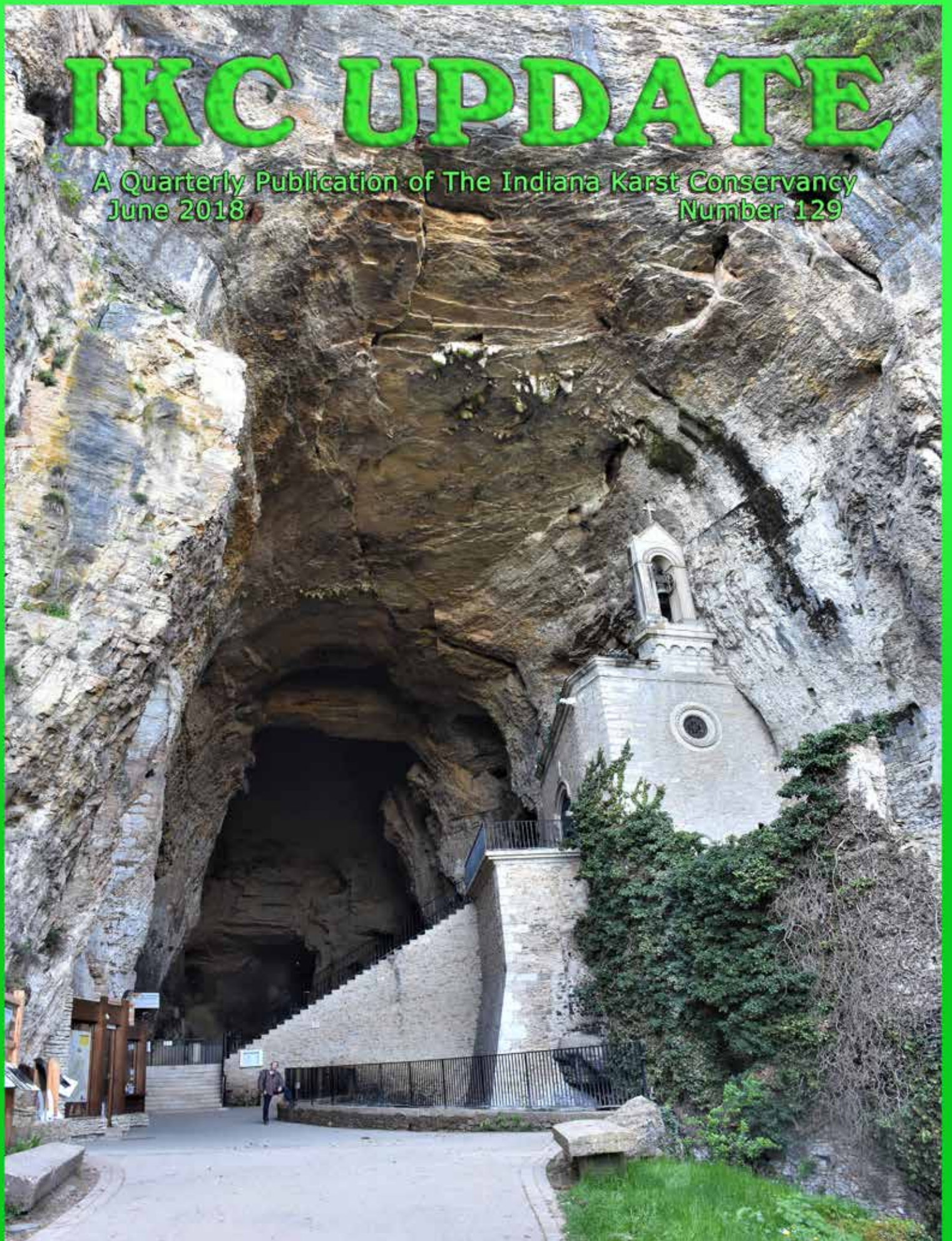


IKC UPDATE

A Quarterly Publication of The Indiana Karst Conservancy
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INDIANA KARST CONSERVANCY, INC

PO Box 2401, Indianapolis, IN 46206-2401

ikc.caves.org

Affiliated with the National Speleological Society



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

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*grottos with liaison agreements

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Cover: This is not in Indiana... Rather it is the entrance to les Grottes de la Balme in France, visited by Jerry Lewis (see page 4). Photo by Jerry Lewis, 2018.



IKC QUARTERLY MEETING REMINDER

SATURDAY, JUNE 30th, 1:00 PM EDT

BLOOMINGTON, INDIANA

WAYNE CAVE PRESERVE

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

Preliminary Agenda: Recap of recent work projects and promotion of upcoming projects at our various other preserves; Financial reports; Land acquisition activities; Cave Rescue Training; NAA Conference; Property Manager selection(s); and more....

Stewardship Activities: There will likely be some work activities at the property before the meeting including mowing the trails and camping areas, invasive eradication, new trail delineation, etc. If you are so inclined, show up early and pitch in. Start time will be 10 AM.

Directions to the Wayne Cave Preserve: From the intersection of SR 37 and SR 45 in Bloomington, take SR 45 west 1.4 miles to Airport Road. Turn west (right) on Airport Road and continue past the airport to Garrison Chapel Road (approximately 2.7 miles from SR 45). Turn south (left) on Garrison Chapel Road for about 1/4 mile to Gardner Road. Turn west (right) on Gardner Road for approximately 4/10 mile and look for a driveway on the left (street address 8307). GPS 39.1326/86.6496

Rain Contingency: If the weather is problematic, the meeting will be moved to the home of Danyele Green, 6888 E Bender Rd, east of Bloomington. Check with Jerry Lewis on that decision.

ACTIVITIES CALENDAR

Jun 30 – IKC Annual Business meeting (see above)

July 30-Aug 3 – NSS Convention (Helena, MT)

Aug 17-19 – Cave Capers, Camp Rivervale (Mitchell, IN)

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

For more information on the Indiana Karst Conservancy, visit our website at ikc.caves.org or write to our PO box. Membership to the IKC is open to anyone or any organization interested in supporting cave and karst conservation. Annual dues are \$15. Please see inside the back cover for a membership application form or to make a much-appreciated donation. Donations can also be made by credit card using the donation button located on our website's home page.

The IKC Update, distributed for free, is published quarterly for members and other interested parties. The purpose of this newsletter is to keep the membership and caving community informed of IKC activities and other news related to cave/karst conservation. Submission of original or reprinted articles for publication is encouraged.

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RAMBLINGS FROM THE PRESIDENT...

Looking for something profound, philosophical, or on the topic of karst conservation? Those lofty aspirations aren't part of this ramble, so maybe try again next time, if that's your focus.

For those of you who know me, you know that I wander off to France periodically. In honor of my Francophilia, this is going to be an international-themed ramble, featuring some of my recent adventures with the IKC's honorary president-for-a-day, Dr Florian Malard (see photo). In April, I returned to France for a ten day trip sponsored by the University of Lyon-1 to work with Dr Malard.

Salisa and I first met Dr Malard at the International Conference for Subterranean Biology at the University of Arkansas in 2016. I soon found out that Dr Malard (whom I will henceforth refer to as Florian) and I had some things in common. I knew that we had both focused our careers on the study of subterranean isopods, but I didn't know that one of my first mentors in graduate school, the late Dr Guy Magniez (l'Université de Bourgogne, Dijon) was also Florian's professor and mentor for his doctoral program.

At the University of Lyon-1, Florian and his colleagues have been working on the molecular phylogenetics of the subterranean isopods of Europe and north Africa, i.e., the relationships of the species as derived by analysis of their DNA. At the Arkansas meeting he asked if we would be interested in contributing North American isopods. This coincided nicely with a large, ongoing project that we'd started the previous year on the cave and spring isopods of the genus *Lirceus*. From that moment on, Salisa and I began collecting isopods wholesale to send to France for DNA sequencing. The culmination of this work to date was an invitation to come to Lyon, France to analyze and discuss the results, as well as talk about how to move forward.

On April 18, I boarded an overnight flight to Geneva. Lyon, with a population of well over a million people in the metropolitan area, has an air-

port, but it was simpler to fly into Geneva. Less than a two-hour drive from Lyon, Florian met me at the airport and we made the scenic drive back to France through the Jura Mountains. I'll talk more about my work at the University of Lyon later in this issue (see page 10), but here I'd like to ramble a bit about my adventures with Florian.

On the weekdays, I was at the university working, but on the one weekend that I was there, I could be a tourist. I asked Florian if there was a commercial cave nearby that I might visit. He said he knew just the place in the Jura Mountains: les Grottes de la Balme. On Sunday morning I took the train from my downtown hotel to the university, where I met Florian, and from

there we then drove out about forty kilometers to the cave. En route to the cave the landscape during the first part of our voyage was not really different from Indiana, mostly corn fields and pastures, but as we neared the cave it was apparent that there's definitely nothing in Indiana like the Jura Mountains. Extending along the boundary between France and Switzerland, the mountains formed largely of Jurassic (a term named after the Jura Mountains) era

limestone. Where we visited, the mountains were rimmed by high cliffs and in places in the chain they top 5,000 feet in elevation.

Arriving at the cave, I was flabbergasted by the size of the entrance. I've been in a lot of cave entrances and this is probably the largest I've ever seen, I'd guess more than thirty meters high. I asked Florian to stand in the entrance for scale in a photo, but the entrance is so large he's almost invisible (see the front cover).

Florian had been paying for everything, so in the spirit of attempting to be a little gracious, I walked up to the ticket office, greeted the ticket lady and got out a 50 Euro bill to pay for our two tickets. She smiled, waved off the money, pushed two tickets marked "*gratuit*" through the slot in the window, and wished us a good trip. Walking



Dr Florian Malard modelling an IKC hat.

into the cave I asked Florian why we were getting free tickets? He said that his university lab worked at the cave and the lady undoubtedly recognized him... sort of reminiscent of when I visit certain commercial caves in Indiana.

The cave features a self-guided tour that first departs the enormous entrance room and winds upward through a series of narrow canyons. Turning sideways to squeeze through a tight spot, Florian looked back at me, laughed and said "this is almost like a real cave!" At the top we found ourselves on a balcony at the ceiling level of the enormous entrance, where we could look down at other tourists far below, while noting that the ceiling inside the cave disappeared into the darkness above. While we were admiring the view, Florian told me that one had to be mindful of rigging pitches like the one where we were standing, particularly in caves in the Alps. He said it was discovered, the hard way, that ropes rigged on drops in caves in the Alps and left over the winter, sometimes failed catastrophically the next season... because the freeze/thaw cycles of caves at that altitude destroyed the integrity of the rope. The first person on the rope the next year might well find themselves on a rotten line. Best to re-rig the ropes for each visit.

Returning to the lower level, we continued along the tourist trail to the cave stream. In typical caver fashion, Florian hopped over the rail, pulled out a light and started turning over rocks to look for isopods to show me. I pulled an LED light out of my pocket and while we looked I asked, "Do you know how you tell a caver in a commercial cave?" He said, "No, how?" and I responded, "They're the ones who bring lights to tourist caves..."

A few days later, I was with Florian and another faculty member from the university working at a groundwater sampling site on the bank of the Ain River. We reached the site by turning off a farmer's gravel entrance lane onto a dirt road that led along corn fields to the river. When we were done with our work on the river, driving back to the entrance lane, Florian pointed out that the farmer had his truck parked across the road to block us in. He drove the van up to the farmer's truck, turned off the engine and got out to talk to the farmer. This proved to be an exercise that some cavers could recognize... talking to an irate property owner. I figured this was no place for an American with questionable language skills, so I stood back a couple of steps and watched while Florian handled the situation.

The farmer was furious... red in the face and shaking with anger. Following the gist of the farmer's tantrum *en français*, he complained about fishermen and hikers sneaking onto his property, as well as others dumping trash on his farm. He had mistaken us for trespassers, but Florian heard him out and then pointed out that the University of Lyon lab (we were in a university vehicle with the official logo on the side of the van) had an access agreement with him to work on the river by his farm. The farmer eventually settled down and after shaking everyone's hand we parted company in good graces. It was interesting to watch a land-owner dispute being talked out in France... and it was remarkably similar to times I'd participated in the same thing in the United States. I suppose some things are about the same everywhere.

Our work on the Ain River, and the encounter with the irate farmer, happened on the last day of my trip. Because Florian's home was half way between Lyon and Geneva, it seemed logical for me to spend the night at his place so we could save some time in getting me to the airport the next day. When we arrived at his home, I was amused to find that we shared some other similarities. First, I thought Salisa and I lived in the boondocks, but while Florian's home is in a small village, it's far from Lyon and literally sits on the side of one of the slopes of the Jura Mountains, with a great view of a large mountain out their front window.

It was getting dark by the time we arrived, but I told him I'd like to see what his property looked like, so we started climbing up the steep slope that's his back yard. He took me up and showed me his pride and joy: rows of stacked firewood! Come to find out Florian goes out on Saturdays and meets with some other guys to cut firewood in a nearby woodlot. I noticed that firewood is cut a little differently in France than here, which Florian notes serves to create warmth three times. The first time is when the trees are cut to one meter lengths, which he then hauls home and stacks to season (firewood in France is measured by the cubic meter). The second warming is when he then cuts it into shorter lengths (cutting firewood is a lot of work...warms one right up). And then the third time is when the wood is taken inside and put in the woodstove. When I went in his home, I noted that like our home in Burns Hollow, Florian and his family have a woodstove in their living room. Apparently, some sort of convergent evolution occurs with people who study isopods, because the similarities between Florian and myself

were getting sort of spooky. How many people are there who have PhD's concentrating on subterranean isopods who cut firewood on weekends and heat their homes with woodstoves?

That last evening as I was having dinner with Florian and his gracious wife, I presented them with a couple of presents I'd brought from the

United States. For his wife, I brought a box of chocolate from Schimpff's Confectionary in Jeffersonville (if you haven't been there, I recommend a visit), and for Florian... an Indiana Karst Conservancy hat!

Jerry Lewis

NEWS BRIEFS...

- ❑ At the IKC Annual Business meeting on March 24th, Jerry Lewis and Keith Dunlap were re-elected as President and Treasurer, respectively. Marc Milne was selected as the IKC's Secretary. Dave Haun and Tom Sollman were re-elected Directors, while Laura Demarest and Sue Vernier (previously the Secretary) became new Directors. The full list of the Executive Board can be found on page 2. Our immense thanks to retiring Directors Joy Baiz (3 years on the Board) and Kevin Smith (6 years on the Board).
- ❑ On April 28th, the IKC had a mini-Earth Day workday at our Robinson Ladder Preserve. Most of the effort was directed towards stewardship of our American Chestnut mixed tree plantation (~210 trees). Tasks included replacing approximately two dozen non-surviving trees (mostly chestnuts and butternuts) with some donated butternut trees. We also fertilized all of the trees and did the spring herbicide treatment around the trees. We also re-flagged all of the trees so they would be easier to find later in the year when mowing around them. Finally we removed some of the volunteer trees (mostly poplars) that were trying to out-compete our target trees. Most of the trees are doing quite well with some of the black walnuts and chestnuts extending over six feet tall after just two years. The other significant task completed was the clearing of an access path to the wildlife pond on the Campbell tract (northern side of the property). The path will allow us to get a tractor to the pond to install an overflow pipe and to repair a couple of low spots in the dam. These modification should allow the pond level to be a little higher during peak times and thus retain water for a longer period of time. Volunteers included Keith Dunlap, Danyeale Green, Glenn Kotnik, Tymme Laun, Everett Pulliam, Tom Sollman, and Jamie Winner.
- ❑ In mid-April, new surface slumping above the IKC's entrance to Upper Twin Cave temporally re-closed that entrance. An attempt on April 22 to reopen the entrance (digging from both inside and outside) was not successful. Since that time, additional soil has exacerbated the situation. Another attempt to reopen the entrance may be tried this summer, once things dry out. We are witnessing a naturally occurring process and the sinkhole will likely re-open itself eventually. With that said, our entrance is closed until further notice.



- ❑ The IKC has gained four new member in the last quarter. Welcome Will Ott, Kevin Johnson, Keith Chapman, and Jason Martin. The IKC membership currently stands at 199.

WAYNE CAVE PRESERVE EXPANSION UPDATE

by Keith Dunlap

If you have not already heard, our fund-raising project to acquire an adjacent 25+ acres to expand the IKC's Wayne Cave Preserve was a success. While the IKC collected some donations prior to the official kick-off in mid-February, most of the money was raised as part of a two-for-one matching donation challenge to our members and in less than two months (on April 13th to be exact), we reached our \$106,000 goal. Below is the list of donors who made it possible with special thanks to multiple individuals and

organizations who made significant donations to wrap up the funding project in quick order.

The closing on the new property is schedule for July 19th. One of our first stewardship projects to tackle will be to delineate and clear a loop trail that will highlight many of the interesting karst features on the expanded 57+ acre preserve. We also plan to be more pro-active on controlling various invasives plants on both the original tract and the new expansion. Another project we may initiate next spring is tree planting on about four acres on the new tract.

WAYNE CAVE PRESERVE EXPANSION GRANTS / DONATIONS			
\$10,000 or more			
Keith Dunlap Matt Selig SerVaas Laboratories The Nature Conservancy			
\$2,500 to \$4,999			
Richard Blenz Everett Pulliam Tom & Patty Sollman National Speleological Foundation National Speleological Society			
\$1,000 to \$2,499			
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Ron Adams John Ahlberg Larry Bundy Pat Burns Chris Carpenter William & Andrea Carpenter George Cesnik Dan Chase Patty Cummings	Jeff Gosnell Scott Hammon Rand Heazlitt Shawn Hogbin David Hughes George Mattson Mark Matthews Kim Metzgar	Bill Morrow Nate Pate Jacqueline & Ernie Payne Joseph Powers Nick Saulcy Nicholas Saulcy Ray Sheldon Susan Strickland	Chris Wadsworth Mark Webb Raschel Wolf Shelly Wolf Scott Worpell Kevin Wyatt St Joseph Vally Grotto Sub-Urban Chicago Grotto
Project goal: \$106,000 Raised/Pledged: \$106,412 Percent of goal: 100.6% June 15, 2018			

EMERGENCY INFORMATION SIGNAGE PROJECT

by Danyele Green

The idea of better emergency planning for IKC caves began as IKC President Jerry Lewis stood outside in the freezing cold during an incident on private property in December 2016. It was while watching the events unfold, as friends and loved ones were trapped in a flooded cave, that the scale of such a rescue became a reality.

After everyone came out safely, and the adrenaline of all started to drop down to normal ranges, Jerry realized that an event this large could occur on an IKC property and what could we, as an organization, do to help manage what he had just witnessed. At the March 2017 Board meeting, the topic was brought up and several individuals agreed that it was worthy of further discussion and action.

Just before the June 2017 Board meeting, Jerry, Salisa Lewis, and myself met to discuss what typically happens during a cave rescue. Cavers generally have an established emergency call-out plan in place in the event they do not come out at a pre-determined time. If that happens, there are *many* ways to get that rescue ball rolling, but what if something happened and a member of the underground party made it out to get to a cell phone to call for help *before* their estimated time out arrived? For most individuals in an emergency situation, a surge of adrenaline begins pumping through their system. This has side effects such as confusion, shakiness, tunnel vision, etc. While there is nothing, as an organization, that can be done to deal with logistics of arriving resources (the agency having jurisdiction is in control), we decided there *is* some-

thing the IKC could provide that could facilitate someone in knowing what to do in the event of an in-cave or above ground emergency.

The IKC decided that placing emergency information signage at noticeable location(s) on our properties would be a great asset for these time-critical situations.

The agency having jurisdiction are the ones calling the shots at rescues, be it in person for large scale events with many resources, or over the phone with those on site who have training through the National Cave Rescue Commission and are aware of what to do during a rescue situation. Each situation is different and in need of different resources, but the one thing in common is that now, at each IKC cave property, there is a clear list of who to call, or where to go, to assist those on our properties to be as effective as possible during an incident.

I want to take the opportunity to thank every single person I called, bugged, asked questions to, and just generally pestered to get this action item finalized. Also, thank you to Keith Dunlap for making the of-

ficial signs, to everyone who helped by digging holes for the posts and installing the signs, and to those who provided feedback when they saw the signage. All signage at caves owned by the IKC have been installed. Thank you all, and Cave Softly and Safely!

Editor's note: As a prerequisite, several years ago we worked to get street addresses assigned to and displayed at all of our properties for better emergency response.

<p align="center"><u>Sullivan Cave Emergency Information</u></p> <p><u>Address:</u> 2100 W St Rd 54 Springville, IN 47462</p> <p align="center"><small>Vehicle Gate Code: 2401</small></p> <hr/> <p align="center"><u>In Cave Emergency</u></p> <p><u>Rescue Personnel:</u> call or text until someone responds (812) 320-0905 (812) 345-5012 (812) 276-7929 (317) 370-7891</p> <p><u>All Emergencies:</u> 911 <u>IDNR Conservation Officer:</u> (812) 837-9536 <u>Lawrence County Sheriff:</u> (812) 275-3316</p> <hr/> <p align="center"><u>Above Ground Emergency</u></p> <p><u>All Emergencies:</u> 911 <u>Lawrence County Sheriff:</u> (812) 275-3316</p> <hr/> <p><u>Nearest Emergency Room</u></p> <p>IU Health Bedford 2900 16th St. Bedford, IN 47421 (812) 275-1200</p> <p>St. Vincent Dunn 1600 23rd St. Bedford, IN 47421 (812) 275-3331</p> <p><u>Non Emergency Contacts:</u></p> <p><u>IKC Cave Patron:</u> Paul Uglum (317) 417-5596 <u>IKC Property Manager:</u> Keith Dunlap (317) 882-5420 <u>Owner:</u> Indiana Karst Conservancy (IKC)</p> <p align="right"><small>Version 10/2017</small></p>

A LOOK BACK AT INDIANA KARST

by John M Benton

This issue's "look back" is of B-B Hole in Crawford County Indiana, about a mile north-west of Wyandotte Cave, near the head of Sharpe Creek. The original name of the cave was B&B Cave, named after Bob Loudon, who was the current Wyandotte Cave manager at the time (circa 1955) and his daughter Mary "Belle" Loudon. The Rothrock family owned the property where B&B Cave is located, now part of Harrison-Crawford State Forest.

The cave entrance sits at the bottom of a large sink. A small dozer was used to help uncover the entrance and a small log structure was constructed

over the entrance to prevent debris from the steep hillside above from entering the cave. The cave contains a stream with a population of cavefish and feeds Sharp Spring to the south.

The entrance eventually collapsed and the cave was "lost". Then in the summer of 1998, the Wyandotte Ridge Exploration Group, consisting of Joe Oliphant, Ron Adams, Danny Dible, Ted Wilson, Glenn Lemasters, Greg McNamara, and others, got permission from the DNR, to re-open the cave. To stabilize the entrance pitch, a nearly vertical culvert was installed with a bat friendly gate over the top.

photo from George Jackson Estate, circa 1955



photo by John Benton, 1999



photo by John Benton, 1999



photo by Aaron Atz, 2007



Upper left: Wally Wilkins, George Jackson, and Bob Loudon at the entrance to B&B Cave, 1955. **Upper right:** The gated entrance in 1999. **Lower left:** Looking up the vertical culvert. **Lower right:** Close up of current gated entrance.

A VISIT TO LEHNA

by Jerry Lewis

In April, I had the opportunity to spend a week working at LEHNA (*Laboratoire d'Ecologie des Hydrosystèmes Naturels et Anthropisés*). This laboratory of aquatic ecology is divided into six “*equipes de recherche*”, or research teams, of which the largest by far is Team 3: Ecology and Ecosystems of Subterranean Ecosystems. I was invited by the “*chef de lab*”, i.e., the head of the lab, Dr Florian Malard. Florian manages this team of eleven faculty members of the University of Lyon-1 and about forty other various lab techs and graduate students. The laboratory is funded by the French government and does nothing but research on groundwater ecosystems.

Florian's research specialization is the evolution of subterranean isopods, which happens to be the same thing I've been working on for 47 years. Salisa and I have been collecting isopods from all over the United States for the past two years and shipping them to LEHNA, and the lab had provided funding for me to travel to France to meet with the key people working on the project and to better understand the processes on the French side.

If you don't like cellular biology or chemistry, I'd suggest skipping the next three paragraphs. We have been studying the evolution of isopods by comparing the structure of DNA molecules in different species. All living things inherit their traits by the large assemblages of these DNA molecules that are clumped together to form chromosomes. The chromosomes are found inside the cells in membrane-bound organelles called the nucleus and mitochondria. The DNA molecule is two identical strands formed into a double helix, with long sequences of the individual component sub-molecules called nucleotides forming sections called genes that are responsible for being chemically translated to eventually make different traits appear in the organism.

The specific process is done in several parts. First, the DNA molecules are chemically stripped out of the cells of the animal being tested. The molecules are small and it doesn't take much tissue, so a single tiny leg from an isopod is usually sufficient for the extracting the DNA. It next has to be purified so that the other components that might be with it, primarily protein or lipid (fat) molecules, are separated. Next, an enzyme called polymerase is introduced to the DNA,

where a process called the polymerase chain reaction (PCR) occurs with the assistance of another chemical specific to a single gene called a primer. This process consists of separation of the two DNA strands in the helix, the primer finds and attaches to a specific gene, and then aided with the addition of raw materials a chemical reaction occurs that serves to make thousands of copies of a specific gene. Finally, with the large supply of the gene now available, it is possible to read the sequence of the nucleotides in the gene.

Whew, yes, it's a complicated process. The final piece of this puzzle is to compare the sequence of nucleotides comprising the backbone of the DNA molecule from one species to another. The sequences change very slowly over time. Within a given species, the differences are minimal, with the differences growing in number when different species are compared that have diverged over the course of time. Approximate dates of divergence can be obtained by keying the process to geological processes that are known to have occurred at certain times. For example, the isopods we're studying occur in Europe and North America, and these continents are known to have separated by the end of the Cretaceous about 66 million years before present. The molecular genetic data points to a divergence of the isopod fauna on these continents several million years prior to the final physical separation of the land masses of the former ancient continent called Laurasia.

One of the products of the DNA sequencing is called a phylogenetic tree, which shows the relationships of different populations of a species, or between different species. A small section of one of these trees is shown at the top of the next page that illustrates the relationship of specimens of the Rotund cave isopod (*Caecidotea rotunda*) from a spring on the Edge of Appalachia (Ohio), Frost Cave (Ohio) and Bernice Chandler Cave (Indiana). All of the populations branch from a single point suggesting that the isopods from these sites all belong to the same species, and diverged from its closest relative about 8-10 million years ago.

Most of the time I spent in Lyon was working in a laboratory or sitting in a meeting, but I was able to spend part of two days out in the field. On the weekend, Florian and I visited a commer-





cial cave called les Grottes de la Balme (see page 4 for other comments on this cave). The cave's enormous entrance passage branches into a number of narrow, dry upper levels, a large decorated passage that contains a bat colony, and the stream passage. Other than the enormous entrance, I considered the large cascades of rimstone terraces as the cave's most beautiful feature, but there were many other impressive formations and other features. And apparently people have been impressed with this cave for a long time... Neanderthal men inhabited the cave during the middle Paleolithic period (30,000-300,000 years ago).

One highlight of the week was giving a presentation to the staff. I'd prepared to give it in French, but a group of people from Australia were visiting the lab and spoke no French, so I presented in English, although I'd already subtitled each slide in French as well. Most of the folks working at the lab had studied in the United States or England and were quite fluent in English, so it didn't make much difference. My presentation was broken into three parts. The first was an introduc-

tion to my work with cave and groundwater fauna, isopods in particular. The next part discussed the isopod fauna of North America in general, and then the last section was on the work that Salisa and I have been doing over the last few years with isopods of the genus *Lirceus*.

Most of the people reading this will think of groundwater isopods as being those that live in caves, but many kinds of isopods also live in other groundwater habitats. A prominent source of groundwater is found flowing under the beds of rivers or from the adjacent fields next to streams. On the last day of my trip we went out to the Ain River, east of Lyon, to a spot where groundwater emerged as springs from the edge of the river, flowing up through coarse sand and gravel. By driving a pipe about a meter deep into these sediments and then using a hand pump to bring up the water, placing a net to catch the water from the pump also catches a myriad other things. Over the course of a couple of hours we found eyeless, white isopods, amphipods, snails, and other tiny groundwater animals.



Les Grottes de la Balme, rimstone terraces (left) and formations in the bat roost passage (right).

photos by Jerry Lewis, 2018

2018 INDIANA CAVE SYMPOSIUM RECAP

by Keith Dunlap

The Handy Meeting Barn in Bloomington was the venue for the 26th annual Indiana Cave Symposium, which was held this year on April 14th. Indiana cavers were out and about earlier in the day caving and enjoying the warm spring weather. The Symposium was once again co-hosted by the Indiana Karst Conservancy and Indiana Cave Survey, with each organization splitting the facilities rental and food expenses, which included burgers, brats, and pork chops entrées, along with buns, condiments, and soft drinks. Approximately sixty attendees helped out by bringing side dishes, desserts, chips, and the like to complete the cookout for the first part of the event. The program part of the Symposium began promptly at 6:30 PM. The following summarizes the presentations:

- **Jerry Lewis** – Provided a short update to the audience on the IKC's Wayne Cave Preserve expansion project, announcing that as of the April 13, the project was fully funded and the transfer of the property would occur in July.
- **Jerry Lewis** – Small Town Boy Travels to Big City: The Molecular Phylogenetics of Cave Isopods of Indiana. Jerry used DNA-technology to distinguish relative relationships between different species of isopods associated with Indiana and adjacent states (also see article on page 10).
- **Marc Milne** – A new species of spider from Stygian River Cave. This cave has some unique characteristics that has allowed this spider to evolve. There may or may not be the potential to find this spider elsewhere.
- **Lee Flora** – State Geographical Surveys, Karst Science, and a Decade of Exploration in Southern Kentucky. Lee presented some projects he had been involved with in the past, and explained some of the past and potential future projects that the Indiana Geological and Water Survey (formerly the Indiana Geological Survey) have completed and are pursuing related to caves and karst.
- **Keith Dunlap** – Recent Indiana bat counts and the impact of WNS. Keith presented over thirty years of Indiana bat population data with emphasis on the post-WNS results where some hibernacula populations have crashed and other hibernacula continue to be stable or actually increase.
- **Laura Demarest** – 2019 Cave Rescue Training scholarships. Laura described an effort she is undertaking to raise funds to provide scholarships for some attendees of the week-long cave rescue training class to be held in Corydon in 2019.
- **Ty Spatta** – The expansion and exploration of Studebaker Pit. Ty described the significant vertical dig project that led to the stream passage discovery both downstream towards Blair Hollow and upstream towards Wayne Cave. There is more to come which potentially could connect to Wayne Cave.
- **Rob Jarboe/Scott Davis** – Texas Bear Cave. Rob provided some past history and then Scott described some recent new discoveries in this long-known cave.
- **Rand Heazlitt/Marion Akers** – Binkley Cave & Dewey Eckart Hole updates and highlights in the past year. Rand and Marion systematically described the numerous trips over the past year, leading to new discoveries and connections to extent Indiana's longest cave.

A hearty thanks to everyone who made this year's Indiana Cave Symposium a success, from the Symposium presentation organizers, to the presenters, the sponsors, the burger grillers, the cleanup crew, and all the attendees! Interested in presenting next year? Just let it be known!



photo by Dave Black, 2018

ANNUAL CAVE PATRON / PROPERTY MANAGER REPORTS

Each year at the Annual Business meeting, the Cave Patrons and Property Managers are asked to present a verbal summary and submit a written report describing the prior year's activities and incidents, and to make any future recommendations needing implementing. The following is a compilation of the reports for calendar year 2017:

Buddha Cave Patron Report (Jeff Cody)

This year there were seven trips into the cave that were reported to me. This is similar to many past years. Twenty-five people filled out waivers. One thing different from recent years is that I arranged all but one of those trips, typically another liaison will arrange a couple or more. There were a couple of noteworthy trips. In late July and early August there were two trips led by Gavin Bradley as part of his salamander predator research using clay replicas around and just inside the entrance. Also later in the year, in early November the cave was the scene of a DNR-led bat relocation. The trips were spread out throughout the year with trips made in each of the four seasons.

No one reported any incidents or things out of the ordinary inside the cave. Nice to see that we have not seen a return of graffiti at the entrance. I think I had requests for a couple of other trips. These did not go due to one not being aware of the need for a ladder, and another that was not aware of need for ladder and vertical gear. I am not aware of any needs inside the cave except installing bolts a few feet past the lip of the main drop down. This area had bolts years ago, but had not been used in some time. This allows a drop into a bit larger area as opposed to where it seems narrow at the start of the crevice. Access to this rig point is easy due to small ledges that allow reasonable footing to it. So far we have had no issues with the natural rig points so this does not have to be a priority just nice to have that optional rig point.

Buddha Property Report (Keith Dunlap)

This was the IKC's 16th year of ownership 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. This is the first year since we started planting trees that we did not do any weed control related to trees. While more weed/fescue control is needed, it is not a high priority.

There is at least one large tree down on the trail towards the back of the property. Someone placed an unauthorized lock on the lane gate that had to be removed. Not sure of the motivation. There were no major management problems or concerns encountered during 2017.

2018 activities I hope to accomplish:

- Continue mowing the trails.
- Continue working on the grapevines at the back of the property.
- Remove the down tree on the trail.
- Cull some of the 2006 oak trees on the north side of the trail.
- Plan for the removal of the dying Ash tree by the parking lot gate.
- Install the emergency information signs and posts.

Sullivan Cave Patron Report (Paul Uglum)

This report covers the activity and visitation for 2017. As in the past, Sullivan Cave remains a popular and frequently visited cave. Groups vary from experienced cavers traveling upstream to the Rise, to various youth groups with limited or no wild cave experience. Group sizes range widely with the average of 8.3 participants per trip, which is about the same as last year, and more than the previous two years. Group sizes ranged from 3 to 30. More experienced groups tended to be smaller and lead youth groups larger.

For 2017, the first few months showed a significant increase in both the number of trips and size of groups, followed by a drop with no visits in August, followed by a return to more normal levels. In the end, there were 80 trips with 665 participants. Six of the trips included camping on the site, a slight increase from last year. For trips requested through the IKC, there were an additional eight trips that were scheduled and did not take place due to weather, too many participants backing out, or because Sullivan was the back up and was not needed. In addition, three trips were rejected for cause ranging from past failure to return keys and waivers in a timely fashion, to requests for same day visitation. It will be interesting to see if visitation decreases now that Hoosier National Forest Caves will be available in the summer and there are additional cave openings in the Garrison Chapel area.

Most trips were requested via e-mail and keys mailed to the trip leader and returned by mail. The

postal service has not impressed me, it has taken as long as ten days for the key to arrive. I encourage anyone wanting to visit Sullivan Cave to plan ahead.

There were seven additional inquiries not resulting 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. One of these requests was to film in the cave which was referred to the board for consideration.

I lead five trips to Sullivan including a CIG beginner's trip again this year. In general, the cave is in good condition considering the level of visitation. Some additional damage appears to be occurring despite efforts to educate users about leave no trace caving. It would be good to set up some efforts to remove graffiti in the Backbreaker and remove any trash that has accumulated in the Mountain Room.

There was one incident of an unapproved (and unrequested) camping in the cave despite it clearly being prohibited in the instructions sent to the group. The group had asked to camp at the site, but no mention was made of camping in the cave, and the copy of the visitation rules sent them specifically prohibited camping in the cave. The prohibition to camping in the cave has now been added to the waiver for Sullivan. There were several requests to camp in the cave over the past two, which were rejected. There appears to be interest in cave camping from youth groups.

Locks have been replaced as needed, but the SF series remained the same throughout the year. A bolt cutter has been installed in the cave in response to ongoing concern for a way to exit the cave in the case of jammed lock or other trapped in cave scenarios.

Opportunities: It would be good to have a cave cleanup/restoration project. 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. There are more beginners who would be interested in visiting the cave if they could find someone to lead them. I generally direct them to the local grottos and the CIG introduction to caving class at REI. I do not have a good solution, but the interest is there if anyone has a workable solution.

Sullivan Property Report (Keith Dunlap)

This was the IKC's 19th full year of ownership and we continue our long-term stewardship projects, but otherwise we are in "maintenance mode".

The "camping" area and the area out by the highway were mowed three times last year. I had hoped to mow one additional time in November to mulch the leaves, but that did not get done. The lane/parking areas are in good shape and no major maintenance is anticipated for 2018. In August, I treated the Stiltgrass in the lower half of the camping area with 0.25% Clethodim and MSO. It appeared to be somewhat effective, but believe the dosage should be increased.

Several members took advantage of the camping area and firewood over the past year. There were at least six groups camping on the property. We are still discouraging campers from bringing their own firewood to reduce Emerald Ash Borer transportation, although EAB is now pretty widespread in Lawrence County. The port-a-john was serviced twice last year, the result of contracting with a new and more responsive service provider.

The cave gate was removed and the hinge pins and collars were completely replaced. The gate and frame were sanded and repainted. This was the first major repairs/heavy maintenance performed since the gate was installed 27 years ago. Hopefully we can go another 25-30 years before the next heavy repairs. Locks are being serviced by Paul Uglum, the Cave Patron.

There were no major management problems or concerns encountered during 2017.

2018 activities I hope to accomplish:

- Systematically walk the woods to remove grapevines, per the suggestion of the DNR District Forester.
- Spray the camping area in August to control the Stiltgrass infestation (up the dosage).
- Put a new roof on the "wood shed".

On the adjacent property to the east, some additional cleanup around the home site is needed and some earth grading is planned to restore the area. Overflow parking is available there and I have been keeping an area mowed for alternative parking and camping.

Wayne Cave Patron Report (Dave Everton)

Thirteen trips were requested and approved through the Cave Patron in 2017, with a total of 66 cavers. In addition to the trips which went through the Patron, the CIG (Central Indiana Grotto) made two trips. Seventeen cavers went on those two trips, so the total number of visitors was 83 cavers.



Nobody informed the Patron of any issues during the time period for this report.

Now is a good time to note that the Patron has done some self-examination after a certain incident in September 2017, and has determined to try harder to communicate to trip requesters he is not familiar with, to convey the importance of establishing and using an emergency contact person to inform authorities if their group is overdue reporting in after their trip.

Wayne Cave continues to be a source of enjoyment and pleasure for the average visitor. Thanks goes to the IKC for their many years of past protection and restoration, as well as regular continued protection and access, including the recent addition to the Preserve. Now, why the Wayne Cave Hotel was built in the middle of the road to the wooded camping areas, that's still a mystery to the Patron, but he'd probably know why if he attended meetings.

Wayne Property Report (Robert Sollman)

For the 2017-2018 caving season multiple trips were made to Wayne Cave, including overnights, with no serious incidents reported.

Property Maintenance:

- The clearing at the top of the hill has been left to grow naturally with the exception of glysophate sprayed on invasive species (autumn olive, multiflora rose, etc...).
- Trash was removed along the road-frontage as well as the driveway.
- Several trips were made to the property for clearing the trail to the cave of down trees/branches, as well as weed-eating the trail.
- New emergency contacts signs (two) were added on the property.

Future Projects include:

- The addition of 25+ acres to the preserve including multiple sinkholes.
- Additional of a loop trail to highlight the natural karst features.
- Fence removal.
- Boundary marking.
- Tree planting/reforesting of ~4 acres.
- Complete the informational kiosk sign – estimate has been made just waiting on final artwork.

Robinson Ladder Property (John Benton)

On April 11, 2017, IKC members Richard "Fig" Newton and John Benton, along with the help of a chain saw, removed a moderate sized tree that had fallen across the lane, going from the lower to upper fields.

On April 22, 2017, about 75 tree seedlings were replanted inside the upper field fence enclosure. IKC members present were Keith and Bambi Dunlap, John Benton, along with 5 members of The American Chestnut Foundation: Glenn Kotnik, Carroll Ritter, a USDA Forester, and a father-daughter volunteer. New seedlings were replaced where the original ones had died, and were flagged to mark for access to mowing between. Fertilizer was also applied to the new plants.

On April 25, 2017, Keith Dunlap single-handedly applied three and a half spray tanks of weed treatment around the newly planted seedlings to prevent vegetation competition. He also applied one tank of weed treatment around the perimeter of the fence. Dunlap also removed the PVC tubes from the original six chestnut trees planted in the lower field; one of the six appears dead and the other five, while not thriving are living.

On May 30, 2017, Keith and Bambi Dunlap mowed in and around the fenced area of seedling trees and among the rows of trees, with Keith's walk-behind mower. Bambi did 2/3rds of the mowing, while Keith did some trimming of the lower leaves and re-flagged where necessary. It was also noted the herbicide rings were a big help in mowing, as the pre-emergence herbicide application made a difference compared to just glyphosate. Dunlap also sprayed some Autumn Olive at the northwest corner of the lower field.

On July 12, 2017, Keith Dunlap conducts a tree check; vegetation is creeping back around the newly planted trees so another herbicide treatment is warranted. The walnuts are looking great, as are some of the chestnuts. Some smaller chestnuts may not have survived, and a fair amount of insect damage on leaves was noticed.

On July 15, 2017, while IKC members Jamie Winner, Glenn Lemasters, and John Benton were conducting research in Wyandotte Cave, Keith Dunlap returned to RLCP to spray five tanks of glyphosate around all of the trees inside the fenced area and also the fence perimeter. He also did some selective pruning, removing forked stems and removed some limbs on "volunteer" trees so more sunlight could reach our planted

trees. Of the 200 total trees, only 10 or so appear dead, although the living ones vary in size. Probably 50% of the planted trees look really good. Some of the black walnuts and chestnuts are 3-4 feet high. A few are as high as 6-8 feet, in only their second year of growth. For whatever reason (soil, drainage, or shade issues?), the trees on the south end of the upper field, seem taller and overall more vibrant. Dunlap also sprayed some areas of Johnson Grass in the lower field. It was noted the Danstan chestnuts (in lower field) seem to have weaker stems than the others, possibly due to when the plastic tubes were covering them for some reason (limiting growth). Dunlap visited the wildlife pond on the Campbell tract (north edge of property) and noticed we may need to repair some low spots in the dam to hold a little more water. Best to do as a winter job, without vegetation. Dunlap also noticed the upper field area where Jamie mowed last year is full of flowering plants. The pollinators have to be happy. Mowing this field every other year should be a good practice for wildlife. More flowers should mean more bugs, which should be good for bats.

On August 6-7, 2017, Jamie Winner, with his tractor and mower, mows the drive-lanes, parking areas, camping areas and around the barn

On November 14, 2017, Keith Dunlap mowed around fence and between tree rows in upper field. He left a bag of 12-12-12 fertilizer in the barn, but ran out of time to use it around trees.

On December 14, 2017, Tim Shier, IDNR Biologist, e-mails about doing bat census in RLC sometime in January 2018. Ok was given, will no doubt have some IKC people along.

Note: On January 27, 2018, Robinson Ladder Cave visited by IKC members Tom Sollman, Keith Dunlap, and three IDNR people. Sucky and rainy outside, four Big Brown bats were counted inside the cave.

Future Plans: Continue mowing upper/lower fields every other year; work on wildlife pond dam, care of tree seedlings, mowing of lanes, drive areas, couple times year, treat Autumn Olive as needed. Others??

RL Cave Patron Report (John Benton)

For 2017, there was only one RLC trip that I was aware of... On August 13, four EMG (Evansville Metro Grotto) cavers visited the cave. There may have also been some trips in conjunction with Indiana Cave Capers held in Corydon during the summer.

Shawnee Karst Preserve Report (Jerry Lewis)

In 2017, the Shawnee Karst Preserve only required maintenance. The nature trail, consisting of about a mile and a half of trails that roughly follow the perimeter of the property, was mowed on two occasions and fallen trees were removed with the aid of a chainsaw.

The preserve's gravel road remains in generally good condition, although some rutting occurred during the year near the base of the hill. Jamie Winner brought his tractor backhoe and did significant improvements in the roadside ditch and restored the turnouts so that water would be directed off the road.

Inspection of the area of native grasses revealed that the grassland remains in generally good shape, although some saplings are starting to encroach.

The cave entrance, previously closed and then re-opened after mechanical excavation, was monitored periodically. Soil continues to collapse from above into the cave entrance, but it remains open.

Plans for 2018:

- Continue routine maintenance of trails and camping area.
- Continue monitoring of the cave entrance sinkhole.
- Plan to bring in gravel as needed and re-grade the preserve road.
- Finalize plans for information kiosk and construct.

Upper Twin Patron Report (Dave Everton)

There were four recreational trips taken during the period of this report, with a grand total of 41 visitors who partook of the pleasure, including the Patron. This number does not include the many trips taken by Tom Sollman, who has been conducting activities the Patron is not qualified or at liberty to discuss in this report. The Patron highly suspects those covert actions will have been or will be discussed at another point during the March meeting.

All trips requested have been by cavers the Patron is fairly familiar with, so it hasn't been as much of a concern to communicate to them the importance of establishing and using an emergency contact person to inform authorities if their group is overdue reporting in after their trip. It is expected that they already are following that procedure.

As it was in 2016, the only trips this past year were taken during the time the DNR allows use of the boat dock entrance and section of cave, which the Patron believes has increased the desirability and popularity of using the IKC entrance to the cave. It has possibly already been stated during the March meeting that the DNR once again renewed the agreement with the IKC for another two years, which cavers should be very grateful for. Thanks goes to the IKC for cave and property protection, as well as continued cave access.

Suicide Cave Patron Report (Kevin Smith)

The cave gate and lock are still working well and there have been no issues with accessing the cave since the cave gate and lock hasp were re-conditioned in 2015. Six trips totaling 43 cavers visited the cave in 2017. The groups represented the Windy City Grotto out of Chicago (three separate trips by the same leader!), the Western Indiana Grotto, and one Boy Scout troop from Fort Wayne, Indiana. There were no reports of any issues or concerns from the groups visiting the cave. During one of the trips by the Windy City Grotto, a juvenile turkey vulture was found inside the cave's entrance room. The bird found its way in through the bars, but was not able to get back out. Members from the grotto rescued the vulture and took it to a rehabilitation center where it was brought back to health and released back to the wild.

The IKC wishes to thank Charlie and Will Biel, stewards of the Arrow Hill Ranch Forestry & Wildlife Sanctuary, for allowing the IKC to manage visitation and the conservation of this great natural resource.

Orangeville Rise Report (Steve Lockwood)

No report submitted by the Property Manager.

Shiloh 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 10 participants with three vehicles allowed on the property. During 2017, all six trips were taken into the cave before the end of September. There were no requests for visitation denied because the agreed upon quota had been reached.

The six trips in 2017 allowed 45 cavers to visit Shiloh Cave. Only three trips were filled to the maximum of 10 cavers.

Indian Creek CE Report (Jamie Winner)

The properties/lots covered by the conservation easement were inspected by Jamie Winner on June 23rd, 2017. Inspection reports were mailed to applicable landowners early July.

A PVC T-post cover was missing along the easement boundary of Lot #11, but the T-post was still present. Some previous ATV trail evidence in the easement area of Lot #11 appeared to be unused since last inspection. During the previous year, the invasive species Johnson grass and Poison hemlock were noted growing within the easement area of Lot #10. An attempt to contact the owner was unsuccessful due to the property being sold to a new owner. This year contact was made with the new owner who seemed amenable to providing vehicle access for easier invasive treatment, but so far no such treatment has been performed.

photo by Jerry Lewis, 2006



The photo above was taken in the spring of 2006 during a tree planting at the Buddha Karst Preserve. The photo to the right was taken in the spring of 2018 in the same area showing the progress of our reforestation efforts...



photo by Keith Dunlap, 2018

INDIANA KARST CONSERVANCY TREASURY REPORT

Income/Expense Statement From January 1, 2018 to March 31, 2018

INCOME:

Dues Apportionment and Residuals	723.75	
Donations - General	1,112.50	
Donations - Land Acquisition Fund	21,991.00	
Interest	301.19	
		\$24,128.44

EXPENSES:

IKC Update (printing, production, mailing)	286.35	
Education / Outreach	0.00	
Stewardship/Conservation	19.95	
Business (renewal letters, annual meeting, etc)	270.05	
Transfers to/from restricted funds/other adjustments	22,205.52	
		(\$22,781.87)

NET OPERATING EXCESS (DEFICIT) THIS PERIOD: \$1,346.57

Balance Sheet March 31, 2018

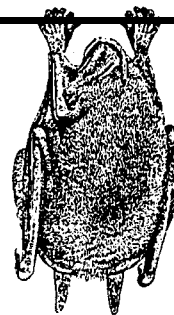
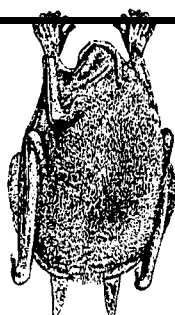
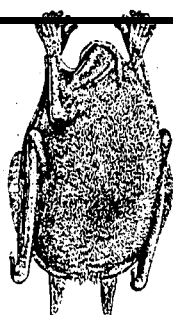
ASSETS:

Cash in Checking / Saving Accounts / CDs	229,771.24	
Robinson Ladder Cave Preserve (73.48 acres)	162,000.00	
Shawnee Karst Preserve (50.31 acres)	105,000.00	
Wayne Cave Preserve (31.85 acres)	85,000.00	
Sullivan Cave Preserve (28.00 acres)	72,000.00	
Buddha Karst Nature Preserve (36.84 acres)	29,000.00	
Orangeville Rise Nature Preserve (3.01 acres)	7,000.00	
Indian Creek Conservation Easement (valued at \$1/acre)	13.16	
		<u>\$689,784.40</u>

FUNDS & OPERATING EXCESS:

Land Acquisition Restricted Fund	102,580.95	
Deferred Dues Restricted Fund (198 members)	4,845.00	
Stewardship Endowment Restricted Fund	57,803.26	
Previous General Fund (total)	63,208.62	
Net Excess (Deficit) This Period	<u>1,346.57</u>	
Current General Fund (unrestricted)		64,555.19
Current General Fund (committed)	3,100.00	
Real estate liquidity (basis value)		<u>460,000.00</u>

Total Liabilities & Operating Excess \$689,784.40



IKC ANNUAL BUSINESS MEETING MINUTES

Saturday, March 24, 2018, 10:30 AM EDT, Ellettsville, Indiana

Board Members Present:

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

Board Members Absent:

Bruce Bowman
Matt Selig

The meeting was called to order by President Jerry Lewis at 10:30 AM EDT at the Monroe County Public Library, Ellettsville Branch, Ellettsville, Indiana. He welcomed everyone to the Annual Meeting and asked those in attendance to introduce themselves.

December Meeting Minutes

The minutes from the December Quarterly Board meeting were approved as published in the March, 2018 *IKC Update*.

E-Mail Motions Since Last Meeting

On February 4, the Nominating Committee, IKC Board members Danyeale Green and Matt Selig, submitted a potential slate of candidates to President Jerry Lewis who forwarded it to the Board for review. After discussion, a slate of nominees (having been found to have membership and qualifications appropriate for the positions for which they were running) was presented to the Board for a final vote. On February 8, a motion to approve the following slate was made by Danyeale Green and seconded by Bruce Bowman. The motion passed unanimously.

President: Jerry Lewis
Secretary: Marc Milne
Treasurer: Keith Dunlap

Directors (in alphabetical order):

Laura Demarest
Dave Haun
Goni Iskeli
Tom Sollman
Sue Vernier

Treasurer's Report

Treasurer Keith Dunlap reported cash assets total-

ing \$218,654.48 and land assets totaling \$460,000.00 for total assets of \$678,654.48. Funds include Stewardship: \$57,588.74; Land Acquisition: \$96,190.95; Deferred Dues: \$3,573.75; and General Fund (unrestricted): \$61,301.04. The IKC membership currently stands at 198 paid members with renewals due March 31. Keith has already received 155 renewals. The IRS 990 document was e-mailed to the Board for review. Anyone wishing to review the 990 should do so by next week, as Keith wants to submit it to the IRS.

2018 Elections

Jerry appointed Danyeale Green to be Election Teller to tally the ballots and report the results later in the meeting. Danyeale asked Carla Striegel-Winner to assist.

Hosting an Orientation to Cave Rescue

Anmar Mirza, National Coordinator, and Jess Deli, Central Region Coordinator, of the National Cave Rescue Commission (NCRC) of the NSS were introduced by Jerry and asked to speak about offering the IKC an opportunity to host a two-day weekend cave rescue seminar.

Jess first explained that the NCRC is not an actual cave rescue team, but an organization that provides training and resources to assist in the rescue. The two-day seminar offers classroom work followed by a mock rescue at a cave. The training will provide cavers with the knowledge to help support those conducting the rescue and emphasizes safety to hopefully prevent the need for a rescue and its accompanying damage to resources. A classroom location and a cave are required for the two-day event. The fee is \$50 for NSS members and \$65 for non-NSS, with a minimum of 15 registrants required. Keith said the IKC could possibly provide partial scholarships to encourage IKC members to attend. Tentative date would be sometime in the fall, 2018. Jerry said the details could be finalized and approved at the June Board meeting.

Property Manager & Cave Patron Reports

Keith e-mailed the reports to the Board prior to the annual meeting and extra copies were made available during the meeting.

Buddha Karst Nature Preserve – Jeff Cody, Cave Patron, reported a total of 7 trips with 25 participants. The cave was used as part of a Salamander Predator Research project and a DNR-led bat relocation.

Keith Dunlap, Acting Property Manager, said John Benton went to the property and found an unauthorized lock on the lane gate, which Keith later removed. He reported that nearly all of the oak trees planted in 2006 have survived and are now growing too close together and some need to be culled. Jamie Winner offered to

assist with flagging the proper trees to cull. Goni Iskeli asked that culling be done during the winter before summer use by bats.

Orangeville Rise – No report. Jerry will try to contact the Property Manager, Steve Lockwood. Carla Striegel-Winner offered to take over the position, if it becomes necessary.

Robinson Ladder Cave Preserve – Keith said John Benton, Property Manager and Cave Patron, reported one trip of four EMG cavers visiting the cave. Keith will continue with care of the chestnut tree seedlings. Only four bats were found during January's census (compared to 500-600 historical record).

Shawnee Karst Preserve – Jerry Lewis, Property Manager, reported a large amount of dirt caught in the netting that was formerly stabilizing the slope above the cave. Tom Sollman said the cave entrance is cleaning itself. His stream census of cave fish and crayfish continues. Dave Everton, Cave Patron, reported four recreational trips with 41 participants.

Sullivan Cave Preserve – Keith reviewed the report from Paul Uglum, Cave Patron. There were 80 trips with 665 participants. Laura Demarest and Keith discussed Paul's desire to have a cave cleanup/restoration project in the future. Keith Dunlap, Property Manager, reported on general maintenance, including servicing the port-a-john and Stiltgrass treatment.

Wayne Cave Preserve – Dave Everton, Cave Patron, submitted a report showing 15 trips with 83 participants. Dave replaced the bolt cutters in the cave. Tom Sollman, speaking on behalf of Robert Sollman, Property Manager, said that the kiosk will be completed after the property expansion is official and all of the donors are identified.

Indian Creek Conservation Easement – Jamie Winner inspected the conservation easement properties in June and submitted his report to The Nature Conservancy. He checked on the ATV trail which has not been used since the last report. There are invasive species in Lot 10, which has recently been sold. Jamie said the new owner seemed open to someone coming onto the property to do treatment in the future.

Shiloh Cave – No report from James Adams, Cave Patron. Tom Sollman said he usually tries to visit the cave in the spring and fall for fauna counts. Laura Demarest is trying to set up a trip, but has received no response from the Cave Patron. Keith said Laura should continue trying either to e-mail or call the Patron. Jerry asked Laura to let him know if she has no success. Tom said the manager of the quarry business was positive about having an emergency contact sign installed; but it should be in a discreet location, probably near the cave.

Suicide Cave – Keith said Kevin Smith, Cave Patron, reported six trips with 43 participants. Danyele

Green said that salamander young are being killed by cavers tromping through the water. Discussion followed on how to keep cavers out of the pools, preferably without resorting to flagging tape. One idea was a sign just outside the cave to warn cavers; but, at minimum, trip leaders should be advised of the situation by the Cave Patron. Jerry will discuss the issue with Kevin to find a workable solution. The gate is working fine, but the lock is sticking. Jerry said he would contact Kevin to replace it.

Spring Mill State Park Activities

Tom Sollman said he has done 20 trips into Upper Twin Cave for the stream census project. He has counted up to 152 cave fish and 127 crayfish and has seen juvenile salamanders. He reports a good relationship between the IKC and the interpretative naturalist at Spring Mill.

National Natural Areas Conference – October, 2018

John Bacone, director of Indiana DNR Division of Nature Preserves, contacted Jerry regarding the upcoming National Natural Areas Conference in Bloomington, IN, October 23-25. The annual event is three days of symposiums, sessions, and field workshops. Jerry would like the IKC to be a participant and sponsor. Sponsorships start at \$500. The Board was generally in favor. Jerry will get further details and discussion will continue by e-mail.

IDNR Cave Access Update

Jerry said the IDNR has renewed the two-year cave access agreement with the IKC for select caves in Spring Mill State Park (Cave River Valley included).

Keith said Hoosier National Forest property is now open to caving without permits from May 1 to August 31. He said talks were still ongoing between the CIG (not the IKC) and the IDNR to get permission to visit caves in the State Forests.

Emergency Protocols Update

Danyele and Jerry had samples of the emergency protocol signs to be placed at IKC caves. The signs give the property address, emergency phone numbers to call, nearest emergency room, and non-emergency contacts. Danyele asked that the next edition of signs have an area map of the property showing how to find the cave. Keith will set a date for volunteers to put posts in the ground and install signs. Danyele needs to be advised of any address updates and Cave Patron/Property Manager changes.

Indiana Land Protection Alliance Membership

Keith discussed the ILPA, a collaboration of land trust organizations working in the state of Indiana. The ILPA formalized the organization with bylaws and 501(c)(3) status. The ILPA needs funding to hire an Executive Director who can lobby for funding and advocate for

land protection. Large land trusts such as TNC have provided \$10,000 a year; smaller land trusts are asked to provide \$500. After much discussion by the Board, Dave Haun made a motion to pay \$500 for a one year trial membership in the ILPA. Carla Striegel-Winner seconded. Motion passed with 9 in favor, 2 opposed, and 1 abstention.

Indiana Cave Symposium

Jerry asked for a motion to provide funding for the April 14th Indiana Cave Symposium. Keith Dunlap made the motion to allocate up to \$150 to cover one-half the cost for food, facilities rental, etc. Everett Puliam seconded. Motion was unanimously approved.

Land Acquisition Activities

Keith said the Wayne Cave Preserve expansion is in full swing with the surveying completed. Approved plans were notarized and signed today. Closing will be after July 15. Excluding prior funding carryover, \$91,000 is available now from the Land Acquisition Fund and money pledged to the expansion. The 2-for-1 donation challenge matches for up to \$10,000 were exceeded yesterday. However, Keith said the challenge match donors have agreed to continue matching members' donations (within reason) until March 31. Assuming funds are received from NSS and the NSF, about \$9,000 still needs to be raised. After closing, the expansion property will need to have old fencing pulled, trees planted, invasives removed, and a trail flagged.

Keith has negotiated an agreement with the U.S. Fish and Wildlife Service regarding the Spicer Lane property (aka the "Hancock Property"). The agreement will allow six trips per year to Coon and Grotto caves (seasonal due to the winter bat populations) and twelve trips per year to Shaft Cave. He reported the asking price for the 88-acre Eller Cave property is now \$88,000; it has mitigation easements. Keith also reported that a timber company bought 128 acres south of Paoli (contains

Garlow Spring Cave), has timbered it, and is now trying to flip it for more than they paid for it.

Election Results

Jerry Lewis announced the election results as received from the Election Tellers. All three unopposed Officers were elected: Jerry Lewis continues as president, Marc Milne will be the new secretary, and Keith Dunlap continues as treasurer. The four Directors will be Laura Demarest, Dave Haun, Tom Sollman, and Sue Vernier. Jerry thanked Goni Iskeli for agreeing to run for a Director's position.

Items from the Floor

Laura Demarest advised that the week-long NCRC Seminar will be in Corydon, IN, in 2019. A silent auction at Cave Capers will help fund scholarships for cave rescue.

Next Meeting

The next meeting will be June 30, 2018, at 1 PM EDT. The meeting will be at Wayne Cave Preserve. If it's bad weather, the meeting will move to Danyele Green's place. A work session and tour of the Wayne Cave property will take place prior to the meeting.

Adjourn

The meeting was adjourned at 12:52 PM EDT.

Respectfully submitted, Sue Vernier, IKC Secretary



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

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

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

\$ _____ donation to the general IKC fund.

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

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

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

NAME _____

ADDRESS _____

CITY/STATE/ZIP _____

PHONE # _____

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

