IKC UPDATE

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INDIANA KARST CONSERVANCY, INC

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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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Cover: White-fur Indiana bat in Grotto Cave. Monroe County, Indiana. Read more details on page 5. Photo by Brian Dennis (ESI), January 2015.

Myotis Press

IKC QUARTERLY MEETING REMINDER

SATURDAY, DECEMBER 5th, 10:30 AM EST

HOOSIER NATIONAL FOREST HEADQUARTERS

BEDFORD, INDIANA

The quarterly meetings are for the elected 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: Brief reports on the various IKC preserves and recent stewardship activities; Upper Twin sinkhole entrance status; Chestnut tree planting proposal and discussion; potential Wyandotte Cave volunteer opportunities; Land acquisition projects; Financial reports; and more....

In addition to the regular IKC meeting, the Hoosier National Forest staff will be there to interface with the attendees and will have a presentation on some of their activities that will be of interest to the caving community. The HNF has been a good partner with the IKC in the past, and it is hoped we can start rebuilding that relationship in the post-WNS era.

Meeting directions: The HNF office is located along (and east of) State Road 37, approximately 3/4 of a mile north of US 50 (the main east/west road through Bedford). Enter from behind the Quality Inn. The actual street address is 811 Constitution Avenue in Bedford.

ACTIVITIES CALENDAR

Dec 5 – IKC Quarterly E-Board meeting / HNF Presentation (see above)

Dec ?? – Workday at Shawnee Karst Preserve

March ?? – IKC Annual Business Meeting (date & location to be determined)

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

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

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

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RAMBLINGS FROM THE PRESIDENT...

This issue's Rambling was born of two e-mails I found in my in-box today. The first was from Keith Dunlap, in which he was responding to the author of a newspaper article in the *Fort Wayne News-Sentinel* concerning a rehab program for bats. The reporter was talking about the need for the rehab program that had reportedly grown because of the devastating effects of White-nose Syndrome (WNS). In the article the reporter stated that: *"...the fungus has affected bats in southern Indiana caves, and because it is spread by spelunkers who do not properly clean their equipment and boots, the Indiana Department of Natural Resources has closed some of the caves. So far it has not been seen in northern parts of the state."*

I suppose I've become somewhat dulled to hearing this stuff blaming cavers for WNS. We've all heard this over and over and over, but it's still tiresome. I thought Keith's response was said as well as any I've heard: *"All evidence since 2006 has shown that the fungus is spread completely by bat-to-bat contact. Some early studies demonstrated that the fungus COULD be transported by humans under the right circumstances and there was a fear that human transportation could cause large geographical "jumps" compared to the natural progression from bat-to-bats transportation, but in the last ten years, no documented "jumps" have been observed, quantifying the risk as minimal at best. Some state and federal agencies closed their caves out of precaution, but in the eastern US that is only small percentage of the caves, further illustrating the ineffectiveness of the closure strategy."*

photo by Kevin Smith

So, after that e-mail, I opened up the next one in my in-box, which was a response from an education center in Ohio responding to a workshop I had proposed to them on cave fauna. The gist of the e-mail was stating that a workshop on cave fauna would be very interesting to them, but would be impossible because all of the caves had been closed due to the effects of WNS on bats, spread of course by people entering caves. Obviously, if we can't go in the caves on the education center's property, it wouldn't be possible to learn anything about cave fauna, would it? Of course not.

It's hard to imagine a situation screaming more loudly in need of education. Like lots of other people involved in karst education, I routinely give presentations on various topics of caves and karst fauna, and only a small fraction of those involve actually going into a cave. So an education center dismissing an educational opportunity outright … Wow, that was incredible.

My first thought was that some education on how to perform WNS decontamination would be in order. It's not difficult to wear clean clothing into a cave and use gear that's been decontaminated, and thus not going to spread the disease. The methods are simple and there are resources on-line to explain how to effectively remove or kill any fungal spores that might potentially be present after the trip.

My next thought was that the folks need a reality check on the subject of cave closures. Predictably, caves closed due to WNS concerns are now re-opening, even those with large seasonal colonies of bats like Wyandotte or Endless caves. To be clear, it is still not appropriate to enter caves when inhabited by bat colonies, be they winter hibernacula or summer maternity sites. But there seems to be no reason to close a cave in which there are no bats present. The map of WNS in Indiana shows that essentially every county in the state in which caves are present has now had a record of a bat infected by the fungus. And Indiana is surrounded on all sides by WNS positive states. So the spread of the disease in Indiana is a moot point... it's been spread everywhere by the bats themselves. I believe that persons who have clean clothing and gear can enter caves in which

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bats are not present with no concern about causing damage to most cavers' favorite mammals. And cleaning the clothes and gear afterwards is simple and straightforward.

Finally, as an invertebrate zoologist, I'd remiss to not point out that the vast majority of animals that inhabit caves are *not* bats. There's so much to be learned about caves and their diverse habitats, their *entire animal* communities, along with other pieces of the karst puzzle, sinkholes, springs, and epikarst. Clearly there remains much to be accomplished in cave and karst education.

Jerry Lewis

NEWS BRIEFS...

- This issue's cover photo is of an unusual white-fur Indiana bat, photographed in Grotto Cave during the January 2015 bat census. This may or may not be the same bat observed in nearby Saltpeter Cave in January 2014 (and appeared on the cover of the March 2014 *IKC Update*). Likewise, this is not the first time white-furred bats have been spotted in the region. Several all-white and partially-white bats were observed in Jim Ray's and Coon caves back in the 1990's and white-furred Indiana bats were also photographed in Kentucky and Illinois (one in each state) within the past ten years. Further, there was a partially white bat in Wyandotte Cave this year. It should be noted that none of these bats were considered true "albinos", since they all appeared to have normal skin pigment (dark ears and wings).

- On November 10th, George Cesnik, Kelly McNamara, and Keith Dunlap spent the day at the Buddha Karst Nature Preserve working on a couple of projects. The main activity was replacing the parking lot gate post that had rotted off recently. Digging a new hole for the 6" x 6" x 8-foot post was more challenging than anticipated, not for the anticipated buried limestone, but rather numerous tree roots. With perseverance, we did manage to get the post installed with concrete and the gate re-hung. The other main task for the day was to finish up removing the recent graffiti in the entrance room of Buddha Cave. Glenn Kotnik had previously removed most of the offending spray paint, but we wanted to hit it one more time with wire brushes, then camouflage it further with a mud slurry. Hopefully the graffitist will not return.

- In the September *IKC Update*, it was noted that the IKC's Upper Twin Cave entrance had slumped shut. After evaluating options to re-open the entrance, the Board determined the best alternative was to hire a contractor to efficiently remove the slumped soil from the sinkhole. Hopefully by the time you read this, weather permitting, that activity will be completed and our entrance is once again open and the upper portion of the cave accessible.

- Do you like the way the IKC is run and want to be part of a good thing? Or do you think the IKC could be doing more or doing things differently? Regardless, the IKC Board would like to solicit you to run as a Board candidate, either as an officer (one year terms) or Director (three-year terms). The main requirements are to be an IKC member and to attend the four quarterly meetings. As a member, your opinion always counts, but as a Board member, it *really* counts. We are particularly looking for newer members and younger members (but if you are an older, long time member, that's okay too). If you are interested, or just want to find out more about the responsibilities, please contact Jerry Lewis (see page 2 for contact information) before January 31st.

- While the IKC attempts to limit its general donation solicitation to once a year (in February as part of the renewal cycle), we will nevertheless mention that year-end donations for tax deductions are always appreciated. Donations can be for our general operating fund that includes stewardship activities and education opportunities, or designated for our dedicated cave acquisition fund. Just mail a check to our PO box, or use the donation button on our website.

- The IKC has gained two new members in the last quarter. Welcome Mark Matthews (562) and Andrea Jobe (563). The IKC membership currently stands at 186.

WHAT DOES IT TAKE TO MOVE A CAVE GATE?

by Bill Greenwald & Mark Campbell

We are talking about the gate on Eversole Cave, a walking stream cave in Scenic Hills Christian Youth Camp near Spring Mill State Park in Lawrence County, Indiana. The gate was hastedly constructed circa 1999, after a couple of the kids at the camp snuck into the cave without telling anyone and got detained with no lights until someone thought to go check in the cave and found them.

It all starts by asking the question, why move the gate? The best way to answer that question is to take a hike down to the entrance and check it out. The first thing you notice is the rusty bed spring frame "door" with welded angle iron and rebar that is spread across a really pretty walk-in cave entrance! The second thing you notice is the top of gate is not very bat-friendly with small vertically-oriented openings. And the third thing you notice is the gate is only held to the cave walls with four small pins. Of course the gate has been there for about fifteen years without incident, so functionally it was doing its job. You could also say seeing the gate visually exposed like that could make the non-caving adults feel more secure about the darkness that lurks beyond the entrance. So it can take a while to convince anyone interested in taking a hike down to the cave entrance to look at the cave gate that it needs to be moved. Our thinking was someday a heavy rain will be just enough to flush the gate off its mounting points and into the creek.

The next question is where are we going to move it to? To answer that question we made a prototype frame out of one-half inch plastic pipe that represented the three-foot by seven-foot angle iron frame of the existing gate so we could find a more appropriate spot around the corner out of sight of the entrance. We took pictures of the possible new locations and tried to determine what it would take to reshape the sides and bottom, and make the top openings more bat-friendly.

The next question was who in the caving community can we talk to that has the experience, equipment, and interest in moving and redoing the cave gate? So Mark (the Camp Manager) and I decided to take a run down to Marengo Cave and attend the March 2014 IKC Annual Business meeting. At the meeting we brought up the subject of moving the cave gate and asked for some help. In April 2014, IKC's President Jerry Lewis managed to stop by the camp to meet Mark and his family and take a look at the gate. Subsequently, I would also solicit Keith Dunlap to ask him if he had any time or interest in stopping by to see the gate, and possibly helping with the move. A year later during the 2015 Cave Symposium, Keith finally committed to help.

So the next question was when can we do it?

At first we picked a date in May, and Keith agreed that he and Tom Sollman were available. We even lined up some help from my grandson and a couple of new CIG cavers. But the weather prediction turned to rain for the whole weekend and we had to postpone. We tried to reschedule, but between everyone's busy schedule and the summer activities at the camp, we couldn't come up with a date that would work. So as fall approached we finally agreed to try to do the project on Saturday October 24, 2015. Of course as the day drew closer, the weather prediction for that Saturday was heavy rain. So as to not delay the project further, we decided to move the workday up a day to Friday October 23. We lost our helpers, but we felt the four of us could get the job done.

The next question is what do we need to move the gate and rebuild it in the new location? We would certainly need to buy enough new angle iron, rebar, and welding rod to re-shape and securely mount the frame to the cave walls. To briefly describe the process, we first needed an oxygen-acetylene torch with tanks and gauges to remove the existing gate frame and surrounding rebar. Next a hand grinder was used to clean up the rough cut edges and clean up the accumulated rust on what we were reusing, so it could be painted later. We also needed something to temporarily support the gate in its new location, so we hauled in wooden pallets. The pallets also served as a platform for the welder (Tom) to keep him up out of the cave stream when welding. To cut the new pieces of angle-iron and rebar to size, we used an electric cutoff saw. We also used a large electric hammer drill to drill holes in the cave wall for the new rebar anchors. We used a portable generator to run the lights, grinder, cutoff-saw, and drill. And most important we had a portable generator/welder with enough cable to deliver the power to the new gate location. Of course getting all that equipment to the cave was the next problem. Mark and I got there early that morning and flagged a vehicle route to the area just above the cave's entrance. We had to cut a couple of dead tree limbs up with a chain saw, but otherwise it was easy to get the vehicles close to the cave. We also had to put in some temporary wall anchors to support the heavy welding cables and power cord back to the new gate location to keep them up out of the cave stream. We started about 8:30 am, only stopped once for a quick lunch, and finally got everything re-loaded on the vehicles and hauled back to the camp about 6:30 pm, so it took about ten hours. Certainly a long day for the four of us, but a job very well done!

From a cave conservationist and a cave explorer point of view, gating caves has become a necessary evil in today's world. Not just for the protection of the cave and the cave creatures, but also for proper caver management. This is particularly true in a camp where there are young campers with a curiosity to explore. In our opinion, the cave gate should not be the focal point at the cave entrance. Now, when you hike down to see the beautiful natural entrance of Eversole Cave, you can fully understand why we put the time and effort into moving the gate. Plus the bats should be happier too, with larger openings to fly through.

Mark and Keziah Campbell, the managers of Scenic Hills Christian Youth Camp, and I wish to offer a ***big thank you*** to Indiana Karst Conservancy's own Keith Dunlap and Tom Sollman for contributing their equipment, time, effort, and know-how to the Eversole Cave gate move.

2015 NATIONAL CAVE & KARST MANAGEMENT SYMPOSIUM

by Jerry Lewis

Salisa and I arrived at the Cave City (Kentucky) Convention Center on Tuesday morning (October 20, 2015) in plenty of time for the first presentations of the Geology-Hydrology Session at the biennial National Cave and Karst Management Symposium (NCKMS). The previous day the symposium had opened with a variety of workshops held at the Cave Research Foundation Hamilton Valley Field Station, but we had opted out of those in lieu of other responsibilities. The Tuesday morning session had a number of interesting presentations, notably Ray Keeler's talk on creating templates for National Forest Service cave management plans, and the presentation by Lee Anne Bledsoe, et al, on groundwater leaking from Patoka Lake through a cave downstream of the dam.

After lunch was the Biology Session, for which I was the Session Chair and also contributed a presentation on various cave and karst disasters that Salisa and I have encountered in our years working on cave biology projects. Other highlights of the session included a presentation by Greg Horne on the new video about WNS decontamination used by the Canadian government, and Salisa's talk on the extirpation of a population of the endangered Illinois cave amphipod due to siltation from rampant growth of bush honeysuckle around the small cave's entrance.

That evening was the Howdy Party at Diamond Caverns, hosted by Gordon Smith (also an IKC member). It was a festive, well-attended evening that included an open bar and a large assortment of food to eat. Dale Pate, cave and karst coordinator for the National Park Service, came over and introduced himself and told us a story about the time when he went to get a loan for a new home (when they moved from Carlsbad to Denver for his job at National Park Service headquarters). While applying for a mortgage he found himself hearing about the loan officer's cave biologist brother in Indiana. Me! As Dale and I chatted, his wife struck up a conversation with Salisa. The world got even smaller when they discovered that their parents were best friends back in northern Indiana. So there was some major "howdying" going on at the Howdy Party.

Gordon also opened Diamond Caverns for tours free of charge to our convention goers for the entire week. It's a beautiful cave… despite many years working in the central Kentucky karst, I'd never been there and it was a real treat to finally see this gem of a cave during a Howdy Party tour. The big event of the evening was the groundbreaking of the National Cave Museum, which among other things is going to be a home of Gordon's expansive collection of cave artifacts. As an example, Gordon showed an ultra-rare original cave map by Édouard-Alfred Martel, the Frenchman who is attributed with being the "father of speleology" for founding the Société de Spéléologie in 1895 (the first organization devoted to cave science in the world).

Wednesday was dedicated to field trips. Two

trips went to Mammoth Cave National Park, one a karst trip and the other looking at management concerns, while Salisa and I chose to go on the "Challenges of Urban Karst" field trip led by Jason Polk of Western Kentucky University (WKU). Departing from Cave City we went by bus to Bowling Green, a city on the sinkhole plain that is home to WKU and its extensive university programs in karst geology and hydrology. The first stops were to look at cave entrances that were doubling as storm water drains. An argument could be made that the function of any cave on the sinkhole plain is a drain for storm water, but the city goes several steps farther by drilling injection wells into cave passages for additional ease of drainage. When known caves aren't available, they drill until a passage is encountered. All of the oil and chemicals draining off the streets flow into the groundwater, and local companies apparently make use of the ease of disposal as well… the second cave entrance we visited smelled like cooking oil. The culmination of the morning was visiting the enormous entrance to Lost River Cave and an impressive water chemistry monitoring station operated by WKU.

After lunch at a Chinese restaurant we visited the National Corvette Museum, which became famous when a sinkhole opened under the floor of the main exhibition dome and swallowed an estimated million dollars' worth of cars. After much ado, the cars, or what was left of them, were hoisted from the hole and the floor was rebuilt. Today there are lines on the floor showing the extent of the collapse and the underlying cave passage. The wreckage of what had once been several very expensive sports cars were on exhibit, complete with red karst clay embedded in the engines and wheels. The field trip ended at Crump's Cave, owned by WKU and used as a laboratory of groundwater hydrology. It was an excellent field trip.

That evening a memorial tribute to Roy Powers was held at the American Cave Conservation Association (ACCA) Museum in Horse Cave. We did not attend, but had chatted with several people who had known Roy well and had sent photos to the ACCA for a presentation in honor of Roy's many cave gate projects. A couple of friends from Nashville who had driven up for the slide show and found us not in evidence at the party called to talk on the phone, so we got to attend by remote. Unfortunately, the memorial presentation in Roy's honor never materialized, but instead Dave Foster did a few off-the-cuff comments.

On Thursday there was a mixed session of Conservation – Education – Outreach – Tourism. Examples of presentations were a talk by Jim Kennedy on a gate project at Ezell's Cave, Texas; several presentations concerning Brazilian caves; and one by Johanna Kovarik on the National Forest Service cave and karst program in 2015. The afternoon was mostly dedicated to a poster session, also another excellent opportunity for impromptu conversations and shopping at the vendors. That evening was the gala banquet, with exceptionally good food for such a venue and a healthy flow of wine for those who cared to imbibe in formerly "dry" Hart County. Repeating the previous night's theme of the promised presentation not happening, the Keynote Speaker wasn't there. Luckily George Veni, the Director of the National Cave & Karst Research Institute was at the conference and had a generic karst presentation that was entertaining.

Although we drove home after the banquet, the following morning there was another short session of mixed subject presentations, then the conference officially ended before noon on Friday.

Sixty-five people attended NCKMS 2015. I was a little surprised that more people didn't attend at such a centrally-located conference on the edge of a hotspot like Mammoth Cave National Park. It's the loss of those who didn't attend, because we thought this was one of the better NCKMS that we've attended. There were many good presentations and like most conferences, the best information came from one-on-one conversations out in the hallway. We recommend going to NCKMS 2017 to anyone with an interest in how things work in the real world of caves and karst.

2ND ANNUAL BAT WEEK – A SOARING SUCCESS ON CAPITOL HILL

by Cindy Sandeno

Isn't it amazing how quickly cavers can come together to make wonderful things happen? Just a few weeks ago, I sent out an e-mail to a few friends in the IKC asking for a huge favor. Does anyone know where the Indiana bat costume resides that has made so many events truly special? And, is there any way to get it to Washington, DC immediately?

While I didn't expect to be successful, I had to at least try to track down the costume. I knew it could play a pivotal role during the second annual Bat Week. After a few shared messages (and in less than two days), the costume was located and on its way to our nation's capital to join the festivities.

Bat Week is dedicated to celebrating those flying mammals that we all love and need so much. And, conservation agencies around the globe joined forces to focus attention on the dynamic roles that bats play in our environment and our economy. Invisible or unobserved to many, bats are hard at work every night doing what bats do: eating tons of insects, pollinating plants, and spreading seeds to grow new plants and trees. This year's Bat Week focused on providing healthy places for bats to live and culminated in a world record attempt to build the most bat houses in a single day.

To start things off in a big way at the Washington DC venue, Senator Patrick Leahy (Vermont) hosted a reception in the Senate Building that featured bat-inspired foods (foods that are made possible by bat pollination or the pest control offered by bats). The event was opened by comments from the Senator Leahy, Michael Bean (Principle Deputy Assistant Secretary, Interior), and the Tom Tidwell (Forest Service Chief). Over 300 congressional staffers, federal agency folks, and members of the public attended the reception and interacted with seven educational stations.

Flitting from station to station was the unforgettable, "Batty." After arriving in DC, the giant bat quickly went to work – roaming amongst the political bigwigs and posing for photos (including a selfie with Chief Tidwell). Batty also presented a personalized bat house to Senator Leahy to thank him for his leadership in bat conservation. Most importantly, Batty was there reminding everyone that bats are essential to our lives, our food, and our environment.

I would like to thank the IKC, as well as Mindy Grayson and Keith Dunlap for making sure that "Batty" made it to this special event. It may seem like a small thing, but as one who watched the look of joy and wonder on the faces of the political elite, it was monumental.

To learn more about bats and Bat Week, please visit ***batweek.org***.

Cindy Sandeno is the Regional Program Leader for Threatened, Endangered, and Sensitive Species for Region 9 of the Forest Service. She is also an IKC member.

Senator Leahy poses with his bat house and "Batty" the bat.

A LOOK BACK AT INDIANA KARST

by John M Benton

This issue's of **A Look Back at Indiana Karst** takes a look at an article published in 1959 in the *Indianapolis News*. Amazingly, 56 years ago, the twelve days were successfully spent underground by the trio of cavers in Wayne Cave (now owned and managed by the IKC). Caver Don Martin is still an NSS member residing in New Mexico. It would be interesting to know if any of the other cavers mentioned, Dave Mercer, Jim Neawedde, Tom Foster, or "Dutch" Brandenburg are still around. They were 18-20 year-olds at the time. And how about the report, Griff Crump? The article is well-written, and he may have done some caving himself. Also of note, is that the CCIU (Caving Club at IU) was in existence in 1959 (at the time called the Indiana Memorial Union Spelunking Club).

MOON MILK WATERFALL: INDIANA HAS A MAGIC UNDERGROUND

by Griff Crump (Aug 28, 1959)

Every Hoosier know the moonlight's fair along the Wabash, but did you know that "moon milk" flows in Indiana hills?

Did you know there are hills within the hills?

Have you heard the ripple or roar of streams that rush forever south and westward to empty into the Ohio, but are seldom seen by man?

Have you ever climbed a waterfall by lamplight?

If not, you're missing one of Hoosierdom's most fascinating sports, cave exploring.

There are more than 1,000 known caves in Indiana, only a few of them commercialized. Some of the state's most breathtaking beauty awaits those who penetrate 'wild' caves.

The karst belt, as it is called, stretches up from the Ohio River into Indiana in the form of a huge mitten, the fingers reaching to Turkey Run State Park, the thumb terminating in the region of Shelbyville. This is the area of extremely porous limestone where caves occur.

In ages past, the rushing of water and the settling of the earth's surface have combined to form rooms, deep shafts and interlacing passageways within the earth's crust. From earliest times these hidden ways have beckoned to man as shelter, as eerie settings for pagan rites and as mysterious challenges to his ever-probing spirit.

Episodes like that of Floyd Collins, whose slow death in a narrow passageway in Sand Cave in Kentucky drew world-wide attention, contributed to the formation some years ago of the National Speleological Society, an association of cave explorers dedicated primarily to safety in caving.

The Central Indiana Grotto of the NSS is representative of cavers all over the country. Its membership includes scientists, businessmen, truck drivers, university professors, journalists, students, and others of many occupations united by the lure of the underground.

The Chairman of CIG is Gary (Dutch) Brandenburg of Whiteland. Other Hoosier spelunkers (a nickname for cavers) belong to the Washington (Ind.) Grotto, the Edinburg Cave Club, and the Indiana Memorial Union Spelunking Club at Indian University.

On almost any weekend a group of helmeted cavers can be seen headed over some southern Indiana landscape enroute to an entrance to the jumbled fantastic underground world. Winter or summer – it makes no difference – cave temperature is fairly constant, a cool 54 degrees. Far below the surface they crawl along high ledges, ford streams, or even run over great, undulating clay floors. And on most trips there is always the unknown – a black pit, an untried passage. For the caver, the frontier begins where the beam of his headlight ends.

IU CAVERS TO SEEK RECORD

Moon milk? It's limestone in a liquid state. Pure white and the consistency of heavy cream, it's rare and usually found in pools. But deep in Wayne Cave, near Bloomingtion, two moon milk waterfalls cascade glacier-like more than 40 feet to the floor of a great dark pit.

CLAIM CAVEMEN'S RECORD—Three Indiana University spelunkers are shown as they emerged from Wayne Cave Wednesday night after remaining underground for 12 days. They claimed their stay in the cavern near Bloomington was a new voluntary cave-stay record. The students, all members of the Memorial Union Spelunking Club, are Don Martin of Terre Haute (top), Dave Mercer (right) and James Neawedde (bottom), both of Bloomington. (AP Wirephoto)

Next Friday, Donald Martin of Terre Haute, president of the IU cave club, will enter Wayne to try for a national endurance record by remaining in the cave for 12 days.

Making the attempt with Martin will be Jim Neawedde, vice-president of the club, and Dave Mercer, both of Bloomington.

All three have undergone thorough physical examinations and psychological tests in preparation for the long stay underground, and will be re-examined on their return to the surface. Medical men are interested in the effects of cave dust and of a protracted stay in the 56 degree temperature and the 85% humidity of the cave.

"It won't be 'cave sitting' though", says Martin. He and his

Continued on page 21...

POPULATION TRENDS OF INDIANA BATS IN INDIANA

by Keith Dunlap

[*Editor's note: This article covers the abbreviated bat census conducted in January of 2015. The results reported here should be considered preliminary until the formal report has been released.*]

As part of the USFWS Recovery Plan for the federally endangered Indiana bat (*Myotis sodalis*), biennial population counts are conducted to assess the status of the species. In this article, as I have done in the past, I will present the cumulative data systematically collected over the past eighteen primary censuses (1981-2015), along with some historic data dating as far back as 1950. The majority of the contemporary data has been collected for the Indiana Department of Natural Resources under contract and the direction of Dr Virgil Brack of Environmental Services Inc.

As was done in 2011 and 2013, the 2015 census departed in scope and methods from the previous efforts due to the presence of White-nose Syndrome, which increases the costs and complexity of performing the study. Rather than sample all of the known caves hosting Indiana bats, the focus was directed towards the most populous caves. This change still account for almost 99% of the Indiana population. Further, the "second tier" caves were visited in January 2014 and are scheduled to be counted again in early 2016, so the final 1% of bats are being monitored on the "off" years.

Similar to 2011 and 2013, the census methodology of conducting the in-cave work relied primarily on high resolution photography for collecting data (rather than measuring cluster sizes), which minimized disturbance times and improved accuracy. As before, extraordinary care was taken to assure all gear and clothing was properly decontaminated between each hibernaculum visit.

The table on the following page represents the summary of over 351 cave visits to the 32 different caves documented to have had Indiana bats in recent years. The table lists the caves in descending order of colony size based upon the most recent visits.

The Indiana bat was one of the first species to be protected under the Endangered Species Act (it was added to the list in 1967). The reason for the bat's listing was the well-documented observations of population declines in the seven major hibernacula known at the time in Indiana, Kentucky, and Missouri. From 1965 to 1995, the population

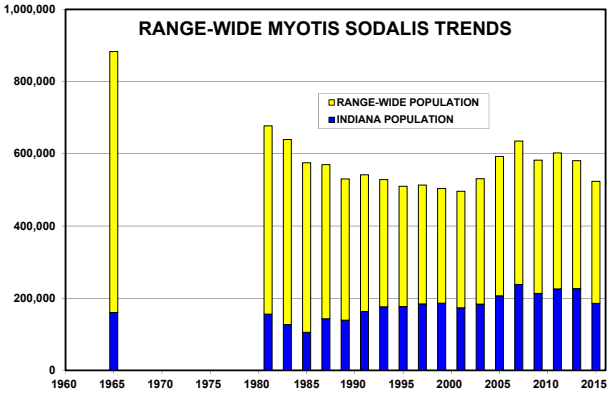


Figure 1

declined by nearly 44% (883,300 to 496,000, see figure 1) and appeared to be on its way to extinction despite modest and consistent positive gains in Indiana (dark bars) and a few other states. The total population decline then appeared to reverse in the mid-2000s and was actually showing optimistic signs of recovery through 2007. Unfortunately, the past four censuses have shown range-wide decreases, and the real impacts of WNS on the species has not yet to be fully realized.

With that said, the estimated 2015 population of Indiana bats within Indiana decreased 17% compared to the last two censuses, but is still greater than the population counts prior to 2005. On a national level, the 2015 numbers have shown a similar drop from the peak in 2007.

Looking at population trends in individual Indiana caves is interesting in there is significant volatility going on with only two caves showing increases, while several others dropping significantly.

Indiana bat populations in Twin Domes cave (figure 2) have fluctuated up and down through the early-nineties, but has shown a clearly decreasing trend since 1993. The 2015 population was no exception with an 82% drop compared to 2013 and a 97% drop

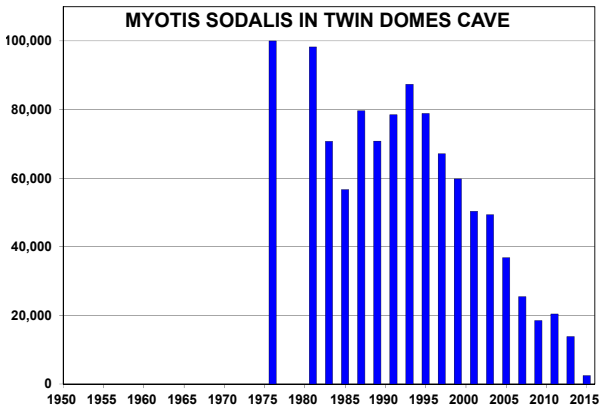


Figure 2

▶▶

since 1993. However, it is likely some of the Twin Domes population loss has not completely perished, but rather some of the bats have relocating to other nearby caves such as Wyandotte and Jug Hole (and now perhaps Wallier).

Likewise, Batwing Cave (figure 3), Indiana's other original Priority I hibernacula, has shown continuous population decreases since it was first documented in the mid-70s. The 2015 census was the most dramatic drop to date with only 11 Indiana bats found there, a 99.96% drop since 1981. Again, it is likely that some of these bats may have relocated themselves to other nearby caves, but the abandonment is still astonishing. There continues to be much speculation as to why Twin Domes and Batwing are not attracting bats like they once did. The main hypothesis is that both caves have sub-optimum temperatures, but served as refuges when Wyandotte Cave's disturbance became too great and the solid gate was installed. Now that Wyandotte is again "bat-friendly" with the winter closure, the bats are gradually transitioning back to preferential their hibernacula. With that said, it may be time to get creative and try some new management strategies for Twin Domes and Batwing.

Wyandotte Cave has always been an interesting contradiction in resource management. While it serves as an ever increasingly significant hibernaculum, it was also a commercial tourist cave run by the Department of Natural Resources. Large populations of bats have been documented in this cave for over one hundred years (in fact, the *sodalis* was first classified as a separate Myotis species from this cave and thus the "Indiana" designation). Numerous gates have been placed on the cave with different degrees of airflow restrictions. A 1953 report by Mumford

RECENT POPULATIONS OF MYOTIS SODALIS IN INDIANA CAVES

CAVE NAME	1981	1982/83	1985	1987	1989	1991	1993	1995	1997	1999	2001	2003	2005	2007	2009	2011	2012	2013	2014	2015
Jug Hole (Harrison)				5535	6424	7640	13924	12463	20741	11900	20151	19240	29430	46664	36067	35641		58886		64069
Wyandotte (Crawford)	2152	4550	4627	6681	10344	12994	17304	23878	25424	26854	28584	31217	54913	49936	52597	61618		56803		56874
Ray's Cave (Greene)	12500	13475	16200	22990	28581	41854	38386	41157	51365	62464	48219	50941	54325	77687	59250	48403		49617		30077
Coon Cave (Monroe)	1190	550	777	2950	2103	3696	4451	4455	4786	6341	6395	10675	9270	14099	18640	21829		30496		24199
Wallier Cave (Harrison)						36	72	465	409	381	310	541	917	1339	1059	1100		3370		6679
Twin Domes (Harrison)	98250	70750	56650	79650	70800	78500	87350	78875	67100	59775	50325	49350	36800	25459	18484	20403		13813		2424
Endless Cave (Washington)		2		1		134	335	450	404	403	800	863	958	1689	2059	2047		2243		2038
Clyfty Cave (Greene)		66		198	412	357	307	299	369	379	469	457	575	611	828	506		1241		525
Grotto Cave (Monroe)	3190	2692	4198	3778	2985	1996	1568	2018	2435	4361	5419	10338	9875	12807	17256	25356		7849		169
River Cave (Washington)		104		5		1				2		2			3	90		60		96
Batwing Cave (Crawford)	29960	26650	14750	17450	14500	13150	9350	9300	7400	10125	9350	6900	6850	4388	4222	3058		102		11
Panter/Neyman (Washington)								86	156	167	220	337	349	350	244		297		435	
Swinney Cave (Harrison)									11	29	39	184	200	383	244		335		261	
Saltpeter (Crawford)		352		427	295	508	375	647	577	800	849	681	907	830	586		340		191	
Gypsy Bill Allen											134	250	177	134	95		73		20	
Saltpeter (Monroe)		83		19		221	245	175	136	40	24	96	88	83	48				20	
Binkley Cave (Harrison)									84		9				27		25		13	
Sexton Spring Cave (Greene)					0	67	117	98	75	100	113	95	90	61			86		7	
Buckner Cave (Monroe)	488		301	336	24	51	25	41	15	6	1	40	12	49	10		58		5	
Leonard Springs (Monroe)					135	112	92	82	92	81	25	138	109	82	188		31		0	
Robinson Ladder (Crawford)					95	388	376	219	326	223	366	204	192	333	73		49		0	
Sullivan (Lawrence)													25	9					0	
Achcraft Cave (Greene)							20	28		3			0						0	
Wildcat Cave (Crawford)		29		0		31	61	34	48	19	35	17	0		0				0	
Parker's Pit (Harrison)		500		1803	1104	926	1045	1276	1139	987	989	447	298	767	927					
King Blair/Brinegar (Monroe)				12			442	514	663	453	263	190	193	218	218					
Storm Pit (Lawrence)													28		48					
Nichols Cave (Orange)									200			39								
Reeves (Monroe)												34	17							
Mitchell Quarry (Lawrence)						9				31		38	3		0					
Salamander Cave (Monroe)		74		0		0			1			0	0							
Bentz Cave (Crawford)		0			3						0									
TOTAL (adjusted)	155800	127000	105500	143000	138900	163100	176000	176800	184000	186200	173300	183600	206900	238400	213300	225300		227000		189000

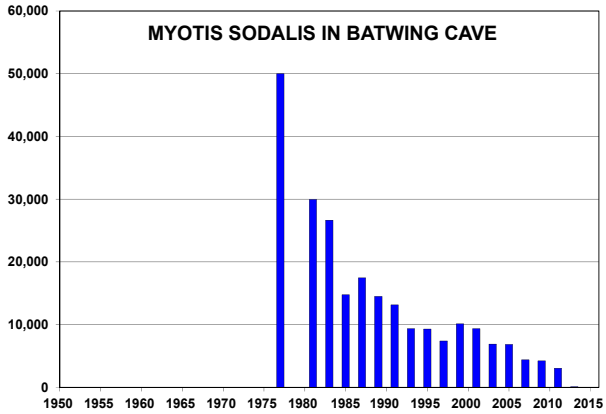


Figure 3

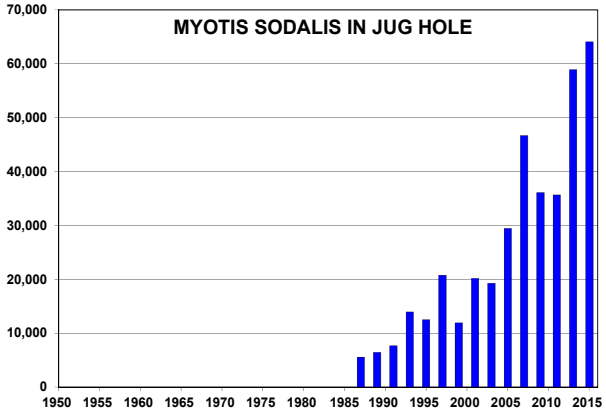


Figure 5

estimated the population at 10,000 bats (see figure 4). However, just a few years later and after a solid-wall gate was installed, the population was only one-tenth that size. The population fluctuated around 2,000 bats until the late 1970s when the original gate was replaced with a more open grate-type. It is presumed that this partially restored the pre-gate airflow into the cave, providing a better winter habitat. Since 1981, the population has been steadily increasing, and the winter closure initiated in 2003 showed another significant step improvement. The 2015 count estimated the cave contained over 54,200 Indiana bats, down 12% from the 2011 peak, but still considerably greater than the 2003 pre-closure populations. The 2015 count was also the first since the new gate was installed and the 1991 gate was removed. While the population was down slightly compared to 2013, the decrease was likely due to other factors, rather than the gates change out.

The final significant hibernacula in the Harrison/Crawford area is Jug Hole. First censused in 1987 with 5,500 bats (see figure 5), the population has been on an impressive increase and in 2007 jumped to over 46,000 bats. In 2009 and 2011, the counts dropped to around 36,000, but in 2013 jumped back up, and in 2015 the population increased to over 64,000 bat, a new high, making this cave the largest hibernacula in Indiana. Reducing the winter visitation at this cave by cooperative cavers has likely contributed to much of the increase over the years.

Previous research supported the observation that Indiana bats were very habitual to using the same hibernacula year after year. But as suggested earlier, with the population increasing at Wyandotte and Jug Hole while similar decreases are being experienced at nearby Batwing and Twin Domes, one can only speculate that at least some redistribution is occurring. To better quantify this, figure 6 shows the combined numbers from Wyandotte, Jug Hole, Twin Domes, Batwing, and Saltpeter caves which accounts for approximately 64% of Indiana's population. It can be observed that the population appears to be much more stable and indicates that the total number of bats within the southern Indiana region hasn't really changed that much over the past eighteen censuses.

The final cave in the Harrison/Crawford area to discuss is Wallier Cave, southeast of Laconia. The 1991 and 1993 census included just 36 and 72 In-

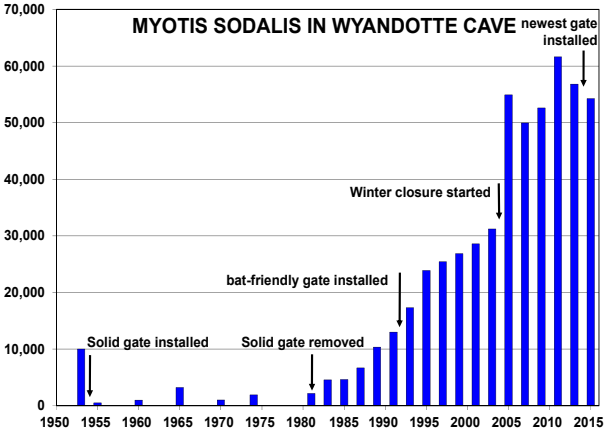


Figure 4

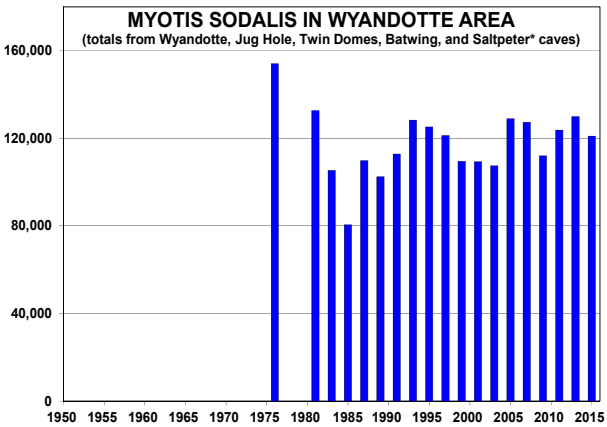


Figure 6

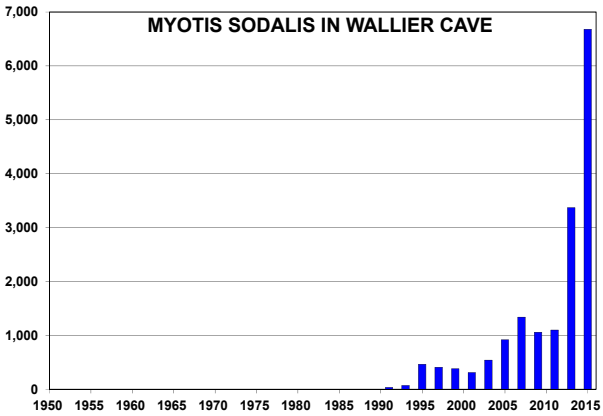


Figure 7

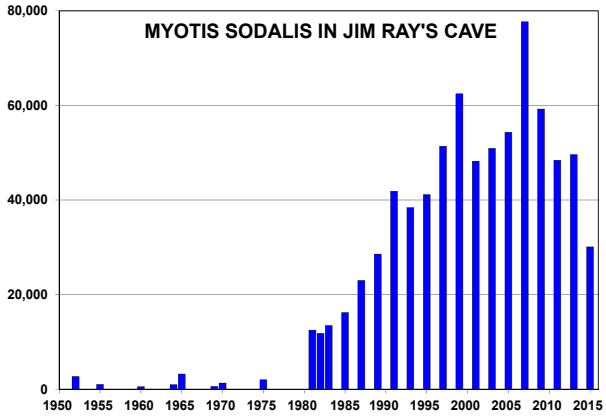


Figure 9

diana bats respectively (see figure 7). From 1995 to 2011, the population has shown an erratic, but upward trend. In 2013, the population there more than doubled to over 3,300 bats, and in 2015, the population doubled again to nearly 6,700 Indiana bats. It is still unclear what precipitated these recent and unexpected population jumps.

Moving north to Washington County is Endless Cave in Cave River Valley. Visits in 1982 and 1987 found only 2 and 1 Indiana bats, respectively (see figure 8). However, the last thirteen counts have shown an encouraging population increase of Indiana bats. In 2015, 2,083 *sodalis* were counted, down slightly from its 2013 peak. Endless also hosted a large number of little brown bats which were gradually increasing in numbers too, until 2013. In 2015, the number of little browns drop by 86% of its 2009 high, likely the result of White-nose Syndrome, which appears to impact little browns much more, compared to the other species.

Jim Ray's Cave in Greene County has had remarkable population growth over the past 30 years until recently (see figure 9). Historic records by Mumford and others showed the cave's population never exceeded 3,200 bats in nine visits between 1952 and 1975. Brack's visits in the early 1980s showed the population had already jumped to approximately 12,000 Indiana bats with several thousand little brown bats. In subsequent years, the population grew at double-digit increases between biennial counts, maxing out with 77,687 in 2007. Since the peak, the numbers have dropped and the 2015 population was just over 30,000 Indiana bats, the lowest number in 28 years. The dramatic increase from 1975 to 2007 has had no clear explanation, but two contributing factors may have played important roles. First it is known that a medical researcher from IU was illegally collecting perhaps thousands of bats each winter during the 1970s. This may have kept the population below some critical level to grow. Second, the "rear" entrance to the cave may have naturally enlarged itself, allowing more airflow to cool the cave, and thus making it a better hibernaculum. The DNR and IKC have been continually monitoring temperatures in this cave since 1993 to see if there is anything to make this a preferable cave for Indiana bats. Surprisingly, the temperatures are relatively unstable and occasionally dip below freezing which is thought to be undesirable.

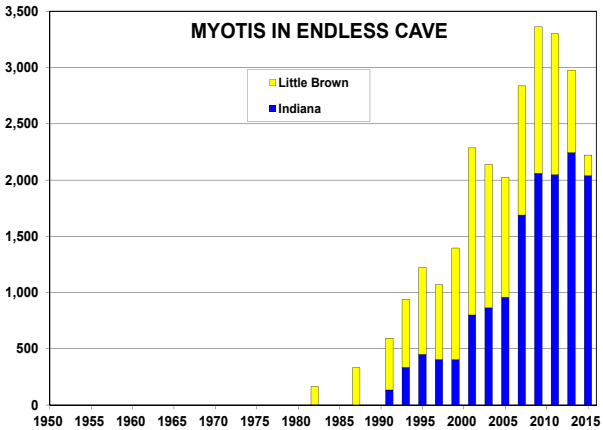


Figure 8

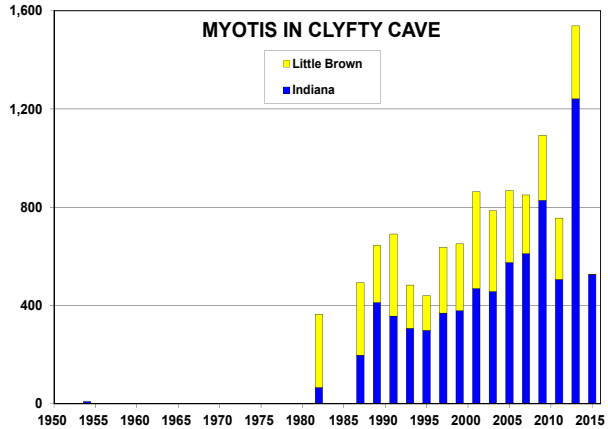


Figure 10

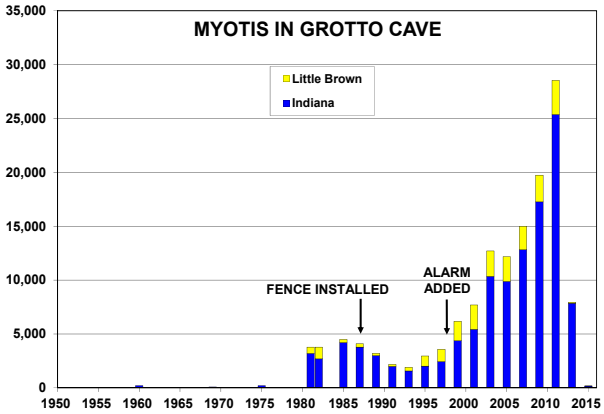


Figure 11

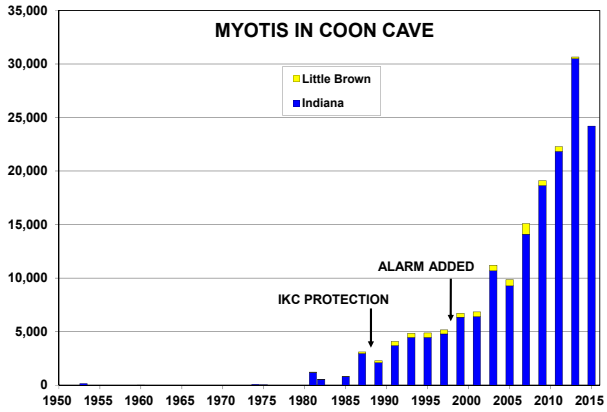


Figure 12

Likewise, there is no clear explanation of the recent decreases observed at Ray's Cave.

Approximately five miles to the northeast of Jim Ray's Cave is Clyfty Cave. Figure 10 shows an Indiana bat population that appeared to be gradually increasing from 1995 to 2009, but dropped noticeable in 2011. However, the number of Indiana bats unexplainably doubled in 2013, but then fell back to the 2011 level in 2015. For the most part, the number of little brown bats in Clyfty Cave has remained relatively constant over the years (15 counts averaging 272 bats), but in 2015, there where just 2 bats observed (a 99% decrease).

Moving to Monroe County, Grotto Cave has been another interesting hibernaculum. Historic records showed very small populations in the 1960s and 1970s (see figure 11). However, in the early 1980s, Brack reported significant numbers of Indiana and little brown bats. The cave peaked in 1985 with 4,200 Indiana bats and then decreased the next four census to a low of less than 1,600. Then in 1995 and 1997, the population rebounded slightly, and in 1999 and 2001, the numbers jump substantially. In 2003, the population nearly doubled compared to 2001. The 2005 count was down slightly, but it again took a sizable jump in 2007 to 12,807 *sodalis*, followed by a jump to 17,256 in 2009 and in 2011 an astonishing jump to 25,356 Indiana bats. In 2013, the population of Indiana plummeted to 7,849 and in 2015, only 169 Indiana bats were found (a 99.3% crash). Just as disheartening, the population of little brown bats crashed from 3,175 in 2011 (what was the largest *luci* population in Indiana) to just 7 little browns in 2015 (a 99.8% decrease).

The "sister" cave to Grotto is Coon Cave located less than one-half mile away on the same property. It too had historic records in the 1950s through 1970s of only a few hundred bats (see figure 12). Brack's observations in the early 1980s were around 1,000 bats. Since 1985 when only 777 bats were found, with just two exceptions, the population had increased each count, peaking in 2013 with 30,496 Indiana bats. In 2015, the population dropped to 24,200, but still the second largest count to date. Looking at the Monroe/Greene meta-populations, the 2015 Indiana bat numbers are down 48% from its peak, while the little brown population is down over 99%.

All of the caves serving as hibernacula for Indiana bats are now fully infected with the fungus that causes WNS. The little browns are showing a clear and devastating reaction to the disease, and it appears the Indiana bats are being somewhat impacted, but it is still too soon to know how the Indiana bat will fair in the long run. Behaviorally, both species are showing classic symptoms (easy arousal, roosting in colder locations, etc), but for whatever reason, the Indiana bat seems to be coping better (for now). The full formal report should be available before the end of December.

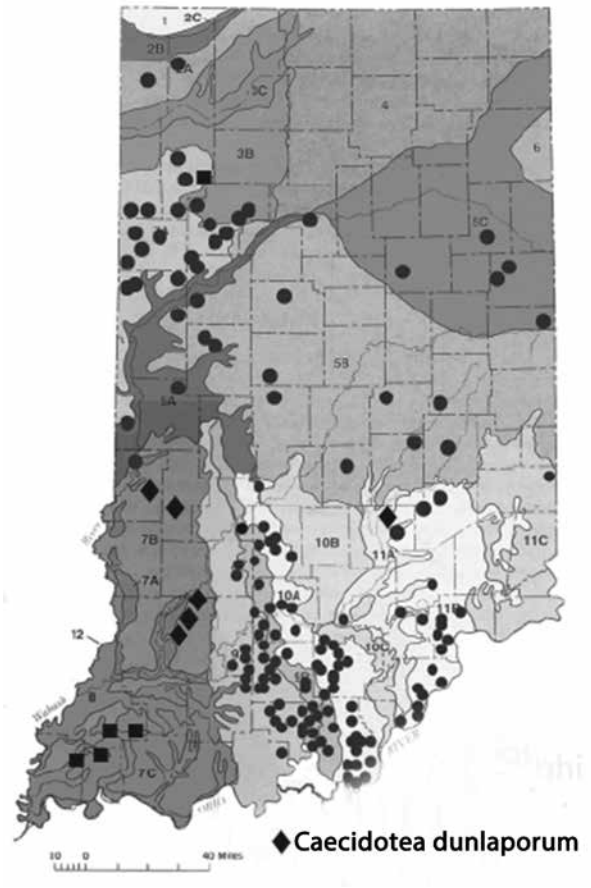
BIOLOGY IN THE NEWS: DUNLAP'S GROUNDWATER ISOPOD

by Jerry Lewis

In the last issue of the NSS's *Journal of Cave and Karst Studies* (Volume 77, Number 2: 99-107) my article appeared, titled "**The subterranean asellids of Indiana (Isopoda), with the description of *Caecidotea dunlaporum*, a new species**". I've been collecting isopods (those little white critters that are usually found on the undersides of rocks in cave streams) in Indiana for well over forty years, so this is the culmination of a life-long endeavor.

A couple of things to note about the article's title. I used the word "subterranean" because the paper encompasses isopods from caves as well as species that occur in other underground habitats, like groundwater flowing through glacial till. To the naked eye, the isopods all look the same, although some of these eyeless and unpigmented crustaceans also occur in what normal people call "dirt".

The second thing of note is the name of the new species. The newest addition to Indiana's crustacean fauna is *Caecidotea dunlaporum*, named in honor of the Dunlap family, specifically the IKC's Keith Dunlap and his sister Cindy, who have both helped me in the collection of specimens. The common name of the new species is Dunlap's groundwater isopod. It's a rare animal, known from only six sites (all agricultural field drain tile outlets) around the northern edge of the Indiana karst, where it lives in groundwater flowing through "unconsolidated sediments", i.e., soil. The "type-locality" of the new species is in Vigo County, where the Dunlap family's farm is located.



There are now seven species of subterranean isopods known from Indiana. Three of these species are found in Indiana caves. Almost every cave in the south-central karst is inhabited by the Stygian cave isopod (*Caecidotea stygia*), along with caves in the southern counties of the south-eastern karst. In caves in the northern counties of the south-eastern karst it is replaced by the Rotund cave isopod (*Caecidotea rotunda*). Finally, there is one record of Jordan's groundwater isopod (*Caecidotea jordani*) in a cave. That would be Chase Cave (on the IKC's Buddha Karst Preserve), where it was found in a temporary pool where it was coming in with drip water from the saturated soil interstices where it normally occurs.

To summarize, with the exception of north-eastern Indiana almost every part of Indiana is inhabited by one or more kinds of subterranean isopod. I've sampled in every county in the state, and I will continue to leave no stone unturned… it might have something new under it!

Greetings Indiana Karst Conservancy,

Two weekends ago, Caving Club at Indiana University hosted our first ever annual "Festival of Caving (Clubs!)", a charity for cave conservation organizations. Members and outdoor adventurists from 4 university clubs (CCIU, Wisconsin Hoofers, Illinois Outdoor Adventure Club, and Purdue outing Club) all came together to support responsible caving and those who protect, conserve, and preserve karst features in Indiana. We stayed at Camp Rivervale in Mitchell, IN. from which point CCIU Trip Leaders and Officers led cave trips throughout the weekend.

It is important to our club to support those who support caving and allow us cave access through which we are able to achieve our mission, "... to teach responsible caving practices and offer leadership, survey, and rescue opportunities." For this first year, CCIU is proud to be able to donate $100 to the I.K.C. from our festival proceeds. We hope you accept this donation with our gratitude for your conservation efforts and support of the local caving community. We greatly appreciate IKC and the people who make it possible!

Sincerely,

Mylissa Fitzpatrick, President

and the Officers of the Caving Club at IU

INDIANA KARST CONSERVANCY TREASURY REPORT

Income/Expense Statement
From July 1, 2015 to September 30, 2015

INCOME:		
Dues Apportionment and Residuals	697.50	
Donations - General	131.90	
Donations - Land Acquisition Fund	200.00	
Interest	267.89	
		$1,297.29
EXPENSES:		
IKC Update (printing, production, mailing)	327.78	
Education / Outreach	0.00	
Stewardship/Conservation	54.52	
Business (website, CC fees, etc)	13.50	
Ind Acad Science grant	0.00	
Transfers to/from restricted funds/other adjustments	406.69	
		($802.49)
NET OPERATING EXCESS (DEFICIT) THIS PERIOD:		$494.80

Balance Sheet
September 30, 2015

ASSETS:			
Cash in Checking / Saving Accounts / CDs		143,068.88	
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	
			$603,082.04
FUNDS & OPERATING EXCESS:			
Land Acquisition Restricted Fund		33,928.95	
Deferred Dues Restricted Fund (185 members)		3,442.50	
Indiana Acad of Science		696.12	
Stewardship Endowment Restricted Fund		55,693.54	
Previous General Fund (total)	48,826.13		
Net Excess (Deficit) This Period	494.80		
Current General Fund (unrestricted)		49,320.93	
Current General Fund (committed)	600.00		
Real estate liquidity (basis value)		460,000.00	
Total Liabilities & Operating Excess			$603,082.04

IKC EXECUTIVE BOARD MEETING MINUTES

Saturday, September 26, 2015, 4:00 PM EDT – Ferdinand, Indiana

Board Members Present:

Jerry Lewis, President
Sue Vernier, Secretary
Keith Dunlap, Treasurer
Joy Baiz
Bruce Bowman (proxied by Phyllis Sergesketter)
Dave Haun (proxied by Salisa Lewis)
Everett Pulliam
Bob Sergesketter
Kevin Smith
Tom Sollman
Carla Striegel-Winner
Bob Vandeventer (proxied by Bambi Dunlap)
Richard Vernier
Jamie Winner

Board Members Absent:

Bruce Silvers

The meeting was called to order by President Jerry Lewis at 4:00 PM at the home of Carla and Jamie Winner in Ferdinand State Forest, Ferdinand, Indiana.

The minutes from the June Board meeting were approved as published in the September 2015 *IKC Update*. There were no E-mail motions since the last meeting.

Treasurer's Report

Treasurer Keith Dunlap reported cash assets totaling $142,939.38 and land assets totaling $460,000.00 for total assets of $602,939.38. Funds include Stewardship: $55,486.85; Deferred Dues: $3,420.00; Land Acquisition: $33,928.95; General Fund (unrestricted): $49,377.46; and ad hoc Science Fund: $696.12. The IKC membership stands at 184, excluding 10 members who have not yet renewed their dues.

Shawnee Karst Preserve

Jerry Lewis discussed in detail the sequence of events over the summer involving the cave entrance plugging, caused by multiple episodes of slumping of mud and dirt from above, and the efforts to dig it open. The bad news is, at present, the cave entrance does not exist as it is blocked by 50-60 cubic yards of dirt, an estimate by Keith Dunlap. The good news is that the hillside above is now down to bedrock. A lively discussion ensued on what our options were and actions to take, which were summarized by Jerry: (1) Either hire a backhoe or excavator contractor to remove the dirt or (2) use an army of caver volunteers over several days to accomplish the task, possibly inserting a culvert as part of the project. Jerry asked Keith to get a contractor estimate and e-mail the results to the Board, and if the contractor option is not feasible, then set a potential work day in November.

Buddha Karst Nature Preserve

Keith Dunlap needs a handful of people to spray honeysuckle, finish the graffiti removal in the entrance room of Buddha, mow the trails, and paint the gate. The volunteer work will probably be either the third or fourth week in October, depending upon when we get the first killing frost. Keith and George Cesnik will coordinate and send out a notice to see who shows.

Sullivan Cave Preserve

Jerry Lewis asked about the new Cave Patron. Keith advised that Paul Uglum is working out well and seems a good fit for the position. On recent happenings in the cave, apparently someone took a bathroom break in the Mountain Room and Keith has told Paul that it should be addressed (ah, the joys of being a Cave Patron). On another trip, the participants left glow sticks and markings. The Patron thinks he knows who did this and he will be contacting them. Paul intends to be more careful in explaining what is expected behavior in the cave, and in selecting which groups will be allowed to go in. During Cave Capers someone's vehicle was hit while turning into the driveway on the blind hill. The caver was apparently unhurt, but the vehicle was totaled. The accident took out the new address sign post, which Keith has replaced. Be careful. Keith will contact the state highway department to see if they would be willing to extend the access apron at the abrupt highway drop-off to the driveway. Keith has called the port-a-john service guy twice or more and mailed letters but, so far, he has received only excuses and no service.

Wayne Cave Preserve

Tom Sollman does not yet have the kiosk information panels completed, but he promises to have it done by next spring or summer. Keith will help Tom with the panel information, layout, summary, etc.

Robinson Ladder Cave Preserve

Keith Dunlap and Glenn Kotnik (an IKC member and a representative from The American Chestnut Foundation) visited the preserve to select an area best suited for planting nearly-pure hybrid Chestnut trees. The representative preferred the upper field. The area would potentially be planted with 25-50 trees over a two year period followed by mowing and treating the area around the individual trees with herbicide. A signed agreement is required — the Foundation retains ownership of the trees since they are 15/16 generation hybrids. Seeds cannot be sold (but can be planted on the property) nor can the trees be cut down and the lumber sold. If the Board authorizes signing the agreement, the IKC would be responsible for maintaining the trees — protection from deer browsing, etc. Carla Striegel-Winner made the motion that the IKC pursue the execution of the Chestnut tree agreement. The motion was

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seconded by Bambi Dunlap as proxy for Bob Vandeventer. After discussion, the motion was unanimously approved. The agreement will be signed with The American Chestnut Foundation, and the IKC will plant the trees if and when they are available. The property has been mowed, the gate repaired, and rock added to the road out by the gate.

Education and Outreach Report

Don Ingle retired some time ago from the Education and Outreach Committee, but briefly came out of retirement to do one more project a week ago. Jerry Lewis advises that the Education Facebook page will probably be turned into an IKC Facebook page. The Education and Outreach position is still vacant and Jerry gets requests periodically from groups wanting to use the inflatable cave. The annual Indiana Bat Festival at the Indiana State University Bat Center, Terre Haute, especially likes to use it and Jerry suggests perhaps the IKC could donate it to them. Everett Pulliam made a motion that the IKC pursue donating the inflatable cave to the Bat Festival. Bambi Dunlap seconded as proxy for Bob Vandeventer. The motion passed with one abstention. Jerry will pursue with the Bat Festival organizers.

Land Acquisition Activities

Keith discussed a speculative project which he will pursue and provide further information at a later date. Based on the outcome of his efforts, he will send out an e-mail if a grant proposal is needed.

Items from the Floor

There were no items from the floor.

Next Meeting

The next meeting will be Saturday, December 5, 2015, at the Hoosier National Forest office in Bedford, IN at 10 AM Eastern Standard Time.

Adjourn

The meeting was adjourned at 5:45 PM.

Respectfully submitted, Sue Vernier, IKC Secretary

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companions will spend the time doing a photographic study of the cave, mapping passageways, exploring new sections, and searching for a second entrance. The only known entrance is a tortuous, grueling, 1050-foot crawlway ranging from 11 inches to 5 feet in height. All equipment – about 200 pounds including food, tents, and camp stoves – must be dragged through this crawlway in tubed shaped cans attached to the cavers' ankles.

The supplies are distributed between base camp, at the end of the crawlway, and Camp II, a mile deeper in the cave.

Tom Foster, a lineman from Smithville, made the crawl with Martin to set up a telephone at base camp. The cavers will be able to make and accept calls from anywhere in the country. Martin says, this is a "first" in caving.

The present record for remaining in a cave is about eight days, Martin believes.

To help the cavers' morale, a radio speaker has also been installed at base camp, and an Indianapolis station will pipe in programs daily.

Despite the "comforts of home" and modern methods, the great hazard of the expedition remains the structure of the cave itself. A relatively minor injury can assume life and death proportions in the cave's lower level. A dislocated shoulder, for instance, would almost certainly result in a caver's inability to negotiate the crawlway.

Shock and exposure in the damp closeness could end in tragedy.

SOURCE: Indiana State Library, Indiana Clipping File, Terre Haute IN

[*Editor's note: Last year, Don Martin loaned the Indiana Cave Survey his news clipping scrapbook on the expedition to scan and add to the ICS's reference database.*]

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.