared and contrasted the geology of the caves of the Mitchell Plain and the Crawford Uplands. The karst hydrology of the Lost River drainage basin was discussed, with a bonus overview of archeological research at Wesley Chapel Gulf.

A hearty thanks to everyone who made this year's Indiana Cave Symposium a success, including the Symposium presenters, the sponsors, the burger grillers, the food line organizers, the MC, the setup and cleanup crews, and all the attendees! The venue was well received and we likely will use this facility in the future.

REGISTRATION IS NOW OPEN!



Wilderness First Aid

July 29 – 30

Lawrence County Independent Schools

223 Old Farm Road, Bedford, IN



- The IKC is sponsoring this class, which allows us to give deep discounts to attendees.
- The course is two full days (16 hours) of classroom instruction with hands-on learning scenarios that range from crisis response, patient assessment, physical trauma, environmental issues, bleeding control, and how to handle medical emergencies.
- There is an optional CPR course available for those who take the WFA course, or you are welcome to take it separately if there are any openings available.
- Reservations are now open to IKC members at a **deeply discounted** rate (WFA \$100/CPR \$25), and after June 5, will then be offered to non-members (\$150/\$35). Typically the cost of the WFA course is \$200-\$250
- Primitive camping is available at our nearby Sullivan Cave Preserve.
- If you are not already and would like to become an IKC member to enjoy the deeply discounted rate (thanks to funding from the IKC) please go to ikc.caves.org/join-the-ikc
- For details and to register for the class – please go to IKCWildernessFirstAid2023.Eventbrite.com

CLASS SIZE IS LIMITED – REGISTER SOON!

EXCITING NEW GRANT AWARDED – WAYNE CAVE PRESERVE

by Carla Striegel-Winner

Through a new partnership with the Indiana Land Protection Alliance (ILPA) and the Indiana Academy of Science (IAS), the IKC received one of the two grants awarded in the first competitive round. The ILPA/IAS grants are to support taxonomic research and bioinventories to study important natural areas throughout the state.

For our grant, we contracted with botanist Nic Garza to complete a vascular plant inventory on three special areas of the Wayne Cave Preserve, plus additional inventorying in more typical upland forested areas. The three special areas include a spring-fed karst sinkhole pond, a very large/deep sinkhole that may have micro-climate variations yielding different flora, and a naturally open area which have some prairie/barren characteristics. Nic will visit each study site three times within the year for a full season inventory, and additionally will complete a floristic quality assessment for each area.

The mostly wooded 58-acre Wayne Cave Preserve, in the Garrison Chapel Karst Area of Monroe County, is long known for its karst topography, caves, and cave systems. The Preserve is not only significant for its karst resources with its troglomorphic fauna, but for the general high quality health of the forest and surface. Numerous sinkholes are scattered throughout the preserve. The IKC has expanded the original 20-acre preserve through two subsequent acquisitions of adjacent lands. Further, the 43-acre Buckner Cave Preserve owned by the National Speleological Society is nearby, and efforts are currently ongoing to connect the two preserves with a future acquisition, thus enlarging the contiguous protected land to over 120

acres within the Garrison Chapel Karst Area.

Our goal is to protect the surface and sub-surface of all of our preserves while keeping the properties open for responsible passive use. The Wayne Cave Preserve has had a karst-related inventory for fauna in our caves and sinkholes⁽¹⁾, but we have not had any formal inventory for the flora. The 2021 identification of a state-threatened species by Nic Garza on the property helped us realize that our surface assets may contain vascular plants that are of importance. This new inventory will help us determine if our current management practices are appropriate and will help guide us in future management goals. We are in the process of determining how to manage the open area, and this inventory will be directly used for decision-making in that area as well. We look forward to gaining new insight related to the inventory.

Nic lives close to the Wayne Cave Preserve, and it is also close to his heart. In addition to previously discovering the state-threatened plant on the preserve, he has also hosted a wildflower walk on the property. Nic came highly recommended to perform the flora study. We are excited to watch his progress this summer and fall, and look forward to receiving the final report and plant inventory by the end of year. In addition to sharing results in the *IKC Update*, on our Facebook page, and on our website, Nic will be invited to host a field hike in 2024 covering his finds on the preserve.

Dr Marc Milne (our own past Board Secretary and currently the President of IAS), spearheaded the creation of these grants with the help of Andrea Huntington, Executive Director of ILPA, thus uniting Indiana's science community with

Indiana's conservation community. Marc said, "These grants were designed to help land trusts and other land conservation organizations throughout Indiana conduct the bioinventory work that is so desperately needed on their preserves in order to better understand what

►►



photo courtesy Keith Dunlap

Sinkhole pond at the Wayne Cave Preserve with unique flora to be identified as part of the ILPA/IAS funded grant.

exists on their properties. Having this knowledge will help these organizations better manage their properties for the benefit of those organisms and the public visiting those properties. We're thrilled to be able to partner with ILPA to aid these organizations in protecting essential biodiversity within Indiana."

We are very appreciative to ILPA and IAS for this grant opportunity. Anyone having questions or

wanting to know more about this project can reach out to our Wayne Cave Preserve Property Manager, Danyele Green (mudandogs@gmail.com). For info on the ILPA/IAS partnership itself, go to www.protectindianaland.org/ias-partnership.

¹*The Cave Fauna of the Garrison Chapel Karst Area: Part I, Wayne Cave* (ikc.caves.org/sites/default/files/uploads/wayne_fauna.pdf)

A RARE FIND ON HOOSIER LIMESTONE – CAVERS CAN HELP! *Allegheny Stonecrop* *Hylotelephium telephioides*

article and photo by Carla Striegel-Winner

Allegheny stonecrop is called that for a reason – it is almost totally located in Appalachia with a couple of isolated pockets to the west – including six counties in Indiana. The common name “stonecrop” refers to its preference for growing on rocky or stony ledges. Another common name in some areas is “live-forever”, which may refer to its propensity to live on in these seemingly uninhabitable places. It appears to prefer clinging to the top edges of limestone cliffs in our state, and is only known in a few locations. One of those is owned by the IKC.

This beautiful clumping plant was found along part of our Robinson Ladder Cave Preserve 30 years ago (before our ownership) and reported to the Indiana Natural Heritage Database. On a recent botany hike with the IDNR Community Ecologist, Wyatt Williams, we confirmed it was still alive and well, in a virtually inaccessible spot along limestone outcrops. We were also pleased to be able to document a few additional clumps in the area! It is listed as state-threatened in Indiana and is in need of protection. Although there are less than 20 known locations, some of those were noted from collections that Charles Deam and early botanists made that have not been relocated. As cavers are hiking, exploring, doing ridgewalks, or heading to caves, we can be on the lookout for this plant.

What to look for: This plant is a succulent,

so has thick, fleshy leaves. It looks similar to a common garden sedum, but is smaller, and with toothed leaves. The stems of the ones at Robinson Ladder Preserve were about 12 inches tall. It grows in a clump, usually on limestone cliffs, often near the edge, and blooms in September. If you think you may have found it, take a good photo or two, mark the coordinates, and contact Wyatt at wwilliams@dnr.in.gov.

What's in a name? Latin, or scientific, names can be interesting to pull apart and translate.



State-threatened Allegheny stonecrop rests on the edge of a cliff at the Robinson Ladder Cave Preserve.

This one is especially fun. *Hylo* is a Greek word for “wooded” and “telephium” may refer to Telephus, the son of Hercules, who lived on and on even though abandoned as a child and physically wounded over and over.... He sort of “lived forever”. “-oides” means “like” or “similar” and this plant was once *Sedum telephioides*. There is another succulent plant named

Hylotelephium telephium, so one may assume that “telephioides” refers to it being “like” the telephium. So using the scientific name to make a common name we would have “Wooded Son of Hercules, Similar to another Son of Hercules”?!!?

Thank you to Wyatt Williams for providing some of these details and reviewing my stab at Latin. Or was it Greek? It's all Greek to me! In our September issue of the *IKC Update*, we will describe another rare plant cavers can be on the lookout for!

GET TO KNOW YOUR INVASIVES: TEST YOUR KNOWLEDGE

by Danyele Green

For the past two years, we have featured eight *Get to Know Your Invasives* articles in the *IKC Update*. Test your memory and match the photos with the invasive plants named below (*there is a trick in here!!!*).

- ___ Tree of Heaven
- ___ Callery/Bradford Pear
- ___ Garlic Mustard
- ___ Multi-flora Rose
- ___ Japanese Stiltgrass
- ___ Burning Bush
- ___ Periwinkle
- ___ Autumn Olive

(see answers on page 33)



Photo credits: Danyele Green and [MC-IRIS.org](https://www.mc-iris.org/)

LOWRY CAVE PRESERVE FIELD TRIP

by Carroll Ritter

April 29th was a perfect spring day and the beautiful entrance greeted thirteen attendees eager to see the cave and surrounding historic landscape. But first, we caravanned to the nearby Stream Cliff Farm for a discussion by John Benton on the history of the Commiskey area and the plunderous roamings of Morgan's Raiders in 1863. That was followed by a stop at the nearby historic Hall-Corya Cemetery, resting place for many original area families.

Lowry Cave is one of many in Jennings County, some of which are mentioned in several archived records. Probably known and used back into the late 1700s. The 1884 Atlas of Jennings County documents the Old Settlers Road passing right down the lane the IKC now uses to access the Lowry Preserve. The IKC purchased the property in 2019 from the Wilkerson family who had owned the property for over 100 years, and were related to the Lowry family before that.

We were able to walk through history and take a well-manicured trail down to a most impressive entrance. The stream flowing gracefully out of the cave entrance drops over verdant cascades and a waterfall before reaching Big Graham Creek. The large pas-

sage enables easy exploration for a distance and with a flashlight or headlamp, interesting geology can be seen. Most likely occurring within the Upper Jeffersonville stratigraphic unit, the almost 2,000 feet of passage entertains views of flowstone and other formations in side passages. Cave biota have also been documented here and include cave beetles (one of which was a new species), amphipods, isopods, salamanders, and an Indiana bat on one visit. On the day we visited, there was a transitional Big Brown bat who had been spotted in the same location in late-April for the past five years.

The IKC property does feature some other potentially interesting and explorable karst features, such as Wilkerson Cave, a small, but enterable opening which has yet to be fully explored.

Following the cave tour, ten folks stayed, and after a delicious lunch, agreed to help pull some of that horrible garlic mustard which curses almost everywhere. While not covering all 6.66 acres, a great effort removed some seven large bags and at least made a dent in the population. It's a never-ending task for most preserves these days.

Overall, a great trip with fun people to a fine cave and preserve.



photo courtesy Carroll Ritter



photo courtesy Jonathan Annonson

Upper left: Gathering at the drip line of Lowry Cave to discuss its history. **Lower left:** A successful stewardship garlic mustard pull. **Right:** Peering down into the entrance of Wilkerson Cave.



photo courtesy Carroll Ritter

BIRD POPULATION OBSERVATIONS AT THE WAYNE PRESERVE

by Richard and Sue Vernier

Since 2019 the IKC has utilized the Environmental Quality Incentives Program (EQIP) grants available from the US Department of Agriculture's Natural Resources Conservation Service (NRCS) to improve the surface conditions of the Wayne Cave Preserve. These improvements also benefit the underlying caves and karst by improving the watershed, reducing soil erosion, and controlling nutrients and other materials that find their way into the groundwater.

For purposes of the grants, the 57.59-acre Wayne property was been segmented into three roughly equal tracts: Tract 1 in the north includes the parking area and the Wayne Cave entrance; Tract 2 in the middle includes mature upland forest, Tiparillo Hole, and reaches to the sinkhole pond; and Tract 3 is the south end of the property and includes some brushy open area and regenerating forest.

Prior to the March 25, 2023 Annual Business meeting, preserve manager Danyele Green contacted us regarding a component of this EQIP grant, specifically habitat monitoring for "Upland Wildlife Habitat Management" as outlined in the NRCS Conservation Practice Standard Upland Wildlife Habitat Management Code 645 and called out in the grant contract. Per Danyele, the plan for the central part, Tract 2, of the Wayne Cave Preserve called for the monitoring of bird species utilizing the tract. Bird populations are generally considered a good indicator of the overall health and biodiversity of an area (one might say they are the canary in the coal mine). It has long been known that native birds thrive when habitat consists of a diversity of native plants as opposed to monocultures of invasive imports. Much of the EQIP plan calls for the removal of non-native and invasive plants like Bush Honeysuckle, Autumn Olive, Multiflora Rose, Japanese Stiltgrass, Garlic Mustard, and on and on. Many volunteer workdays have been expended on this task.

Danyele had begun the process by conducting a survey on February 26 of this year using the Merlin bird song identification smartphone "app"

created by the Cornell Lab of Ornithology for beginning and intermediate birders. At that time, she identified seven species: Hairy Woodpecker, Mourning Dove, Red-bellied Woodpecker, Carolina Chickadee, Northern Cardinal, White-breasted Nuthatch, and Red-headed Woodpecker. All of these are expected to be found in habitat like the Wayne Cave Preserve in winter.

We conducted the spring Wayne Cave Preserve bird count of Tract 2 (22.6 acres) on May 10, 2023, using the loop trail to cover the area. We did venture into Tract 3 at the southern end, but only three species noted; the Prairie Warbler, the Indigo Bunting, and the Eastern Towhee, which would be less likely to be found in Tract 2 due to their preference

for more open areas like the regenerating forests found at the southeast end of Tract 3.

We counted from 9:50 AM to a bit after 11:30 AM (EDT). Conditions were: sunny, temperatures in the upper 60s (F), and no wind. We observed 25 species. Most of the species were identified by ear with a few confirmation sightings and photos. The

Merlin app was used as an aid and worked quite well at identifying the common species by their song, but did also identify a few species that we could not confirm and were unlikely to be present. Nonetheless, the app has improved over the years and was able to "hear" songs that we couldn't until we searched the birds out – such as the Louisiana Waterthrush. To be conservative, we only counted species we could confirm by our own observations. We have included approximate individual numbers as well as species in the following list:

- 1 Red-shouldered Hawk (flying)
- 5 Red-bellied Woodpecker
- 2 Pileated Woodpecker
- 5 Eastern Wood-Pewee
- 5 Acadian Flycatcher
- 5 Red-eyed Vireo
- 1 Philadelphia Vireo
- 3 Blue Jay
- 6 American Crow (flying)



The Swainson's Thrush.

Photo by Richard Vernier

- 1 Carolina Chickadee
- 5 Tufted Titmouse
- 1 White-breasted Nuthatch
- 3 Swainson's Thrush
- 3 Wood Thrush
- 4 Tennessee Warbler
- 1 Black-throated Green Warbler
- 1 Prairie Warbler (near the south end of the property)
- 1 Louisiana Waterthrush (near the sinkhole pond)
- 2 Kentucky Warbler
- 2 Hooded Warbler
- 1 Scarlet Tanager
- 1 Eastern Towhee (near the south end of the property)
- 2 Northern Cardinal
- 1 Indigo Bunting (near the south end of the property)
- 2 Baltimore Oriole
- 2 Unidentified Warbler Species - Due to the similar song of the Magnolia Warbler and the American Redstart, we needed to see the birds for verification; however, no luck in the leaf cover. The Merlin app also seemed unable to accurately distinguish the species as it listed both at the same time.

Most of the birds observed are what are known as neotropical migrants, songbirds of the Western Hemisphere that migrate from wintering locations as far away as South America to breeding locations as far north as northern Alaska. These birds include the warblers, vireos, tanagers, orioles, thrushes, buntings, and flycatchers. Many of the birds observed could breed on the Wayne Cave Preserve.

A more complete count could probably have been done if we had been out there just after sunrise for the dawn chorus. We plan to come back sometime in the early Summer to check on resident birds. The numbers will be lower of course because there will be less singing and because some of the nonresident neotropical species will have moved on.

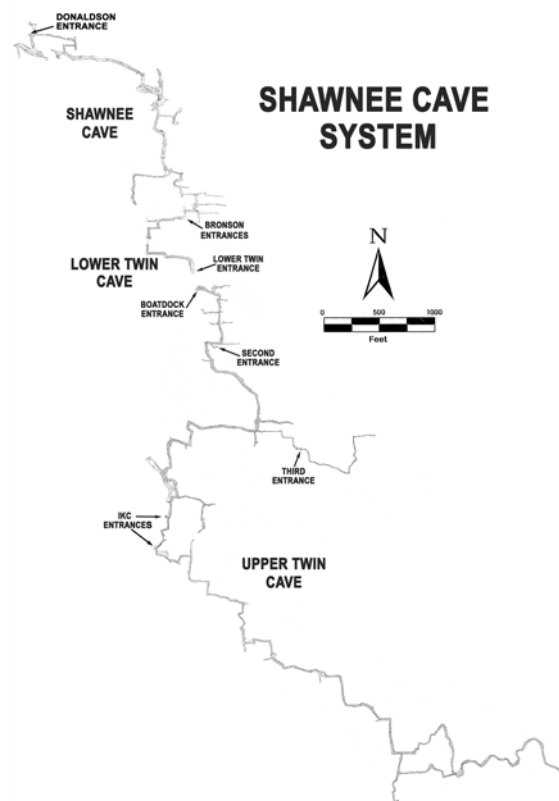
We had great fun and it was a perfect day to get outside and have a walkabout and picnic lunch on an IKC preserve.

IKC FIELD HIKE AND TOUR: A DEEP DIVE INTO THE SHAWNEE CAVE SYSTEM – JULY 8th, 10 AM

Join us on this surface hike for an in-depth look at the important Shawnee Cave System (Upper Twin, Lower Twin, and Donaldson/Bronson caves) in Lawrence County. The tour will start at our Shawnee Karst Preserve with Property Manager Keith Dunlap leading us to the two entrances on our preserve. We will then continue our surface hike to several more entrances, approximately following the cave passage as it meanders to Spring Mill State Park. Along the way, IKC Board member Tom Sollman will share his extensive knowledge and history of the cave system from 1860 to present. Tom will also tell us about his long-term study of the elusive Hoosier cavefish in the Shawnee Cave System. We may even get our feet wet to view some of the cave fauna that call Shawnee home. And if there is interest and availability, we may optionally incorporate the DNR's Upper Twin boat tour at the end of our hike (tickets are \$3).

This hike is by registration-only and limited to 20 participants. Registration begins on June 9, but you may go to [ikcFieldTourJuly2023.eventbrite.com](https://www.eventbrite.com/e/ikc-field-tour-july-2023) now for details and to sign up to have a reminder sent to you before that date. This field tour is not to be missed! You will not be disappointed!

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



INDIANA CAVES AND TAXONOMY OF BATS IN THE GENUS MYOTIS

by Darwin C Brack and Virgil Brack, Jr¹

Environmental Solutions & Innovations, Inc., 4525 Este Avenue, Cincinnati, OH 45232 USA

Six species of bats in the genus *Myotis* are found in the eastern United States (US) (Whitaker & Hamilton 1998): little brown (*M. lucifugus*), Indiana (*M. sodalis*), northern long-eared (*M. septentrionalis*), southeastern (*M. austroriparius*), eastern small footed (*M. leibii*), and gray (*M. grisescens*) bats. All are known from Indiana (Mumford and Whitaker 1982) and use caves during their life cycle. The gray bat uses caves year-round, whereas other species use them predominantly during winter hibernation, and in spring and autumn. With an estimated 45,000 caves in the contiguous US, and 3,500 caves in Indiana, Indiana's caves have contributed disproportionately to understanding and naming (taxonomy) these species. Especially important were Wyandotte Cave in Crawford County, because of its size and notoriety even during European settlement, and caves in what is now Spring Mill State Park (SMSP) in Lawrence County, which was part of Indiana University's (IU) Cave Farm.

Until about 95 years ago, the taxonomy of this genus was hopelessly confused. The most widely distributed species, and the first named, was the little brown bat. All species of *Myotis* in Indiana have, at one time or another, been grouped with this species. This began to change when Walter L Hahn, Speleological Fellow at IU, was studying bats in SMSP from September 20, 1906 to September 7, 1907 (Hahn 1908). He collected and preserved many specimens, often individuals that appeared different. He sent one specimen to Arthur H Howell who initially told Hahn it was *M. velifer* (then large winged bat, now cave bat), but a year later Howell (1909) noted this specimen and included it in his description of the gray bat, along with specimens from Nickajack Cave in Tennessee that were

collected on August 31, 1908. This was the only known occurrence of the gray bat in Indiana for 50 years. Recently, we documented that this bat was most likely a southeastern bat (Brack et al 2022). Hahn collected 13 bats from SMSP later identified as southeastern bats and importantly, the southeastern bat was not described as a species for another 19 years. Still today, identification of gray and southeastern bats is confusing. Interestingly, the gray bat in Indiana is currently increasing whereas the southeastern bat has been extirpated from the state.

Hahn collected four additional specimens at SMSP at the same time he collected the specimen he sent to Howell. These specimens were used by Miller and Allen (1928) in their seminal work on the taxonomy of the genus *Myotis* to describe the southeastern bat. However, as their manuscript was going to press, they received additional specimens from Florida, spurring reexamination of bats collected by

Rhoads (1897), which until that time were considered a subspecies (race) of the little brown bat (*M. l. austroriparius*). Because Rhoads' collection predated Hahn's specimens, Florida rightfully usurped the honor of the type locality. This did not end Indiana's contribution to taxonomy of this species. For a time, southeastern bats from Indiana were considered a distinct subspecies (*M. a. mumfordii*) based on pelage (fur) color, and named after Russel E Mumford, a professor at Purdue University. However, this nomenclature was dropped when it was shown the color was related to environmental factors, not genetics. Still, this is not the end of Indiana's contribution to the taxonomic story of this species. Last year Jenkins and Sealy (2022) confirmed the earliest known specimen (collected in 1831 or 1832),



¹Corresponding author: Virgil Brack, Jr, 513-235-1076 (phone), vbrack@envsi.com.



which was long thought to be from Canada (i.e., was extralimital and so ignored), was collected in Indiana/Kentucky (near Louisville; May 1831), or possibly near St Louis or in Louisiana.

Indiana fared better with the Indiana bat. It was described as a species in 1928 by Miller and Allen and is so-named because the type locality is Wyandotte Cave. Before then it was typically misidentified as a little brown bat. Although found in few caves, it is often the most numerous species in caves where it hibernates, such as Wyandotte Cave.

Hahn also identified the Say bat (*M. subulatus*) in caves on SMSP. Since then, *M. subulatus* became two species: *M. leibii*, eastern small-footed, and *M. keenii*, Keen's bats. Only a few eastern small-footed bats have been found in Indiana, and only in recent years, so Indiana did not contribute to description of this species. As an oddity, the site locality for *M. leibii* is a location in Ohio that does not exist, in a region where the species is absent or at best extremely rare! Keen's bat had two subspecies: *M. k. keenii* and *M. k. septentrionalis*. Three specimens from Mitchell (SMSP) and one from Terre Haute contributed to describing *M. k. septentrionalis*. In 1979 subspecies were elevated to species status, with *M. septentrionalis* in eastern North America. It was first called northern and now northern long-eared bat. In Indiana, as elsewhere, populations have been dramatically impacted by white-nose syndrome (WNS). Before WNS, this was a common woodland bat during summer, but rarely found in caves during winter.

The first and final myotis in Indiana is the little brown bat. In 1928, Miller and Allen stated that "throughout eastern North America this is by far the commonest species of *Myotis* . . . [with] a broader area of dispersal than any other member of its genus in the Western Hemisphere . . . with remarkably little variation in size and proportions." Although early specimens from New England (sent to European collections) were named *Vespertilio gryphus*, Miller and Allen described five subspecies of *M. lucifugus*. Description of the species (subspecies *M. l. lucifugus*) included 22 specimens from Indiana: 2 from Bloomington, 3 from Coon Cave, 11 from Mitchell, 3 from Indianapolis, and 3 from Wheatland. Despite its prominence during the heyday of myotis taxonomy, WNS has dramatically reduced populations in the eastern and midwestern US.

The history of bats in caves in Indiana is old; the Indiana Karst Conservancy's (IKC) history is young. Nevertheless, the IKC has contributed disproportionately to cave conservation in Indiana, just as Indiana's caves contributed disproportionately to myotis bat taxonomy. Without doubt, IKC's activities will positively impact the future of bat biology, and perhaps changes in bat taxonomy.

ACKNOWLEDGMENTS

We thank Keith Dunlap, Tom Sollman, John Benton, Steve Collins, and others, many from the IKC, for their contribution to our understanding of bats in Indiana's caves.

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ANNUAL PROPERTY MANAGER/CAVE PATRON REPORTS

Each year at the Annual Business meeting, the IKC Property Managers and Cave Patrons are asked to present a verbal summary and submit a written report describing the prior calendar year's activities and incidents, and to make any future goals and recommendations needing implemented. The following is a compilation of their 2022 reports:

Buddha Property Report (Keith Dunlap)

This was the IKC's 21st year of ownership of the Buddha Karst Nature Preserve and we continue our long-term stewardship projects, but otherwise we are in "maintenance mode".

The parking area and perimeter trail were mowed three times (early June, early August, and late October). Some trimming along the trails was done.

The kiosk was painted in May by volunteers Jeff Cody, Bambi Dunlap, and Mel Litson.

Some invasive brush treatments (3 tanks) were undertaken in August and stiltgrass treatments in early September.

The area where we culled the over-crowded oaks in 2019 looked really good. There are some other areas that need selective thinning as the trees become larger.

The planted trees everywhere on the property are really filling in.

There was a very large Chinkapin oak on the north side of the property that fell across the perimeter trail in 2021 and will eventually need to be removed from the trail, although currently hikers can pass under the tree trunk.

A quarterly IKC preserve tour was conducted at the property on June 11th with approximately two dozen attendees.

There were no major management problems or concerns encountered during 2022.

2023 activities I hope to accomplish:

- Continue mowing the trails.
- Continue working on the grapevines (last area near the Buddha Cave entrance).
- Continue bushy invasive treatments as necessary.
- Continue addressing the stiltgrass on the trails (herbicide treatment).

- Remove the fallen oak off the trail (once it blocks the trail).
- Plan for the removal of the dead Ash tree by the parking lot gate.

Buddha Cave Patron Report (Jeff Cody)

This past year, Buddha Cave had a total of nine trips that I was made aware of. These trips totaled 49 people inside the cave who filled out waivers. All except one trip was arranged through me. The other trip by Dave Everton (BIG liaison). This was an increase of five more trips than we had in 2021. We did have a few highlights. One was in June where we had the Buddha Karst Preserve Tour organized by Carla Striegel-Winner and led by Keith Dunlap and Wyatt Williams (DNR Div of NP). This is part of a new IKC initiative of leading nature hike/tours of our various properties. This had a good showing of 13 participants (see page 11 of *IKC Update* #146). The tour included the entrance room of the cave. Also in early August we had three trips to the cave associated with Indiana Cave Capers that was held at nearby Camp Rivervale. Late August we had Brent Drinkut from DNR on the property to take photos for an upcoming issue of *Outdoor Indiana* magazine. I stopped by the property on my way down to Cave Capers on August 5th. Also on Mother's Day, myself, Mel Litson, and Bambi Dunlap made the trip down to repaint the kiosk. The cave is in good shape except the usual flood debris. None of the trips reported any issues. The bolts installed at the main drop a few years ago remain in good shape. I feel with the collapse of the wall climb-up around eight years ago, it will help preserve the lower level formation areas. This creates an obstacle of having to bring a ladder to access the cave past the entrance room. I do get a few requests still from those who are not aware of the need for a ladder. I have to report all is well at Buddha. Nice to not see or hear of any issues.

Buddha Trips 2022:

May 21 – Laura Demarest with group of 6.

May 29 – Laura Demarest with group of 6.

June 11 – Carla Striegel-Winner with group of 13 IKC Buddha Preserve tour.

Aug 5 – Mike Lorance with group 6 (during Cave Capers).



Aug 6 – Greg Valent, just went to photo entrance.

Aug 7 – Bill Baus, with group of 7 (Cave Capers).

Aug 24 – Brent Drinkut, solo trip to entrance for DNR photos.

Oct 1– Dave Everton with group of 5.

Dec 18 – Jasper Beavers with group of 5.

Lowry Property Report (interim Keith Dunlap)

Unfortunately 2022 was a year of transition with the unexpected passing of Property Manager and Cave Patron Ray Sheldon on July 30. Prior to that time, Ray (and often with his wife Beth) made numerous trips to the preserve to check on the property and mow or trim limbs. I don't have the specific records of those various trips even though I'm sure Ray made meticulous notes on what he did. I do know that he and I spend several hours on April 30 pulling four bags of garlic mustard. Ray's next activity was to plan, price, and order crushed-stone to harden the old lane to the east end of the property in his quest to develop a primitive camping area. On July 15, Ray supervised the spreading of a tri-axle load of stone at the property, his last visit to the property. In mid-August, I made a trip to the property to spray six tanks of herbicide (Crossbow) on invasives (mostly bush honeysuckle) covering almost all of the area south of the interior lane and a little bit down near the cave entrance. On September 8, I sprayed multiple tanks of Clethodim on Stiltgrass in the southwest quadrant of the property.

For 2023, we will have a new Property Manager who may pursue Ray's vision of developing the primitive camping area that will provide IKC members and cavers a nice private spot to recreate while visiting the southeastern karst region of Indiana.

Lowry Cave Patron Report (interim Carla Striegel-Winner)

Cave visits summary: Five authorized trips into Lowry Cave with 24 cavers beyond the entrance room. Two waivers were filled out for the entrance room only, making a total of 26 liability waivers collected in 2022. Leading trips were Chris Bell (8), Danyele Green (6), Jonathon Sears (4), Carla Striegel-Winner (7). An entrance-only trip was arranged for Brent Drinkut (1) of the IDNR for the purpose of photography. A couple of groups filled out waivers for Wilkerson Cave, but did not enter. Ray mentioned several times he really wanted

to see this little cave surveyed; that would still be welcomed.

Orangeville Rise Report (Carla Striegel-Winner)

As year four of being the Property Manager for the Orangeville Rise Nature Preserve ends, I'm relaxing a bit too much on recording my visits and work on my beautiful spreadsheet. I wonder about this, and a better way to do it that does not include searching my archived emails for references to Orangeville Rise and mining our Facebook Page and my saved photos. I think I need a paper spreadsheet I can take with me to the property and record those visits – now that I will have a new workday bin with a clipboard, perhaps I will do that.

So, it was a busy year. I typically am able to visit the preserve monthly, and that rang true again this year. Goodness gracious, I spent a lot of time on the Mid-States Corridor Project. That really took up my early winter in to spring, and it was not until mid-April that it was announced that Route O (which went right by the Rise) would not be the "preferred" route. Even after that, I worked on it, afraid they would change their minds. I did appreciate getting to know a few more of our Orangeville neighbors during that process, and some of that work has overlapped into my Indiana Cave Survey work.

I helped organize the first of our IKC quarterly field days on April 23 – one stop being Orangeville Rise – as a Pre-Symposium Tour. We had a full group of 23 to come hear and see Sarah Burgess and Sam Frushour talk about the hydrology of the Lost River area.

May 1st was a successful workday at the Rise with six volunteers covering all three acres to remove 100 pounds of invasive garlic mustard and pulling about 30 invasive poison hemlock plants.

I was able to get the IKC's website OVR page text updated, which was a goal for 2022.

I worked with Indiana Land Protection Alliance (ILPA) to have Orangeville Rise Nature Preserve as one of our two IKC preserves listed in the new ILPA Nature Preserves map and guide (available as a foldout hard copy or here www.protectindianaland.org/visit-a-preserve)

I continue to correspond with local folks and also with agencies such as the Indiana Division of Nature Preserves, Hoosier National Forest, and the Lost River Watershed Coordinator.



Invasives management continues, with some spring pulls and digs of garlic mustard and poison hemlock as well as summer, fall, and winter management of air potato, multiflora rose, stiltgrass, and winter creeper. I know I speak for all Property Managers in thanking Keith for his willingness to help with invasives control, and really being there to bounce ideas off of for property management in general.

I find small amounts of litter (a pound or less) each time I come to do a general property inspection and weed-eat around the sign and the pull off. During the very dry summer and fall, I was able to see some items that had been dumped into the Rise pool – a couple of small appliances – and knew I would need to be on rope to retrieve them. One afternoon when I stopped by, lo and behold, the muddy appliances were stacked nicely by the guardrail! One of the items – not even sure what it was – was so heavy I could not lift it by myself and had to leave it there until I had a second set of hands to help. This little appliance stack that brought me so much joy was found soon after Cave Capers, so I wondered if perhaps some cavers had come by and removed these items? Sure wish I knew who to thank!

We finished year one of ten on the Indiana Geological and Water Survey (IGWS) having a permit to collect a sample from Orangeville Rise once during dry season. I began work in December on getting that IKC research permit renewed for 2023. Tracy Branam of the IGWS sent us a report on the 2022 data. Tracy is excited that this data and that from other Indiana springs is in the new IGWS springs database, which appears to now be, after many delays, live! (go here: igws.indiana.edu/springs and click on “View dashboard.”)

I believe my goals for 2023 – in addition to that paper spreadsheet to record my tasks – will be to just keep on keepin’ on. Life is good here at the Orangeville Rise, with no four lane highways coming through right now, so I hope to keep it that way.

Robinson Ladder Property (John Benton)

February 18, 2022: Biennial bat census – two Environmental Services & Innovations (ESI) biologists along with caver and IKC member Keith Dunlap visited the cave. Most of the horizontal passages were surveyed. Keith reported that a few dozen bats were observed, overall. A follow-up email from Tim Shier, non-game mammalogist

with IDNR, in March 2023, gave a final report on 2022 ESI bat census. There were 18 Indiana bats (*Myotis sodalis*), 5 little brown bats, 13 tri-colored (Pipistrelles), and 1 big brown bat seen on the census. The Indiana bats were seen deeper into the cave than before the impacts of WNS, beyond the typical End of Survey point (dome entrance area). This would suggest that a remnant population of Indiana bats were likely present during recent surveys, even those that yielded a count of 0.

May 28, 2022: Jamie Winner and Carla Striegel-Winner mowed the drive lanes and camping areas (with their tractor and equipment) in prep for the upcoming June IKC Board meeting to be held at RLCP.

June 4, 2022: In the morning, Keith Dunlap and Bambi Dunlap mowed between the rows of the chestnut trees and other trees inside the fence enclosure. This was done as usual with Keith’s walk-behind mower.

June 4, 2022: Mid-morning, IKC personnel led walking surface tour of property, highlighting history (buffalo traces were discussed, along with attempted murders and neighbors now in prison, and more!), cave management, invasive species control, and chestnut tree plantings. IKC folks leading were Carla Striegel-Winner, Keith Dunlap, and John Benton. Lunch was provided for all.

June 4, 2002: 14 Board Members were present (including proxies) and at least one IKC non-board member attended the meeting held in the cool shade of the barn at RLCP. After the meeting, some went caving in Robinson Ladder Cave and/or Breakdown Falls Cave on the property. Some also camped on the property.

June 5, 2022: Keith Dunlap related that he noticed when previously mowing among the chestnut tree plantings, that several of the chestnuts (none of other species seem to be affected) had root issues and looked to be dying. Not all chestnuts seemed to have the problem, but some were the larger trees. Glenn Kotnik of The American Chestnut Foundation was notified and he was to come take a look in next couple of weeks. It is thought that some type of vole may be causing the damage.

September 3, 2022: Jamie Winner mowed the drive lanes and camping areas with his tractor and mower. Carla S-W treated some Tree of Heaven trees and seedlings on the property. This invasive species is an ongoing problem we have at RLCP.



November 5, 2022: IKC tour/hike, and workday at RLCP. Surface hike led by IKC members Carla Striegel-Winner, John Benton, and Keith Dunlap featured some local history on Clarks Ford Road, the Buffalo Trace, invasives, and our chestnut tree planting as well as our karst features. There were 13 people in all, and all stayed for lunch and to cut/clear limbs off of low hanging trees from the entry drive. The work went quickly and efficiently!

Future – Keep an eye on our wildlife pond for retention of water. It seems to be doing well, decent rains have kept a pool in it for wildlife. Continue to mow the drive and camping areas as needed. Two to three times a year seems to work well. Ongoing treatment of invasives as needed, mainly Tree of Heaven. Most of the larger trees seemed to have been basal treated, but seedlings keep popping up. Limb removal on the access lane seems adequate for now.

Thanks to all volunteers, especially Jamie and Carla, Keith, and Bambi, for using their equipment at RLCP. It is appreciated!

RL Cave Patron Report (John Benton)

Scheduled hikes have led to more visibility and awareness of this IKC property.

In conjunction with the June 2022 IKC Board Meeting, there were at least 12 cavers who visited RLC, and several of those also went into Break-down Falls Cave.

In February 2022, three cavers conducted the bat census.

There were no other requests for cave permits in 2022 that I am aware.

Robinson Ladder Cave is closed for visitation, due to hibernating bats from September 1 to April 30, each year.

Shawnee Property Report (Keith Dunlap)

This was the IKC's 11th full year of ownership of the original 50-acre tract and the second full year of owning the expanded (17 acre) property.

All of the trails were mowed once in late September and some of the trails in the more sunny areas were mowed earlier in the summer. There was one short trail added to the trail system that created a shortcut from the IKC entrance of Upper Twin Cave to the parking area near the garage on the 3918 driveway/parking area.

The original open prairie field was mowed in early March in lieu of prescribed burning. This mowing seemed to be effective in discouraging many tulip poplar and other saplings trying to take over, and in stimulating the native grasses. Mowing this field biennially may keep the field open to add biological diversity to the property.

In April, about 100 red oaks and two dozen American plum seedlings were planted in the area near the garage and on the small tract north of SR 60. In June a dozen hybrid chestnut trees were obtained from The American Chestnut Foundation and planted near the garage with wire cages installed around them to prevent deer browsing.

There were a couple of requests that were granted for permission to camp at Shawnee during this report year.

The property hosted the "Big Day" bird count in October in cooperation with the Indiana Land Protection Alliance and the Indiana Audubon Society. There were approximately two dozen participants.

There was some minor invasive treatment (two backpack tanks) completed near the prairie opening.

No progress on the kiosk was made during 2022.

The IKC entrance to Upper Twin continues to enlarge with each rain. The ravine feeding the entrance swallowhole continues to erode and need some stabilization attention.

In September, another entrance to Upper Twin Cave was discovered by Tom Sollman. It obviously opened naturally on its own after several heavy rains last summer. This new fifth entrance is about 300 feet upstream (south) from the IKC entrance.

There were no known management problems or concerns encountered during 2022.

2023 activities hoped to accomplished:

- Complete the kiosk.
- Remove the downed Black Cherry tree from across the western loop trail.
- Mow the prairie area on the 17-acre tract in February or March in lieu of burning.
- Plant additional trees on the 17-acre tract near the garage in April.

- Install a driveway gate on the 17-acre tract.
- Clean out the garage and replace door frame for better security. Wire the garage so a generator can be used to power the existing lights.

Upper Twin Cave Patron Report (Dave Everton)

Per IKC policy, all trips to this cave are Patron-Arranged. There were six trips in 2022 (one more than last year) with a grand total of 31 cavers, with one caver (the Patron) going more than once.

Of note this year, during a trip the Patron participated in going upstream of the IKC entrance with Mr. Cavefish & Crayfish Tom “the Man” Sollman, it was discovered that a new entrance has opened. It appears to have happened earlier in the year due to a tree having fallen in vertically which still had green leaves on it. A fixed ladder was used for entry; it is not advisable to try and enter and exit without a ladder or vertical gear, although everything in the entrance area appears to be stable. The new entrance is on the Shawnee Karst Preserve and facilitates easy access to the upstream parts of the cave. Unless one just prefers more of a workout to go downstream, it is not suggested as a good entrance to use when going in that direction.

As always, thanks to the IKC for its continued support and preservation of and access to Upper Twin Cave!

Sullivan Property Report (Joe Kinder)

January 8th, 2022: The large uprooted red oak tree was cut up and prepared for milling. Many thanks to Anmar Mirza and Jess Deli who volunteered to bring their portable wood mill to the property where they milled several posts that will later be used for an informational kiosk. Several IKC volunteers were on-site and provided assistance hauling the milled posts down to the woodshed for storage.

February 22: Keith Dunlap donated two (2) push mowers to the Sullivan Cave Preserve for upcoming 2022 mowing.

March 26: Keith Dunlap provided the IKC Board members with a final draft of the Sullivan Cave Preserve Management Plan via email.

March 27: Keith Dunlap and I installed classified forest signs along the perimeter of the property.

April 16: A section of what was left over from the large uprooted red oak tree was picked up and hauled away by Anmar Mirza. He later went

back and removed additional sections on May 5th. Photos were provided.

April 29: IKC Board member Goni Iskali was gifted a “rocket-box style” bat house that she donated to the Sullivan Cave Preserve. She and two other volunteers completed the installation near the camping area at the edge of the woods.

May 7: Keith Dunlap, Carla Striegel-Winner, and I prepared for and planned a very successful workday with over 15 volunteers planting 300+ trees on the new 2-acre expansion property. This included 250 hardwoods (red oak, white oak, black cherry) and 70 American plums that Keith ordered and provided. Following the workday there was a pitch in lunch. After lunch, Joe Kinder and Keith Dunlap installed a new hand sanitizer dispenser within the port-a-john.

May 11: Circle H Portable Outhouse Rental mentioned they recently serviced the port-a-john however a few members mentioned that it had not been serviced. I decided to go in a different direction and requested they no longer service the unit moving forward.

July 4: I mowed and trimmed the “camping” area, along the driveway and up by the highway.

August 8: I informed Keith Dunlap and Paul Uglum that I had switched the port-a-john service company to Izzy’s Rentals, LLC (which is the company that also services the Wayne Cave Preserve) thanks to the recommendation of Danyele. She mentioned that Izzy’s completed the first service and currently services are setup on an as needed basis.

August 8: Carla Striegel-Winner hosted local representatives from the (NRCS) Natural Resources Conservation Service and the (SWCD) Soil and Water Conservation District where they visited and walked the preserve with Keith Dunlap so Carla could share the IKC’s message of preserving cave and karst features. Afterwards Carla and Laura Demarest took several of our guests on a tour into Sullivan Cave.

August 25: On a few occasions, recent visitors mentioned there were inappropriate messages written in the port-a-john. Laura Demarest while visiting the preserve scratched off the messages.

September 14: Jamie Winner brought his tractor and box grader to the property where he did



some base grading starting from the new driveway entrance on the acquired 2-acre tract down to the gate in preparation for the new driveway to be installed.

September 14: Keith Dunlap ordered one (1) tri-axle load of #2 stone and one (1) tri-axle load of #53 stone from the Ingram Road Quarry and scheduled for a September 23rd delivery.

September 21: Nate Vignes (IKC/CIG member) informed me that he had visited the property recently and mowed the camping area.

September 23: Keith Dunlap was on-site and oversaw the delivery of stone and the installation of our new driveway (see below). This driveway replaces the existing segment and has a new address: 2088 SR-54 Springville, IN 47462. The new driveway as well as the lane leading back to the parking area, as well as the parking and overflow parking areas, are in good shape.



photo courtesy Keith Dunlap

September 25: I cut down a dead elm tree in the visitor parking lot, cut into manageable sections to later be split for firewood. I finished mowing and trimming areas around the property where needed. I restocked the port-a-john and picked up trash around the property.

December 10: I removed the old fire pit and installed a new fire pit ring with retaining wall stones I had left over from a previous project I worked on. I donated a new picnic table and placed near the fire pit camping area. I worked on splitting firewood and stacking near the fire pit camping area.

December 11: I reached out to Izzy's (port-a-john service company) and requested they service the port-a-john. I also requested they move to service the unit quarterly moving forward.

December 29: I replaced the old yellow plastic chain with a new yellow plastic chain which helps

promote visitors to only park in the gravel visitor parking area and not in the camping area. I continued to work on splitting & stacking firewood and cleaning up wood debris in the camping area.

Additional Notes:

Several members and a few groups took advantage of the camping area and firewood over the past year. Paul Uglum, the Cave Patron, generally manages permission for camping. Locks are also serviced by Paul.

There were no major management problems or concerns encountered during 2022.

2023 activities hoped to accomplished:

- Put a new roof on the "woodshed".
- Work with Keith and volunteers to potentially construct an informational kiosk in 2023.
- Work with other IKC property managers and members to help me better understand forest management and dealing with invasives.
- Schedule workdays with volunteers to continue cleaning up the property, painting the lane gate, and start working on constructing a loop trail.
- Perhaps spray the camping area again in August to control the Stiltgrass infestation (left this task in the report from Keith, will work with him on this).
- Over-seed the camping area in the fall with tall fescue that will be hardier (left this task in the report from Keith, will work with him on this).

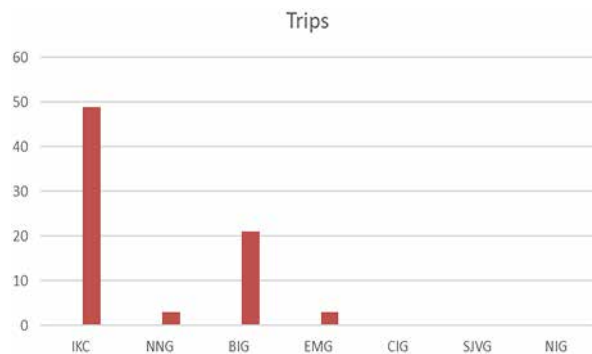
Sullivan Cave Patron Report (Paul Uglum)

This report covers the activity and visitation from January through December, 2022. As in past years, people and groups with a wide range of caving experience and expectations have requested visits to Sullivan Cave. Group experience levels range from very experienced cavers traveling upstream to the Rise, to various youth groups with limited or no wild cave experience making trips to the Mountain Room and back with an experienced caver as a guide. The ability to scale trips based on the experience level of the cavers makes Sullivan Cave ideal for groups with varied experience levels and larger groups. The largest groups were very early in the year prior to the new restrictions. The number of requests in October and November was significantly larger than other months.

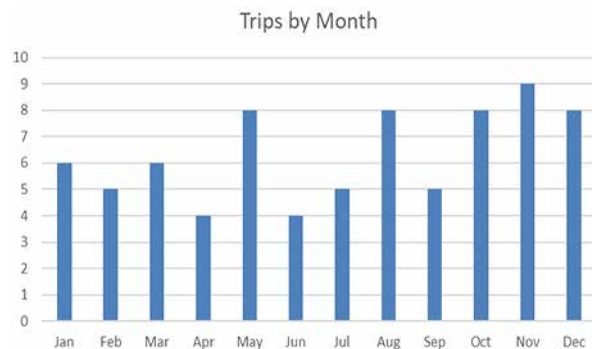
For 2022 there were 76 trips with a total of 535 par-

ticipants. Most trips were arranged through the IKC and BIG. The number of trips were the same as last year, but the number of participants increased by over 100. The number of trips is still below the pre-Covid high of 95 trips with 825 participants. There were an additional seventeen (17) trips that were scheduled and did not occur for various reasons. There were thirteen nights of camping on the site.

There were additional inquiries, that did not result in a trip. These were generally non-cavers who did not respond to replies after I explained that Sullivan was a wild cave and what the IKC rules are. These groups included several that wanted next or same day visits and gave the impression they thought Sullivan was operated like commercial cave with regular tours. Formal rejections were for the most



Visits to Sullivan's Cave by authorizer for 2022



Visits to Sullivan's Cave by month 2022

part for same or next day visitation (later alternatives were offered). In the case of inexperienced and unequipped requestors, alternatives for beginners, such as trips through local grottos were recommended. A list of names and contact information was shared with the CIG and they reached out with an offer of a beginner's trip.

There was one approved Research Permit request. Dean Wiseman has a project to remap and update the Sullivan map. To date there has only been one trip associated with that project.

Most trips were requested via e-mail and keys mailed to the trip leader and returned by mail. I encourage anyone wanting to visit Sullivan Cave to plan ahead. Locks have been replaced as needed, but the SF series remained the same throughout the year.

Opportunities:

As in past years, an in-cave cleanup/restoration project would be a good idea. There are parts of the backbreaker that have far too much graffiti in some locations – this tends to encourage more damage in my estimation. It would also be good to have a general clean up. I have several volunteers, but need to identify information best practices in cave restoration.

Individuals and groups who are interested in wild caving, but have little or no experience continue to contact the IKC Sullivan email seeing opportunities of go caving. It would be good to have an outreach program to direct them to Grottos and encourage them to become responsible cavers as well as recruit them to be involved with cave conservation.

Wayne Property Report (Danyele Green)

We have completed the following of our Environmental Quality Incentives Program (EQIP) contract with the National Resources Conservation Service (NRCS)

- Tract 1 (northernmost) is DONE!! We will continue to monitor to make sure all the hard work is not for naught!
- YEAR 2 on Tract 2 (middle section)
- YEAR 2 on Tract 3 (southernmost) (got a late start the prior year so carried over to the following year)

We are now scheduled to do wildlife monitoring each season of 2023 for Tract 2. First Quarter (winter) of 2023 was completed by myself and Tymme Laun. Surprisingly quiet out there unfortunately... this leads me to a new project of what we can do to increase bird diversity. Hmmmm... if only we had someone on our Board that knows a great deal about birds...cough, cough.

My favorite topic...Port-a-John!!! Serviced a few times in 2022. Heat apparently brings out the maggot population and to help keep that down, it is recommended to dump a gallon or two of bleach in between servicing dates. That will be put into practice in 2023.

Lots of volunteer activity on the property with special thanks to our Firewood stocking crew – Mike Drake, Brandon Chasteen, and Cris Seuell (sorry if I miss anyone!).

Workdays and Events:

- Random unscheduled work days for trash cleanup and invasive plant eradication occurred throughout the year. Huge thanks to Keith Dunlap, Cris Seuell, and others that played a role in the invasive plant murdering sprees.
- One of the IKC Field Days took place at Wayne Cave property: Hike with a Bat Biologist – Oct 1, 2022. This was led by our own Board member Goni Iskali. It was wildly successful, and the trip filled up! Attendees ranged in age from teenager to, well, I won't even guess, but older than me.

2022 also consisted of additional trail clearing. The abundance of fall leaves and lack of adequate foot traffic made it difficult to see where the trail went. I highly encourage everyone to get out and hike the trails this spring once I ensure the trail is properly visible. Work is still being done to level things out and clearing the way, but we need feet pounding down the route!! Get out there and hike!!!

I would like to reiterate, camping is permitted with permission. All one needs to do is email me (mudanddogs@gmail.com) and request the dates you would like. Camping is granted on a First-Come/First-Served basis to IKC Members and their guests.

Speaking of camping... On October 22 I received a phone call from a neighbor hiking the property that a campfire was not properly extinguished and had caught fire again. They put it out the best they could, but I called the campers and had them return to fully extinguish it. This was on a dry day and there was a Fire Advisory in effect. This has led to the creation of stricter guidelines that will be sent out to all that request camping once the property managers meet to work out final details.

2023, but noteworthy now – a redesigned cave gate was installed on 1/11/2023. The gate door went from 113 lbs to 50 lbs making it much easier to push it open from the inside.

Future Projects:

- Will consist of another round of invasive work on all tracts – specifically Tract 2 and 3 and wildlife monitoring each season.
- Will put out a call for volunteers to do the Spring/

Summer/Fall Monitoring for our EQIP Grant requirements. Once a walk-through of the document occurs, the volunteer can go out at their leisure during the season they sign up for.

- Work Days will be announced via the Facebook page, *IKC Update*, and via email to the membership.

Wayne Cave Patron Report (Dave Everton)

Last year saw the following numbers:

Eleven cave trips with a grand total of 59 visitors (some were repeat visitors), all of which were facilitated by me (the BIG Liaison and Cave Patron). No trips were arranged by any other IKC Liaisons.

It should be noted that three of the trips were toward establishing a connection with nearby Studebaker Cave, which was accomplished late in the year. The Cave Patron was one of the visitors once again this year, going to the Wells area in May with two relatively new cavers.

It should also be noted that the Patron assisted in the removal of the historic cave gate on December 15. The existing lock was of course removed at that time and retired to a new life of non-caving use.

As always, thanks to the IKC for its continued support and preservation of and access to Wayne Cave.

Shiloh Cave Patron Report (James Adams)

The Indiana Karst Conservancy has continued, with the permission of the landowner, to permit up to six recreational trips into Shiloh Cave for the general caving community per calendar year. Each trip is limited to ten participants with three vehicles on the property. During 2022, all six trips were taken into the cave. The six trips in 2022 allowed 51 cavers to visit Shiloh Cave. Four of the trips were filled to capacity.

Two additional trips were initially planned, but were cancelled by the trip organizers.

Suicide Cave Patron Report (Kevin Smith)

Last year saw an uptick in cave visits with seven documented trips totaling 47 cavers. Three of the seven trips were affiliated with the Windy City Grotto (WCG). Other groups represented the Central Indiana Grotto (CIG), the Bloomington Indiana Grotto (BIG), and our very own Indiana Karst Conservancy. None of the groups noted any issues with their cave trip other than the first trip of the



year in January where a small colony of Indiana bats (endangered species) was observed near the entrance room. Trips were suspended at that time until mid-April so they would not be disturbed.

In April, a set of bolt-cutters was purchased and placed inside entrance for emergency egress in the event the gate lock could not be opened. At that time I also inspected the condition and operation of the cave gate and emergency key lock-box and identified no issues.

As always, the IKC is very appreciative of the opportunity to provide stewardship activities for this cave afforded to us by Charlie and Will Biel, owners and stewards of the Arrow Hill Ranch Forestry & Wildlife Sanctuary.

Indian Creek CE Report (Rand Heazlitt)

Matt Selig and Keith Dunlap inspected the Conservation Easement (CE) along the Sinks of Indian Creek on December 3rd and found the following:

- A T-post marker cover was missing on Easement lot #11.
- Invasives were noted to be treated in the spring, Ailanthus, Privet, and Johnson Grass in #9 and #10.
- Deer-stands were again noted on #8 and #9 requested to be removed.
- Letters were sent early in December to landowners.

No other issues were identified on the CE.

...News Briefs continued from page 6

every half hour from 9 AM til 3:30 PM and costs \$8 for adults, \$4 for children (6-11), and is free for those under age 6. To see the DNR's full press release on the cave tours, go here: events.in.gov/event/wyandotte_caves_reopen_for_summer_tours_memorial_day_weekend.

- ❑ Speaking of cave re-openings... May 1st triggers a number of Indiana caves available for visitation so as to not conflict with winter bat use. First on the list is the IKC's Robinson Ladder Cave (see ikc.caves.org/robinson-ladder-cave-preserve for more details). Also Langdon's Cave in the Harrison-Crawford State Forest (but a DNR cave permit is required) and most Hoosier National Forest caves are open (no permit necessary for small groups). There are also a number of privately-owned that are available during the summer with the owner's permission. Enjoy them while you can though, as most of these seasonal caves close on September 1st.
- ❑ "Save the date" for Saturday, October 7 for the Wayne Cave Preserve and the Geology of Garrison Chapel Karst Area Hike to be led by IKC President Matt Selig. You can go to ikcFieldTourOctober2023.eventbrite.com at any time and click "remind me" to get a reminder sent to you when registration opens.
- ❑ "Save the date #2" for Saturday, November 4 for the Sullivan Cave Preserve Field Hike and Tour. The exact plans are still in the works, but you can go to ikcFieldTourNovember2023.eventbrite.com at any time and click "remind me" to get a reminder sent to you when registration opens. This event will be followed by an optional stewardship activity, with a light lunch provided for those who stay and help!
- ❑ Keep an eye out for the July/August issue of *Outdoor Indiana*, as we will be the featured land trust. If you are currently a subscriber, you may have noticed that starting in 2023, each issue of this Indiana DNR bi-monthly magazine features a one-pager on an Indiana land trust. Not a subscriber of the publication or haven't renewed for awhile? Go to www.in.gov/dnr/communications/outdoor-indiana-magazine-archives/outdoor-indiana-mayjune-2023 to preview the current issue and subscribe.
- ❑ The IKC would again like to thank Organic Robot Designs (www.organicrobotdesigns.com) in Greenfield, for donating the custom screen printed shirts given as appreciation gifts to our Cave Patron and Property Manager volunteers. The shirts were distributed at the Indiana Cave Symposium. Organic Robot also designed and screen printed our recent IKC-logoed shirts and gear, and we were quite pleased!
- ❑ The IKC has gained *fifteen* new members in the last quarter. Welcome Chris Bauer, Katlyn Coleman, Mark Collins, Ryan Doolin, Shawn Durbin, Shannon East, Seth Emerick, Timothy Flint, Danielle Hafele, Greg McNamara, Val McNamara, Cole Reynolds, Clary Schotter, Steven Stewart, Andrew Voss. IKC membership currently stands at 239.

INDIANA KARST CONSERVANCY TREASURY REPORT

Income/Expense Statement From January 1, 2023 to March 31, 2023

INCOME:

Dues Apportionment and Residuals	1,006.25	
Donations - General	4,307.42	
Donations - Land Acquisition Fund	6,580.00	
General Investment Earnings	918.87	
		\$12,812.54

EXPENSES:

IKC Update (printing, production, mailing)	481.03	
Education / Outreach	0.00	
Stewardship / Conservation	250.50	
ILPA dues	500.00	
Donations	100.00	
Business (PayPal fees, renewal letters, meetings, etc)	432.65	
Transfers to/from restricted funds/other adjustments	6,580.00	
		(\$8,344.18)

NET OPERATING EXCESS (DEFICIT) THIS PERIOD: \$4,468.36

Balance Sheet March 31, 2023

ASSETS:

Cash in Checking/Saving/Brokerage accounts	621,096.15	
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><u>\$1,303,109.31</u></u>

FUNDS & OPERATING EXCESS:

Land Acquisition Restricted Fund	85,915.42	
Deferred Dues Restricted Fund (269 members)	7,320.00	
Stewardship Endowment Fund (+6.56%)	85,742.42	
Gale & Ray Beach Endowment Fund (+8.78%)	349,632.10	
Previous General Fund (total)	88,031.01	
Net Excess (Deficit) This Period	<u>4,468.36</u>	
Current General Fund (unrestricted)	92,499.37	
Current General Fund (committed)	1,972.87	
Real Estate Basis (excluding value of CE)	<u>682,000.00</u>	

Total Liabilities & Operating Excess \$1,303,109.31

IKC ANNUAL BUSINESS MEETING MINUTES

Saturday, March 25th, 2023 - 12:30 PM EDT

Public Library - 600 West Temperance Street, Ellettsville, IN 47429

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: Bruce Bowman, Mike Drake, Danielle Hafele, Cris Seuell, Kevin Strunk, and Sue Vernier.

Call to Order

Meeting was called to order by Matt Selig at 12:30 PM EDT.

Acceptance of Proxies

Kevin Strunk for Joe Kinder.

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

2023 IKC Election Slate (February 13th, 2023) – *Rand Heazlitt made a motion to accept the 2023 slate of candidates as submitted. Carla Striegel-Winner seconded. 13-0 in favor with 2 abstentions. Motion passed.*

Election Results

Election Teller Paul Uglum reported that three Officers and four Directors will be seated on April 1, 2023. Officers (single year term): President – Matt Selig, Secretary – Laura Demarest, Treasurer – Keith Dunlap. Directors (3 year term) – Bruce Bowman, Tom Sollman, Scott Frosch, and Richard Vernier. Jim Adams withdrew from the race prior to the final tallying. There was a 30% return on ballots.

Treasurer Report

Dunlap outlined the current financial status of the IKC:

Assets:

Cash assets totaling	\$610,716.29
Land assets totaling	\$682,000.00
Total Assets	\$1,292,716.29

Dedicated Funds:

Land Acquisition Fund	\$85,445.42
Stewardship Endowment	\$83,476.95
Gale & Ray Beach Endowment	\$341,955.41
Deferred Dues	\$5,325.00
General (unrestricted) Fund	\$94,513.51
Total Dedicated Funds	\$610,716.29

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

Investment alternatives for unrestricted cash: Keith explained that we have \$175,000 in cash not invested in long-term instruments. After the December meeting, Keith invested \$125,000 in short-term CDs with 3% interest. The rest is not drawing interest. Depending on future property acquisitions, the IKC may not want to roll over the CDs. Another alternative for our cash could be invested in a Fidelity Money Market fund currently paying 4%, though this is a mutual fund and not insured by FDIC, so entails some risk. Matt provided some insight into investment options. Discussion ensued and there was general agreement that the Money Market option was favorable, and the Treasurer should move forward using his discretion.

Membership currently stands at 269 paid members. This total includes 83 memberships yet to renew by March 31. Keith said 99% of new members are joining via PayPal and this is the highest number of total members the IKC has had to date.

Our draft 990 IRS non-profit report has been completed and will be sent via email to the Board for review in the near future.

Workday Bins/First Aid Kits Update

Carla and Danyele gave a quick report on the Amazon Wish List fund-raising. All requested items were purchased by donors in three weeks and no IKC funds were necessary. Each Property Manager will receive a bin to use for workdays, events, and general safety. Danyele recommends that Property Managers take some first aid training when they have time to enhance their knowledge.

A meeting for Property Managers is scheduled for April 6th at 7:00 PM EDT via Zoom and bins will be distributed before then.



Bioinventory Grant Application Status

Carla recently sent an email to the Board regarding this grant and has since applied on behalf of the IKC. This grant comes from the Indiana Academy of Science (IAS) and the Indiana Land Protection Alliance (ILPA) to hire taxonomists to conduct bioinventories on preserves. Though it hasn't been officially announced, Carla conveyed that IKC has been selected for funding. In the near future, \$1,200 in funding will be awarded to cover the hiring of a contracted taxonomist. Nic Garza is scheduled to conduct a plant species survey on the Wayne Cave Preserve. It is likely that more funding will be available in the future for additional studies.

Education/Outreach/Field Days Committee

Upcoming Activities – Carla passed out a flyer with a summary of upcoming outreach activities.

- April 29th – Lowry Field Day with optional stewardship opportunity (garlic mustard pull) and lunch to follow. Registration is now open.
- June 17th – Limestone Festival (Bloomington) booth – Goni and Danyeale volunteered to host an IKC booth. Carla will handle registration and will send all pertinent information to Goni and Danyeale.
- Date TBD (June/July) – Shawnee Cave System Field Day at IKC's Shawnee Karst Preserve with Tom Sollman as presenter.

Other:

- Carla requested funding for printing/folding more IKC brochures. *Danyeale Green moved to spend up to \$225 to have 500 brochures printed. Paul Uglum seconded. 15-0-0 Motion passed unanimously.*
- *IKC Update* publications – extra paper copies were requested for handing out at future events
- Social Media – the IKC Facebook page is going well. Any photos or information that highlight the IKC's preserves and mission can be sent to Carla for future social media posts.
- Website – Carla is working on updating the Education page and will work with Bruce Bowman to add new content. She suggested that the overall website get a face-lift at some point in the near future.

ILPA Dues

Carla is now a Board member of ILPA and provided some updates about ILPA and the benefits the IKC receives as a member. Dues renewal is \$500 per year for small land trusts. *Laura Demarest made a motion that the IKC pay \$500 to renew ILPA dues for this year. Paul Uglum seconded. Some discussion ensued. 15-0-0 Motion passed unanimously.*

Cave-Land Acquisition/Other Activities

Henderson Park Caves MOU – Matt, Keith, and Kevin

Strunk have been working with The Nature Conservancy (TNC) and the City of Salem to discuss cave visitation and management. Kevin provided an update and explained that TNC maintains a conservation easement on the property and the City of Salem owns the land, though the IKC has offered to assist with cave access management. Tom Swinford (former DNR, now TNC employee) has been instrumental in this process and the MOU is now in its final stages of review. More details will be forthcoming, but the hope is to have it finalized before the next mayoral election this fall. Scott Frosch indicated that he is still interested in helping with property management.

Kinser property – Keith Dunlap (new Kinser property owner) recused himself and the remaining 14 Board members present discussed the opportunity to purchase this 23-acre piece of land. It is currently appraised at ~\$10,000/acre and more appraisals were recommended for comparison. Discussion ensued. *Rand moved to have the Kinser property appraised (separate from the value of the 3-acre house portion). Richard Vernier seconded. Matt offered to coordinate the appraisal and there was some further discussion about needing an easement for access if the neighboring property owner opts to purchase the 3 acres with the home and subdivide. After extended discussion, Dave Haun called the question and 14-0-0 were ready to vote on the original motion presented by Rand. 13-0-1 with one abstention. Motion passed.*

Lamplighter Cave Entrances – Scott Frosch gave an overview of the cave entrances related to Lamplighter Cave. The property potentially for sale is a 43-acre parcel near Cave River Valley. Previously, cattle had been grazed on the land and it is still recovering. The cave entrances are close to the road and existing buildings are in disrepair. The owner is accepting offers for the property though it is not officially on the market at this time. Discussion ensued and the general consensus was that a future date could be scheduled to meet with the property owner to discuss options and view the property. Scott offered to coordinate this meeting sometime in late April.

Electronic Scheduling & Waiver System

Matt gave a summary of some recent meetings with the Southeastern Cave Conservancy, Inc (SCCi) and the option to join forces with their organization to leverage their existing electronic waiver system that can be implemented by the IKC in the future. The initial cost would be \$500 for website development and customization as well and some nominal annual costs for data storage. As the Sullivan Cave Patron, Paul offered to serve as a 'guinea pig' for setting this system up for Sullivan Cave initially. *Dave Haun made a motion to fund up to \$700 for the pursuit of electronic waiver development in partnership with SCCi. Jim Adams seconded. 15-0-0 in favor. Motion passed.* Matt will create an



ad hoc committee for this initiative and move forward.

Property Managers for Lowry Preserve

Jasper Beavers volunteered to serve as the Property Manager and Cave Patron for the Lowry Karst Preserve. *Paul Uglum moved that Jasper be accepted in this role. Jim Adams seconded. 15-0-0 in favor. Motion passed.*

Indiana Cave Symposium

The Indiana Cave Symposium (in partnership with the Indiana Cave Survey) will be the evening of April 22nd in Paoli. Prior to the Symposium, Matt Selig will lead a surface tour at 12:30 to compare and contrast the geology of the Mitchell Plain and Lost River karst along with touring some other interesting features in the area. Eventbrite registration is available. *Dave Haun made a motion that the IKC use up to \$200 for expenses at the Symposium. Scott Frosch seconded. 15-0-0 Motion passed.*

Cave Patron/Property Manager 2022 Report Highlights

Property Managers and Cave Patrons submitted their annual reports (starting on page 20) to the Board, though many joined the IKC Annual Meeting to provide a verbal summary of 2022 activities.

Buddha Karst Nature Preserve – Keith and Jeff shared some highlights including a 2022 karst field tour in June and a newly painted kiosk. Jeff reported an increased number of trips (9 total with about 50 people total) in 2022.

Lowry Karst Preserve – Late Property Manager and Cave Patron Ray Sheldon had added new crushed stone to the drive before his untimely passing in July. Carla and Keith helped for the remainder of the year with some invasive species removal. There were a total of 26 liability waivers collected in 2022 for caving or property visits.

Orangeville Rise Nature Preserve – Carla gave an overview including some of the Mid-States Corridor activity from the spring of 2022 and general updates on invasive species treatment. Several muddy appliances were pulled out of the Rise when the water was low by some mysterious good Samaritans and set aside for disposal. There is an ongoing research permit held by the Indiana Geological Survey to collect an annual water sample.

Robinson Ladder Cave Preserve – John Benton was not in attendance, but he indicated there were no issues to address.

Shawnee Karst Preserve – According to Keith, the property is in maintenance mode. Mowing as an alternative to burning has been showing favorable results for native grasses in the “prairie” areas. Dave Everton reported that a new entrance had opened up on the property.

Sullivan Cave Preserve – Kevin Strunk on behalf of Joe Kinder: There was a large tree planting last year as well as removal of a dangerous tree from the parking area. A new driveway was installed and there was a change in the porta-potty service company. Joe also donated and installed a new picnic table and fire pit to improve the camping area. Paul reported 76 trips and 535 participants in 2022. There were 13 nights of camping, and this number is currently increasing because of the site improvements. Paul mentioned that some of the Grotto Liaisons have never used their key during his 8 years of serving as patron and that there is occasional confusion regarding overlapping trips being booked.

Wayne Cave Preserve – Danyelee summarized some of the activities associated with the EQIP contract, including a wildlife inventory and invasive plant removal. Lots of firewood has been provided and stacked by local volunteers. The site was used often by campers and some fire safety issues were addressed. The Cave Patron (Dave Everton) reported 59 people visited in 2022.

Shiloh Cave – Jim Adams reported eight groups contacted him to request trips in 2022 but two cancelled. The maximum total of six annual trips was carried out with 51 cavers total. Some discussion ensued about the exposure at the entrance area, but it was pointed out that there are alternative options for accessing the entrance if participants choose.

Suicide Cave – Kevin Smith was not in attendance, but he indicated there were no issues to address.

Indian Creek Conservation Easement – Rand discussed difficulty with tree stands in 2022. He will be sending a letter out and plans to visit the property in June to follow up then.

Recent (2023) and Upcoming Preserve Projects/Updates

Buddha Karst Nature Preserve – A downed tree is over one part of the trail and will be removed at some point by volunteers when time allows.

Lowry Karst Preserve – Jasper is the official new Cave Patron and Property Manager. There is an event scheduled on April 29th with optional stewardship activities to follow (garlic mustard pull).

Orangeville Rise Nature Preserve – Carla is planning a ‘pop-up’ pull event but hasn’t scheduled any major event for 2023. She also has the brass National Landmarks sign that needs to be repaired.

Robinson Ladder Cave Preserve – nothing to report.

Shawnee Karst Preserve – Keith is working to install a new gate on the 3918 driveway and is planning a garage clean-up that will likely necessitate additional volunteers. He also plans to work on the kiosk, but is thinking of moving it to the area near the garage instead of on the original Shawnee tract of land. Keith purchased trees and plans to plant another 50 this spring.



Sullivan Cave Preserve – Paul wants to make a concerted effort in 2023 to remove graffiti from the main routes in Sullivan and will schedule some clean-up trips. Trees planted last year will be inspected and may be replaced if needed. Metal roofing from the Kinser property was salvaged and will be transported to Sullivan property to replace the roof on the firewood shed.

Wayne Cave Preserve – Wildlife inventories will continue and several volunteered to assist with identifying bird species in the spring. A new cave gate was recently installed, and some trail maintenance will be needed, including downed tree removal. Danyele has not scheduled a workday for 2023 yet. There have been some reports of a menacing neighbor on the property, so hikers should be aware.

Items from the Floor

- Goni shared an idea about conducting some bat monitoring at the IKC preserves. She would spearhead this initiative using the bio-meter that was purchased in 2022 by the IKC and could set up some dates to walk the surface and collect sound data. She proposed collected data at three IKC preserves on three separate dates, starting with preserves in the Monroe/Lawrence County areas. Several folks volunteered to assist with data collection.
- Keith discussed the option to give a donation to the Ellettsville library for occasional use (1-2 times per year) of the meeting room. *Keith made a motion to*

donate \$100. Dave Haun seconded. 15-0-0. Motion passed.

- ILPA Spring Gathering – Friday, May 19th – reservations will be needed, but IKC Board members are welcome (Ft. Ben). If interested, let Carla know.
- Scott Frosch discussed the Buffalo Spring Restoration project which has caused some caves in the Orange County area to be temporarily closed.
- April 8th, 2024 – there will be a total eclipse in Indiana. IKC should plan ahead and consider the possibility of hosting an eclipse event at one of the IKC Preserves.

Next Meeting Date and Place Selection

The next IKC Quarterly meeting was scheduled for the weekend of June 18th, 2023 at Goni's residence (9990 Bennett Lane, Bedford, IN 47421 or more accurately 38.9933255 -86.5680857). The lunch pitch-in will start at noon with meeting to follow at 1:00 PM EDT. Those wishing to do some ridge-walking of their 35-acre property before meeting are welcome to arrive at 11 AM.

Adjourn

The meeting was adjourned at 4:00 PM EDT. *Jim Adams moved to adjourn. Rand seconded. Unanimous consent.*

Respectfully compiled and submitted by Laura Demarest, IKC Secretary

Answers to the quiz on page 14:

A) Garlic Mustard B) Autumn Olive C) Periwinkle D) Stiltgrass E) Wintercreeper (an invasive, but not previously covered, so a bonus for you if you got right!) F) Callery Pear G) Multi-flora rose H) Tree of Heaven I) Burning Bush

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.

