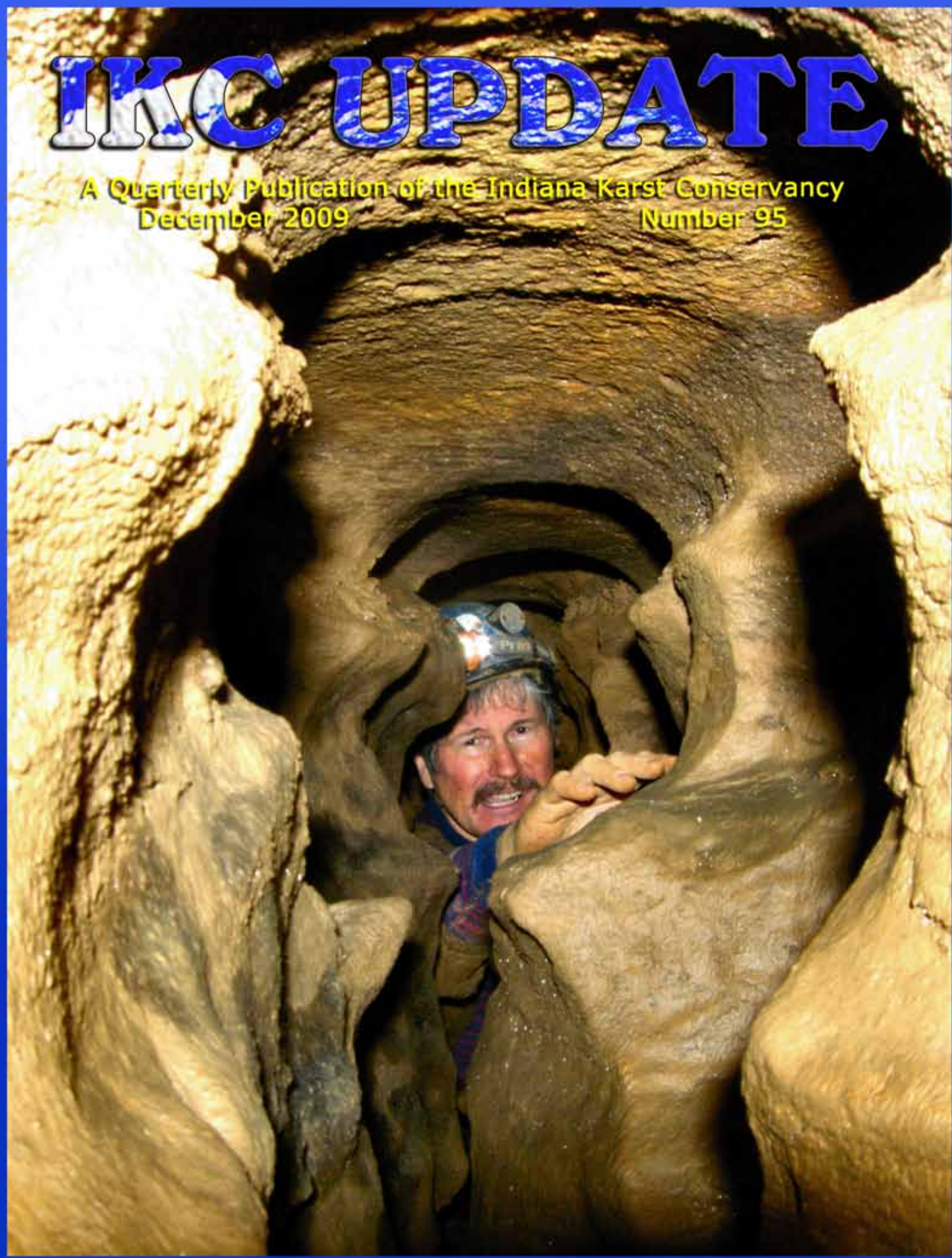


IKC UPDATE

A Quarterly Publication of the Indiana Karst Conservancy
December 2009
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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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QUARTERLY MEETING REMINDER
SATURDAY, DECEMBER 12th, 10:00 AM EST
BLOOMINGTON, INDIANA
IU GEOLOGY BUILDING, ROOM 143

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 recap of the last quarter's activities; Land Acquisition updates (several); Buddha reforestation / USFWS cost-share agreement; Robinson Ladder Cave Preserve (various topics); White-nose Syndrome issues; Treasurer's report; and more...

Meeting directions: The Geology Building is located at 10th and Walnut Grove. Tenth Street runs east/west and is one of the major streets that run across the IU campus. Park behind the building, parking permits are not enforced on weekends. Enter the building from the rear at the west end. The room is halfway down the hall on the right.

ACTIVITIES CALENDAR

Dec 12 – IKC Quarterly Meeting, Bloomington (see above)

Feb ?? – IKC Director's meeting (date and location TBD)

Mar ?? – IKC Annual Business meeting (date and location TBD)

Apr ?? – Under-Earth Day (date and location TBD)

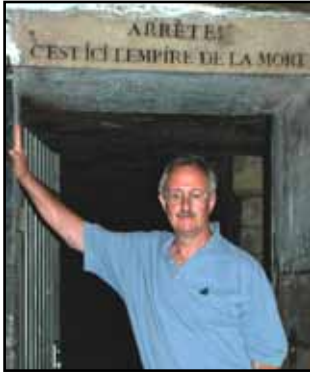
Apr ?? – Indiana Cave Symposium (date and location TBD)

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 interested in 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...



At this time of year it's always tempting to look both backwards and forwards at what has been accomplished and what remains to be done. I've had many IKC members tell me that they were itching to purchase a new property.

Out of curiosity I looked up when the properties that the IKC owns were purchased, and how much acreage was included with each. At the risk of showing my scientific side, I prepared what biologists call an "accumulation curve". A graph of this kind shows the cumulative effect of collecting something, for example, how long it takes to find all the species living in a cave. In this case it's a time-line of IKC land purchases.

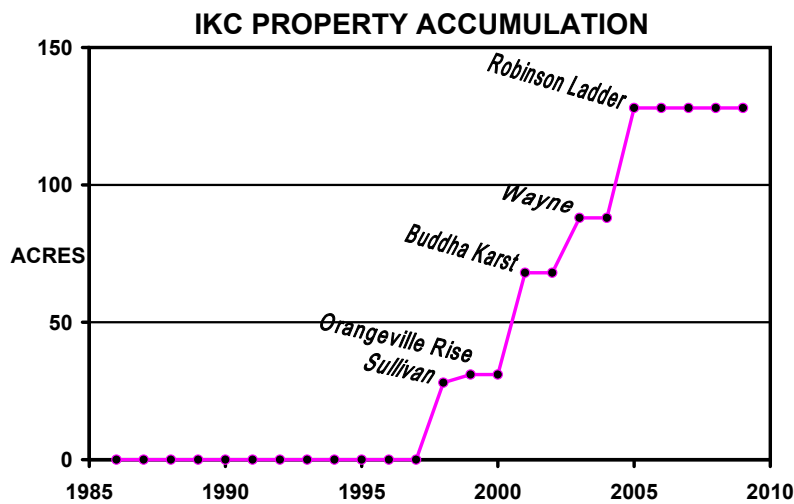
At a glance it's easy to see why the cave purchase itch needs to be scratched. In the infancy of the organization it took many years for the first acquisition, but from that point onward, it seems like something came down the pike every year or two. Our last property purchase was the Robinson Ladder Cave Preserve in 2005, but not for lack of trying. Several potential properties have come up for sale in the interim, but something always seems not to fit. We have also pro-actively contacted a number of landowners to let them know our interest in their properties, but you have to work on their schedules. The result is that we're past due to add another cave to our portfolio.

In looking back at 2009, I believe we've positioned ourselves for an excellent 2010. Sometime next year, if all goes right, our Robinson Ladder Cave Preserve will expand from 40 acres to 73 acres, thanks to a significant donation from The Nature Conservancy. And although the out-

come remains to be seen, the IKC has also made a purchase offer on an open air pit in Lawrence County. If this pans out we will have added a nice pit cave to our collection of holdings. If not, something else will come along.

One of the concerns about acquiring more land is the spectre of over-commitment... lots of properties but not being able to keep up with the stewardship demands. I think that the IKC is doing a *great* job in the stewardship of our lands. Just look at what we've accomplished this year. At this time last year we were trying to figure out what to do about the Sinks of Indian Creek conservation easements. I think that has now been squared away – the landowners were contacted, the inspection done and properly documented, the landowners informed of the status of the easements, and a new boundary survey ordered. At Robinson Ladder Cave the prairie restoration took a leap forward with the spring burn that was successfully conducted. And at the Buddha preserve the IKC pursued and has received a significant grant from the US Fish & Wildlife Service to complete the reforestation of this preserve. The pre-planting mowing and spraying has already been completed, paving the way for planting over seven thousand trees next spring. And while not part of our portfolio, we completed the installation of a bat gate on Endless Cave on the IDNR Spring Mill State Park property to boot, not only adding protection to this hibernaculum, but also providing revenue for the IKC so we can better position ourselves to buy new caves.

So it was an excellent year for IKC stewardship and I think we have a great 2010 to look forward to. In the meantime, Salisa and I want to take this opportunity to extend our best wishes for the holiday season. And we'll see you above or below ground in 2010!



And while not part of our portfolio, we completed the installation of a bat gate on Endless Cave on the IDNR Spring Mill State Park property to boot, not only adding protection to this hibernaculum, but also providing revenue for the IKC so we can better position ourselves to buy new caves.

Jerry Lewis

NEWS BRIEFS...

- ❑ As we indicated in the September issue of the *IKC Update*, the IKC entered into a cost-share agreement with the US Fish & Wildlife Service for habitat restoration at the Buddha Karst Nature Preserve, specifically to reforest the remaining fescue fields. Our original agreement did not match the contractor quotes received, so we have amended the agreement such that the contract amount was increased to \$6700. The IKC's share of the contract is \$400 (6%). We will also perform some in-kind work, and cover any costs associated with weed treatments beyond 2010 (likely one or more treatments will be needed until the trees can out-compete the weeds).

While the planting is next spring, preparation work has already been completed. In September, Jamie Winner spent two days using his tractor and bush-hog to mow five-foot wide "planting" strips on eight foot spacings. Then in October, the contractor we selected sprayed within the mowed strips to kill the fescue. Next April, the contractor will mechanically plant 7200 trees at a density of 600 trees/acre. He will then spray again in late May to knock down new weeds. We have selected sixteen species of trees to plant including a number of species of oak, as well as, hickory, walnut, maple, tulip popular, black cherry, and several species of shrubs.

There will not be any volunteer tree planting in 2010 at the Buddha Property. However, we will be expending a lot of volunteer effort next May through July to revisit all the trees that have been planted in prior years to apply proper weed control, as we were getting behind in that task.

- ❑ As was discussed in Dr Lewis's column on page 4, the IKC has been exploring a number of land acquisitions opportunities, both new projects and expansions of our existing preserves. We are pursuing the transfer of two tracts The Nature Conservancy owns that are adjacent to our Robinson Ladder Cave Preserve. This will add another 33 acres of wooded terrain to our present 40 acres. There are some karst features on this new property, but no known caves. By consolidating the three tracts to a single owner, this will greatly reduce TNC's stewardship responsibilities, while only increasing our's incrementally.

We are exploring the opportunity of selling a conservation easement on the Wayne Property as part of an environmental mitigation project. This would in turn allow the IKC to buy an adjacent property, expanding that preserve to the nearly 32 acres. While a conservation easement would have some restrictions on how we manage the property, at this time, it is thought those restrictions would be consistent with our long-term conservation philosophy. Whether we move ahead with this arrangement will depend upon the specifics of the restrictions and the dollars offered.

We have also had discussions with adjacent landowners at the Sullivan and Buddha properties to explore expanding in one or more directions. There is nothing immediate on the table for these properties, but the landowners are aware of our interest should they some day decide to sell.

- ❑ The recent Federal Budget has included some much needed funding for public land acquisition in Indiana. The money comes not from tax dollars, but from what is called the Land and Water Conservation Fund (LWCF). The LWCF was authorized in 1965 to, in part, help to mitigate some of the negative impacts of offshore drilling and oil and gas production. "The Land and Water Conservation Fund (LWCF) Act of 1965 was enacted to help preserve, develop, and assure access to outdoor recreation resources... to facilitate participation in recreation and strengthen the health of U.S. citizens." Since the production activity is in US territorial waters, it was believed that the private companies owed the American public, in essence, a royalty and this income should be used to acquire public land for the enjoyment of all.

Of primary interest to cavers is an appropriation of \$825,000 for the Hoosier National Forest. While specific details are not available, the HNF has indicated that at least some of the money will be used to protect karst resources through acquisition of lands currently held by The Nature Conservancy. Further information is expected to be available early next year.



The other major success for those of us who value public lands in Indiana was the awarding of \$1.15 million to the Patoka River National Wildlife Refuge. This, together with an earlier appropriation, is intended to be used to purchase 1,150 acres of land from Peabody Energy. The tract in question will link two large blocks of the refuge to produce one contiguous unit. The area is known to provide foraging habitat for bats and the refuge has at least one maternity colony of Indiana bats. The property includes habitat ranging from eleven small lakes, to grasslands, to bottomland hardwood forests.



Mitchell E. Daniels, Jr., Governor
Robert E. Carter, Director

State Parks and Reservoirs
402 W. Washington, Rm. W298
Indianapolis, IN 46204
PH: 317/232-4124
FAX: 317/232-4132

September 14, 2009

Keith Dunlap
Indiana Karst Conservancy
P.O. Box 2401
Indianapolis, IN 46206-2401

Dear Keith,

On behalf of the Indiana Department of Natural Resources, I would like to thank you and the other volunteers who designed and built the new gate at the entrance to Endless Cave in Cave River Valley Natural Area. The photographs posted on State Parks and Reservoirs fan page on Facebook and the description of the team construction effort in the IKC newsletter certainly show the scope and size of this project, and I know that the remote location made it even more challenging.

We all appreciate the conservation ethic your efforts represent and are very glad to have your continued support in protecting Indiana's Indiana bats at Cave River Valley and in other caves around the state. Please share our thanks with those who assisted with the gate and with the entire membership of the Indiana Karst Conservancy.

Sincerely,

A handwritten signature in black ink that reads "Daniel W. Bortner". The signature is written in a cursive style.

Daniel W. Bortner, Director

Cc: Rob Carter, Director, Indiana Dept. of Natural Resources
John Davis, Deputy Director, IDNR Land Management Bureau
Katie Smith, Division of Fish & Wildlife, Wildlife Diversity Section
Mark Young, Property Manager, Spring Mill State Park
Scott Johnson, Nongame Biologist, Division of Fish & Wildlife

ROBINSON LADDER PRAIRIE BARRENS....A REALITY?

by Carla J. Striegel-Winner

The 40-acre Robinson Ladder Cave Preserve in Crawford County is unique in that it is the IKC's only property on which prairie restoration is a goal. Back in 2005 when the property was purchased, Allen Pursell from The Nature Conservancy (TNC) Blue River Project office identified a number of prairie/glade/barrens indicator species on the property and suggested that we focus on enhancing them, rather than our traditional approach of reforesting the open areas. Not planting trees was a whole new world for the IKC, but for this property, it makes sense as it is thought the Indiana bats like openings and forest edges for feeding.

So with that in mind, we enlisted guidance from TNC, the DNR's District Biologist (Mark Bennett), and the Natural Resource Conservation Service (NRCS). A plan was developed and 75% of the initial conversion funding was obtained via a Wildlife Habitat Improvement Program (WHIP) grant. The remainder of the costs would be provided by TNC.

My husband (and IKC Director), Jamie Winner, and I have become point of contact folks for much of this, due to our familiarity with the agencies involved and with fire as a management tool. After several years of fumbling with who, what, when, and where; and dealing with IDEM airpermits, cooperating with local fire departments, and hiring a knowledgeable burn contractor, the property was finally burned last March. So, the Robinson Ladder Cave Barrens is finally making that long slow leap from possibility to reality.

In September, Jamie and I met with Cassie Hauswald of TNC's Blue River Project office to check out the fields. We wanted to know if the management activities thus far had accomplished anything positive and when the next burn should take place. Cassie also consulted with Mark Bennett afterwards. So after a couple of hours in the field and a string of e-mails, Mark and Cassie answered our questions. Cassie also came up with a list of plant species noted on the property and concluded, "All-in-all, I think the burn was effective on both fields and now they need some time to show what they might be made of," to which Mark wholeheartedly agreed.

Fescue is evil. I remember when one of the IKC Directors, Tom Sollman of Hoosier farm heritage, first heard this and could not believe his

ears. Fescue, although considered good for hay production and erosion control, is not so good for diversity in open areas. It creates a thick ground cover that is difficult for small animals to use and chokes out other species of grasses and wildflowers that are better habitat and food producers for insects on which bats might feed. The fields had previously been treated with glyphosate herbicide in 2008 to try to set back the growth of the fescue, and then the burn in the spring was to encourage prairie-type plants and also continue to set back any remaining fescue. When we met with Cassie, the entire upper field was just buzzing with insects of all sizes and we managed to flush a couple of bobwhite quail. Both are great indicators that the fescue is outta there...at least for now.

Fire is good. Tom also envisioned huge flames engulfing the property and smoke swirling into the cave and killing all the bats. He realized after his research that it wouldn't be quite like that. Prescribed grass fires have plowed boundaries and burn fast and hot (and nowhere near the cave!) Fall fire manage-



ment will be recommended for a couple of years, and then probably every other year or as needed. Initially, the burns will be mainly to keep that fescue in check, as Mark suggests there is a bank of seeds just waiting to come up. Additionally, the burns encourage that bat smorgasbord of plants and keep back some of the woody vegetation. Additional management will include manual control of woody vegetation, spot spraying of non-native species (e.g., Johnson grass), continuing to photograph the property to note changes over the years, and adding to Cassie's native species list (which



already includes 20+ species). Over time, less intense management will be needed.

Prairie barrens can host several hundred species of plants and even more diversity than forested lands. Very few remnant pockets of this ecosystem remain in Indiana, and the IKC is on the right path with its efforts to establish such terrific habitat in its southernmost property. I'm excited to see what the future holds for Robinson Ladder Cave Preserve, and I encourage other members to come check out the property and its great camping spot in the upper field. Just be prepared to share your campsite with many more insects, swooping bats, and other animals as the prairie does its thing!

Want to learn more about this project or have questions? Contact Carla at carlastriegel@gmail.com



HOUGHTON HOLE (BIG TRASH CAN) CLEANUP PROJECT

by Brenda Shultheis

Big Trash Can is an appropriate name for this cave; it was reported to the old Indiana cave list by Leo Schotter with a vague location and no other information. During the planning stages for the 2007 NSS National Convention in Crawford County, Indiana, Dave Haun and Bob Vandeventer were approached by the new owner of Big Trash Can, Jim Houghton, who had heard about the convention and was interested in having cavers come to his property to look at the pit cave on his land. Jim has a beautiful place just south of Milltown where he has built a really nice cabin and a detached garage which are nestled well off the main road on a wooded ridge.

April 19, 2008 – On this date, Dave Everton, Ron Adams, Karen and Bruce Silvers, and Kevin Smith dropped the pit and took photos. The five of them decided that the CIG and NIG would take on the clean up of the cave. The amount of trash was impressive and would take a lot of work. The landowner was very supportive of the cleanup.

June 21, 2008 – This was the weekend of the 2008 Cave Capers. Capers was located at the Doezama's Estate which was only a few miles from Houghton Hole (the new name for Big Trash Can). A trip was planned to take a look to see what was involved in getting the job done. Brian Leavell was there and had done a similar cleanup at Carcass Crypt Pit Cave near Mitchell a few years earlier. Brian thought that this new cleanup would be about the same effort as the Carcass Crypt project. We were all surprised at the large "basket" hanging over the entrance. It was a hoist type

contraption that looked like they had used it to descend the pit. Let's just say, it was Scary looking! It was strung between two trees by a steel cable that had grown into the trees. John Shultheis, Josh Shultheis, Tim McLain and I drop the pit to see how much trash was involved. My first thought was "holy crap" that's a bunch of trash and there was no way we can get this all out of there.

July 13, 2008 – Ron Adams had planned a trip with Dave Everton to map and photograph the cave for a *CIG Newsletter* article. Dave, Ron, and I mapped the cave while John Shultheis and others started to probe the trash. Ron had brought some 55 gallon trash bags to start bagging and sorting. We were surprised the trash was not as deep as we thought. Later we would find out differently. This first time was like a treasure hunt – we found all kinds of "neat" stuff. Lots of medals and dirty diapers, even some toys that intrigued Ron – a hobby horse was his favorite. With the mapping done, we sat at the top discussing the general plan for the cleanup.

August 3, 2008 – This was Wormfest weekend where John and I lead a trip for the Dayton Underground Grotto. So we recruited some of the Wormfest attendees to help bag and sort trash. John, Josh Shultheis, Tim McLain, Brent Cook, Lowell York, myself, and others spent a few hours bagging trash. That's when we figured out how much trash was actually at the bottom... Much more than we had originally thought. At the August Central Indiana Grotto meeting, it was voted that the CIG would officially take on this project





Jim Houghton rappelling into his pit with basket overhead.

and I was nominated to spearhead the project. I was glad to take it on as Jim is a very deserving and hospitable cave owner. A few days later I set up and publicized the schedule for bagging, sorting, and hauling out the trash.

November 8th 2008 – This was the first scheduled trip to bag trash. Unfortunately I was ill and was not able to attend, so John headed down south with our two boys and Tim McLain. Elliot Stahl, Dave Stahl, and Dave Black were there to help. This trip consisted of mostly bagging and sorting trash. They got most of the top area cleaned and started on the breakdown slope of the pit. This was very tricky as every time you would step down the slope the trash would give way. It was like surfing on a sea of trash.

January 24 2009 – This was the second “official” cleanup date to bag and sort trash. We had a large group of volunteers show up to help. The whole Shultheis clan was there this time along with Ron Adams, Ryan Brown, Susan Wilkinson, Adam Manship, Tim McLain, and Bart Nott. We got a lot of trash bagged and sorted. The 40-foot ladder that was in the pit had slid down to the bottom of the pit. It seems the only thing that was holding it up was the trash. When all the trash was removed from under it, it decided to slide down the slope. So we repositioned it to a safe place for the time being. After five hours of working we

cleaned ourselves up and had a fine dinner of chili, potato soup, and beer, of course.

March 28th 2009 – The bagging and sorting was again the main focus for this trip. The ladder was becoming a hazard so we removed it from the pit. John rappelled down and hooked a rope to the ladder and Jim used his Gator to pull it out. It was a little tricky because it was a 40-foot ladder and was getting caught under the lip of the pit, so John got on rope and helped guide it out. We had several cavers show up, including the usual Shultheis crew, Ron Adams, Bart Knot, Brian Leavell, Elza Marvin, Virginia White, and Vince Murdock. On this trip we had bagged and sorted all the trash that could be done in advance of the haul out. All had gone great this day, so we all sat around talking and eating a fine meal after the hard days work.

May 16 2009 – This was supposed to be a clean-up trip to bag and sort trash, but with all that done, we decided the day would spent on getting the big metal hanging basket removed. We were offered all kinds of suggestion to get it out... Elaborate hauling systems and the sort, but Jim Houghton had the easiest and fastest idea. We weren't sure if it would work, but we figured, “What the hay!”

Jim and his neighbor Ellis took their backhoes and hooked them to the top of the basket with a chain, pulled it along the steal cable that was hooked between the trees until it was over solid ground. We the re-hooked the chain to the basket in a better place and pulled it the rest of the way up. It only took us around 20 minutes. So now we had all day and nothing else to do. As it turned out, Jim had been digging on a sinkhole in his front yard with his backhoe, so we worked on that for the rest of the weekend. There's nothing like a cave owner who loves to find caves and has a backhoe. Who needs chemical persuasion?

July 11-12 2009 – With all the trash bagged and ready to go, we used this weekend to haul out



all the metal and recyclable material that had been separated during the bagging process. The weekend prior, John Shultheis, Tim McLain, Josh Shultheis, and I had rigged the haul system. We had never really done that kind of rigging before, but with the advice of Bill Greenwald, we got it setup, and it was safe and worked really well. On Saturday we had quite a few cavers: Brian Leavell, Elza Marvin, Virginia White, Vince Murdock, Tymme Laun, Chris Parks, Dave Randall Tim McLain, John, Josh and Brenda Shultheis. With all the great help we got so much done. We had a local man who came with a big truck to haul all the scrap to the junk yard for free. The work went fast because we had some really great help. By 4 PM we had hauled out the last of the metal. It was kind of fun watching what came up each time. It was like a treasure hunt. Bike parts, toys, car parts, lawn mower, and bunches of tires. We then took some time to get things ready for the final cleanup weekend. After the hard days work we all enjoyed some fine food and drinks and got a well deserved soak in Jim's hot tub.

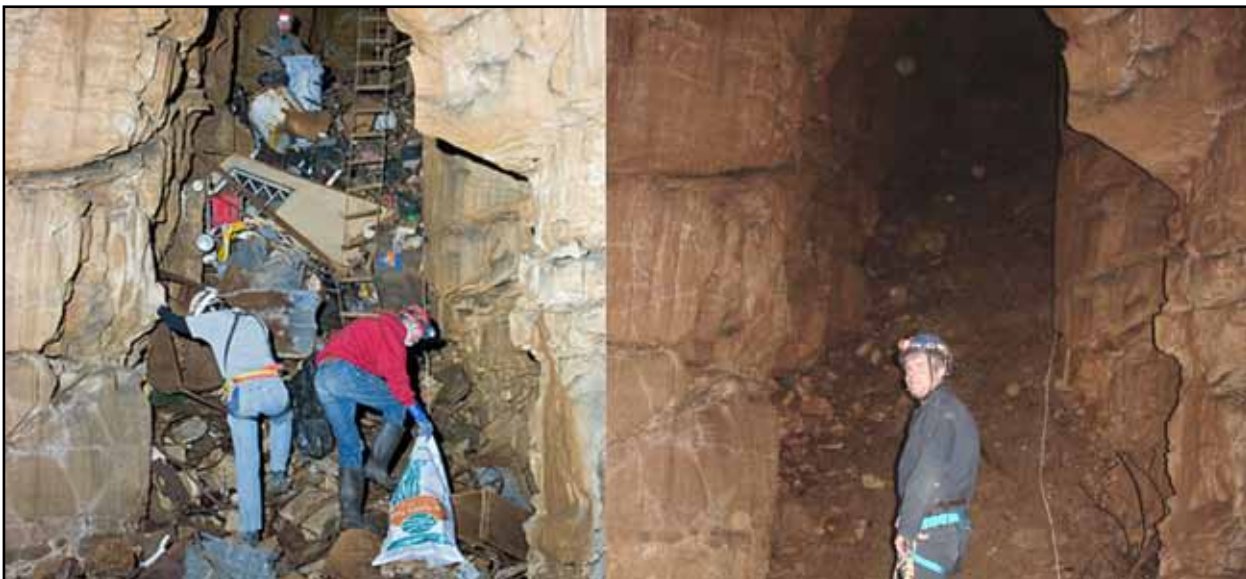
August 21-23 – Our very last cleanup! Yeah! On Friday, John and I went down to get the haul system put back up. On Saturday we had 19 cavers show up. Brian Leavell had donated some great large heavy duty grain bags. This made real quick work of hauling out all the bagged trash. We started around 9 AM and were finished with the last bag at 2 PM. It was all done a break neck speed. With all the helpers that showed up, we had such a great system set up and everyone stayed at

their post. The 20 cubic yard dumpster was filled to the brim. I couldn't believe that we had got it done so fast. Patti Cummings came to fix us all some great food to eat, so we could have a good meal afterwards. It was yummy!

All in all, this project went like clock work. It amazing what people can do when they work together. I would do it all again just to see the look on Jim's Houghtons face when he saw the finished product. There was a tear in his eye. Priceless!

I also want to thank all the grottos, caving organizations, and individuals who donated money to the project including the IKC, Bloomington Indiana Grotto, Central Indiana Grotto, Eastern Indiana Grotto, and Harrison-Crawford Grotto. The list of people who helped is very long but I would like to thank each and every one of them, John, Johnny, Josh Shultheis, Tim McLain, Ron Adams, Brent Cook, Lowell York, Elliot Stahl, Dave Stahl, Dave Black, Ryan Brown, Susan Wilkinson, Adam Manship, Bart Nott, Brain Leavell, Elza Marvin, Virginia White, Dave Randall, Tymme Laun, Chris Parks, Vince Murrdock, Robbie, Miller, Sandy Miller, Rob Miller. Patti Cummings, Sam Frushour Bill Greenwald, and Bob Vandeventer. I hope I didn't leave anyone out if I did I'm sorry . You're my heros.

[Editor's note: There was another article in the December 2008 IKC Update on this project that included a map and other photos.]



Before and after photos of the bottom of Houghton Hole in Crawford County, Indiana.

IKC EDUCATION AND OUTREACH COMMITTEE REPORT

by Kriste Lindberg, *Chairman*

Only within the moment of time represented by the present century has one species – man – acquired significant power to alter the nature of his world. ~ Rachel Carson

The above quote can be taken different ways, referring to positive or negative effects on the environment. In regards to the IKC's education and outreach efforts, I'd like to think that our alterations are in a positive direction.

In the ten years that we have developed a focus on educating the public – seeing the need, working with others, creating the committee, coordinating with local, state, national, partners – we have come a long way!

Since the early days, we have purchased a traveling display, received an NSS conservation grant to purchase a karst/groundwater model, and got to work steadily building the committee...

I recently took a trip down memory lane going through back issues of the *IKC Update* to revisit some highlights:

- Consulting with Bloomington Parks and Recreation to develop Leonard Springs Nature Park and partners (Sycamore Land Trust, Monroe County Consolidated School Corporation, etc.) to develop related education programs, including Leonard Springs Nature Days, which now treats *all* area sixth-graders to five different learning stations including a karst station (BPR received the Gold Medal Award for Excellence in Park and Recreation Management by the National Recreation and Park Association in 2007 – a national recognition!).
- Hosting multiple Project Underground workshops across the state (during this time, I became a Project Underground board member and facilitator).
- My appointment to the Bloomington Environmental Commission, which works with the Planning Department to recommend environmentally-friendly alternatives to traditional development.
- Working with development for responsible growth – developers, surveyors, US Fish & Wildlife and partners in karst “breakthroughs”, or water line installation in relation to voids found in the ground, and more.
- Providing tours of the Lost River System to TNC officials, the Indianapolis Star, Congressman Baron Hill and his staff, just to mention a few.
- Coordinating with Ravenswood Media, the Hoosier National Forest, and NSS to produce the *Caves: Life Beneath the Forest* cave life documentary – a totally caver-produced feature!
- Partnering with the Indianapolis fire department and others to host all-Inclusive Adventure Days.
- Conferring with the IDNR at Spring Mill State Park to offer annual *Gone Caving!* events, now in their fourth year, presenting a different theme every year!
- Providing assistance to Scout groups, including Camp Gallahue.
- Introducing teachers and students to our inflatable caves, or the Project Underground activity, Barefoot Cave.
- Seeing the creation of the ISU bat center and Bat Festival and participating at this event.
- Creating a presence at the first annual Indiana Environmental Education Symposium.
- Presenting at each NSS Convention, (e.g., discussing partnerships, working with development, presenting highlights) as well as at other conferences, schools, universities, libraries, government meetings, HASTI, NCKMS, and yearly presentations at the Indiana Cave Symposium.
- Developing Education Days for NSS Conventions, including Project Underground workshops, annual meetings, regional presentations, and more.
- Receiving various awards, including those from the Hoosier National Forest and NSS for educational materials.
- Getting the word out in various newspaper articles and television interviews.
- Writing quarterly articles for the *IKC Update*

and yearly articles for the *NSS News*.

- Receiving a \$1,000 National Speleological Foundation grant to create an expansion plan, including appointing three state coordinators; and the plan is now being considered as a model for the NSS Environmental Education Committee for other states to follow.

Now that our Education and Outreach plan is well underway, and more volunteers have been trained, I will be stepping back as Chairman to foster new blood, as they say. I will still be involved, but more in the capacity of a consultant or “at large” resource. In addition, this change will also help me gain better balance between my various interests and business endeavors.

The new regime will begin on January 1, 2010 and is currently progressing as follows...

We are moving Don Ingle up from Coordinator in the southern third of the state to Chairman and appointing Bill Schultz to take his place; the rest will remain the same for the time being.

Job descriptions have been developed and are described, below:

Chairman:

- Serve as point person for the committee.
- Direct activities of the committee.
- Schedule, organize and preside over quarterly business meetings of the Committee.
- Represent the IKC at events and functions.
- Serve as an IKC director.
- Attend IKC meetings.
- Appoint area coordinators.
- Request and compile activity reports.
- Write quarterly IKC Education and Outreach Committee updates for the quarterly *IKC Update*.
- Write annual reports for IKC Annual Business Meetings.
- Present at Indiana Cave Symposium.
- Send in updates to the IKC’s website.
- Request funding and write grants.
- Maintain files.
- Optional: Join NSS Environmental Education Committee.

State (north, central, south) coordinators:

- Serve as point person for your area.
- Represent the IKC at events and functions.
- Direct activities in your area.
- Recruit members to help you in your area.
- Write activity reports and send them to chair on a quarterly basis (before the *IKC Update* deadline).
- Make suggestions for website and more.
- Attend IKC meetings when possible.
- Maintain files.

State coordinator assistants:

- Assist area coordinators with events and functions - set up, tabling, demonstrations, etc.
- Serve as back-up for state coordinator.
- Maintain files.

At-large:

- Assist the above when and where possible (ie, contribute educational questions/answers to the *IKC Update*’s quarterly Education and Outreach Committee Update article).
- Maintain files.

Watch for upcoming website updates, including video clips from HASTI and excerpts from a presentation on karst for the Monroe County Plan Commission, including a brief PowerPoint and karst/groundwater demonstration.

If you are interested in helping, or would like to recommend another, please let us know!

We will be sponsoring a Project Underground Workshop, along with Bloomington Parks and Recreation, during the spring of 2010 to train additional state coordinator assistants and others interested in helping to protect caves and karst in their own capacities.

Thanks to all for your generous support. And special thanks to: Steve Cotter, Keith Dunlap, Dave Everton, Joey Fagan, Angela Hughes, Don Ingle, Kelle Reynolds, Cindy Sandeno, Karen Silvers, Bob Vandeventer, Carol Zokaites,

Following are a few of our accomplishments over the past quarter:



- **4th Annual Gone Caving.** Spring Mill State Park, August 29. This was a scaled back event due to threats of White Nose Syndrome in bats, but still drew a good-sized crowd!
- **3rd Annual Indiana State Bat Festival,** Indiana State University, Terre Haute, September 19. This was a full day of presentations and information on bats. We co-hosted a Project Underground workshop and had our inflatable cave, karst/groundwater model, and other materials present. Workshop participants learned how to present cave and karst activities, including how to develop responsibly in karst areas. They also received the activity guide, a cave poster, many handouts (with tote bag!), and were able to visit the rest of the festivities after 3:00 PM.
- **Hoosier Outdoor Experience 2009,** Fort Harrison State Park, September 25-27. The IDNR hosted this first-time-ever event and it was HUGE. We attended with our inflatable cave.

Quarterly Education Question: How many caves does the IKC own and how many caves does the IKC manage? Answer to be provided in the next issue...

- **Willis Blatchley 150th Birthday Celebration and Nature Outings,** Bloomington, October 2-4. This three-day event celebrated the 150th birthday of noted Indiana naturalist, Willis Blatchley, and was sponsored by the Sassafras Audubon Society and related agencies. It covered a variety of outdoor activities, including a tour of Leonard Springs Nature Park to visit karst features up close and personal, creek walks, bird watching, and more.
- **Indiana University, Eppley Institute for Parks & Public Lands,** Bradford Woods, October 10. We facilitated an outdoor education class at Bradford Woods on the responsible use of caves, including a PowerPoint presentation, karst/groundwater model demonstration, and tour through Barefoot Cave.

The answer to the last quarterly question about the watershed Sullivan Cave lies in: Lower East Fork of the White River. For more info, see: http://www.in.gov/isda/files/Watershed_Map.pdf

2009 INDIANA BAT FESTIVAL

by Don Ingle

The 2009 edition of the Indiana Bat Festival took place on September 9th at the Science Building on the campus of Indiana State University in Terre Haute. There to represent the IKC at the event were myself, Kriste Lindberg, and Bob Vandeventer. This year we were also offering a Project Underground workshop for interested participants, with Bob and Kriste presiding. The education/outreach committee recently built a second new inflatable cave, and this was to be its coming out party. As much as I'd like to tell you what a splendid success Kriste/Bob's presentation was, I cannot, as once again I was the Keeper Of The Cave. My job comes with a truly awesome responsibility; that being once the cave was erected, my feet were pretty much nailed to the floor next to the cave, bathroom breaks excepted. And as any of our real Cave Patrons could tell you, being a Cave Patron is not always an easy job or glamorous. God knows, this wasn't. And

unlike our Patrons, they don't have to pack in the cave from a parking lot a quarter mile, going up two floors in an elevator, and past several vendors from the site, then around a corner where it is to be erected up a dead end hallway, repeating as needed. But then, on the plus side, Indiana State University has always been an excellent host, very accommodating in all ways, and moreover, provide free food for the exhibitioners... Yum... I'm there. Mention free food and I'm liable to be there under nearly any circumstances. Well, I'm a caver, and it kind of comes with the territory. Doesn't it?

Being the Keeper Of The Cave, at least at this venue, requires you to wear many hats. I brought two, one my trusty Petzl Ecrin-Roc, though this was just for show. To do this job, you kind of have to be one part educator, one part light technician, and two parts babysitter. If you've never seen our inflatable cave, it is 37 feet long and



made out of 10 mil black landscaping plastic held together by black duct tape (product placement ad follows... *Don't let your inflatable cave spring a leak! To keep the sunshine out and all the kids in, be sure to use Gorilla Tape! Not to be used for pre-adolescent behavioral modification in the contiguous United States*). PVC piping provide a rectangular frame for the entrance into which you



put two box fans, which when running, inflate the whole affair. It has a short crawly bit of about six feet that opens up into a reasonably spacious terminal room that all (even adults) could stand up in quite comfortably. Once up and running, you can then sit out in front with your IKC hat in probably what is a vain attempt to look reasonably knowledgeable, just in case someone might want to ask a question or something. It could happen. I say vain, because while you are trying to look serious and academic, you are constantly having to interrupt your professorial tones by telling the darling little crumb-munchers to please take their shoes off before they go in Barefoot Cave, fixing someone's headlamp who just came out, swapping batteries out, saying the heck with it and finding them a new headlamp instead, and then yelling into the entrance to tell them not to beat on the sides of the cave or to please, "STOP RUNNING!" You have to yell, pretty much, because with a dozen kids in there, all excited and amped up on sugary drinks and the like, they do tend to get a bit noisy. Whew! It tires me out just remembering that day. It's a delicate balancing act, but if done well, and you can keep your sanity and the cave intact, they'll ask you to come back again next year. I must be doing something right, I guess, because this was

my third year doing this, and Brianne Walters, who is the main ISU contact person for all the exhibitors, tells me the inflatable cave is one of the most popular parts of the whole Bat Festival. Doesn't surprise me.

To keep the adults occupied and entertained (those that flat out *won't* go in), while the kids were in there doing what kids do, I had a DVD player showing the *Caves: Life Beneath The Forest* video next to the IKC display with all the requisite cave, karst, grotto and other organizational contact information arranged there in front of it.

The cave would be slower for a time, then I would get absolutely mob smacked, and then it would be slow once again. And so on. This had to do with the myriad of educational presentations that were given by learned bat experts such as John Whitaker and Tim Carter on the other side of the floor. I was told the programs were all very nicely done and informative. Most of these ran about an hour, and when they let out, the kids would want to look at the fruit bat on their way back over to my neck of the woods and then here we'd go again.

This was and is a great venue and opportunity to get the conservation message out there. Particularly in this very troubled time in the environmental and caving communities, with white nose syndrome being on everyone's minds, the news is really getting out there about this very serious problem, and I understand everyone seems to want to learn about it. God knows, I sure would like to. But I couldn't... I'm just the babysitter.



2009 HOOSIER OUTDOOR EXPERIENCE

by Bob Vandeventer

In January of 2009 the IKC was contacted by the DNR about an upcoming event they were planning to host at Ft Benjamin Harrison State Park. What they had in mind was to give people a sample of outdoor activities available in Indiana. Our part of the project would be to bring Bare-foot Cave, our portable/inflatable cave, and our displays to expose attendees to caving in Indiana. We have worked with the DNR on many other cave education projects so with a September 26/27 date picked out, we agreed to take part. They told us at that time to plan on at least 2,500 to 3,000 inn attendance. We had several meetings over the months before the event, with a revised estimated attendance at 7,000. A dry run was added to the plan to look for problems that could be caught in advance and wouldn't you know it a storm blew in. Our dry run got wet. Yes that would be a problem for sure so all we could do is hope for good weather for the September date.

On the weekend of the event, I arrived at the park on Friday the 25th for the set up day. It started raining along with some wind so I could not do anything but plan to be back early in the morning. I was back at the park at 6 AM to set up the IKC booth and the cave with all of the new formations,

rocks, and critters. It's a good thing cavers are used to working in the dark although this calm and solitude was soon to be squashed like crystal in a trash masher. No rain and no wind so I was all set up and ready by 8. The first Hoosier Outdoor Experience started at 9 and here is how it was to operate. People attending the event would park at the finance center about a mile away and be bused into the park unloading at the greeting area in the center of the park where our booth was located. That put me at ground zero. From there shuttles like the ones used at the State Fair were available to take people to all of the other activities. I had one volunteer provided by the DNR to help at the cave entrance with helmets and lights and the line to explore the cave never ended from the time that first bus landed. It looked like a shoe sale outside the entrance. The cave was a huge hit for visitors of all ages and there were many of them enjoying a beautiful day outside. At the end of the day I had no idea of how many people looked over our display and made their way through the cave but it was constant from start to finish. I had to pack up everything at the 6 PM closing time knowing it would be set up again Sunday morning. One tired teddy bear makes his way home to Greenwood. ►►



It was a short night for me. I was back at the park Sunday morning and set up faster with a few modifications after the experience from the day before. The event opened again at 9 with a lighter crowd than the day before for the first two hours. That gave me a chance to talk to people more until the good weather brought the attendance up again. I was on my own this time with no volunteer to help collect shoes and hand out the cave gear. All was going well but then the breeze picked up in the afternoon and with the gusting wind getting stronger by the minute I had to take down the cave before it ended up in the next county. I had everything loaded up before the 6 PM closing time, but with the wind and rain approaching the crowd was very light for the last hour. It was a very successful weekend event. There was a lot of planning and work involved, but I believe well worth the effort.

With the first Hoosier Outdoor Experience now in the history book, a follow up meeting was scheduled for November 13th to talk over what was good or bad about the event with all of the activity presenters and parks personnel who made this happen. I wonder if they picked the meeting date of Friday the 13th on purpose. Well it turned out we identify several items from our view and those who attended that would make things flow better next time. That's right the second Hoosier Outdoor Experience is in the planning stage for 2010. Here are some of the highlights from the meeting and my own observation.

The attendance number ended up to be 13,300 fun loving people of all ages. I think I saw most of them with the IKC booth located where it was. The transportation route and parking can be improved to handle that size crowd, but it went well for a first attempt. We all agree more volunteer help is needed and I was the first to bring that up. Another point was to provide a camping area for



all of the activity providers to stay overnight. We all worked well together but did not get a chance to socialize with so much going on all day and the activities spread out. There is no control over the weather, we are outdoors and whatever happens is what we deal with.

The people attending the event were amazed to see so many different outdoor activities available for them to experience. Many wanted to know if this would happen again next year. I guess it will.

A common theme shared among all of us was leave no trace. It was a great message to pass along to the public and all of us as presenters explained why this is important and how they can help make it happen. As a side note to that the DNR and parks people commented that at the end of the event there was very little to clean up.

If all goes well we can expect to see this event take place in 2010 and who can even guess what the attendance will be with the first one so successful. I will say it again, it was very well worth my time and effort.

“We abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect.”

-Aldo Leopold, *A Sand County Almanac* (1949)

POPULATION TRENDS OF INDIANA BATS IN INDIANA

by Keith Dunlap

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 fifteen censuses (1981-2009), along with some historic data dating as far back as 1950. The majority of the contemporary data was collected under contract with the Indiana Department of Natural Resources under the direction of Dr Virgil Brack.

The table on the following page represents the summary of over 297 cave visits to 32 different caves documented to have had Indiana bats in recent years. In addition, another 47 caves have been visited one or more times over the past twenty-five years to look for Indiana bats without success (although four caves have historic records). It is interesting to note that most of the current active hibernacula have been “discovered” since 1981 as part of this census project. While most of these new caves only have small colonies that do not contribute much to the overall population, they are nevertheless potentially significant in the long-term recovery of the species. The table lists the caves in descending order of colony size based upon the most recent census. Studying the right-most column of the table, one can see that 95% of the state’s population is found in just six caves and 99.3% are in the top dozen hibernacula.

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 declined by over 60% (883,300 to 342,300)

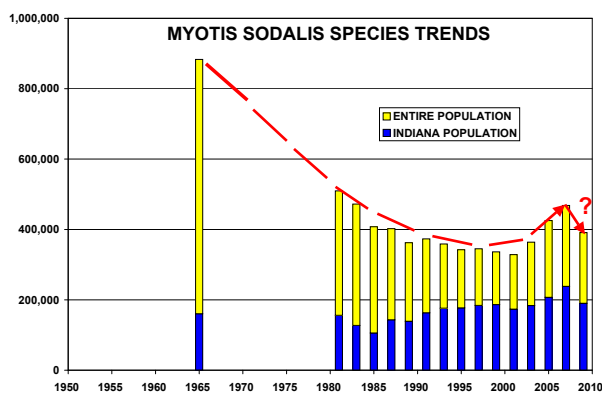


Figure 1

and appeared to be on its way to extinction despite modest positive gains in Indiana and a few other states (see figure 1). The population then appeared to stabilize and in 2003 through 2007, the population actually showed optimistic signs of recovery. Unfortunately, the 2009 numbers were down 20% in Indiana for no obvious reason and down elsewhere as White-nose Syndrome starts to show it’s disastrous impact. While not all of the states have provided the USFWS with their final tallies, it is thought the total population will once again be less than 400,000 Indiana bats.

Looking at population trends in individual Indiana caves is interesting in that several caves have been showing consistently increasing trends, other caves have been generally decreasing, while the remainder have undeterminable trends or there has not been enough data collected to make a determination.

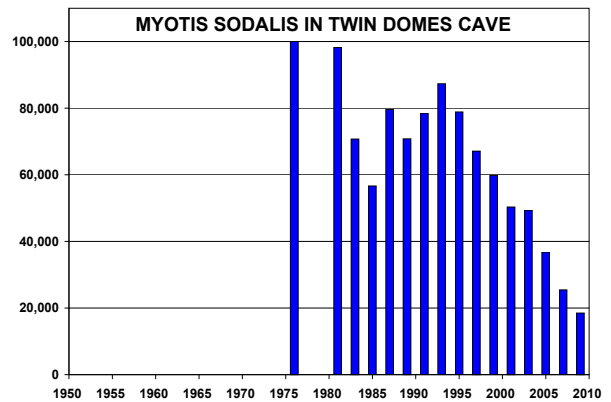


Figure 2

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 during the past eight censuses. The 2009 population was the lowest recorded (less than 20% of its 1975 estimate) and is obviously cause for concern. However, it is likely most of the Twin Domes population has been re-locating to other nearby caves, primarily Wyandotte and Jug Hole, as both have shown offsetting increases. Twin Domes dropped from Indiana’s perennial largest to the fourth largest hibernacula in just six years.

Likewise, Batwing Cave (figure 3), Indiana’s other original Priority I hibernacula, has shown disconcerting population decreases since it was first documented in the mid-70s. The 2009 census was no exception with just 4,222 bats, the lowest number to date (less than one-tenth of the



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 |
|---|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Ray's Cave (Greene) | 12500 | 13475 | 16200 | 22990 | 28581 | 41854 | 38386 | 41157 | 51365 | 62464 | 48219 | 50941 | 54325 | 77687 | 48657 |
| Wyandotte (Crawford) | 2152 | 4550 | 4627 | 6681 | 10344 | 12994 | 17304 | 23878 | 25424 | 26854 | 28584 | 31217 | 54913 | 49936 | 45516 |
| Jug Hole (Harrison) | | | | 5535 | 6424 | 7640 | 13924 | 12463 | 20741 | 11900 | 20151 | 19240 | 29430 | 46664 | 36067 |
| Twin Domes (Harrison) ¹ | 98250 | 70750 | 56650 | 79650 | 70800 | 78500 | 87350 | 78875 | 67100 | 59775 | 50325 | 49350 | 36800 | 25460 | 18484 |
| Grotto Cave (Monroe) | 3190 | 2692 | 4198 | 3778 | 2985 | 1996 | 1568 | 2018 | 2435 | 4361 | 5419 | 10338 | 9875 | 12891 | 16190 |
| Coon Cave (Monroe) | 1190 | 550 | 777 | 2950 | 2103 | 3696 | 4451 | 4455 | 4786 | 6341 | 6395 | 10675 | 9270 | 14099 | 14525 |
| Batwing Cave (Crawford) ¹ | 29960 | 26650 | 14750 | 17450 | 14500 | 13150 | 9350 | 9300 | 7400 | 10125 | 9350 | 6900 | 6850 | 4388 | 4222 |
| Endless Cave (Washington) | | 2 | | 1 | | 134 | 335 | 450 | 404 | 403 | 800 | 863 | 958 | 1689 | 1671 |
| Wallier Cave (Harrison) | | | | | | 36 | 72 | 465 | 409 | 381 | 310 | 541 | 917 | 1339 | 1059 |
| Parker's Pit (Harrison) ² | | 500 | | 1803 | 1104 | 926 | 1045 | 1276 | 1139 | 987 | 989 | 447 | 298 | 767 | 927 |
| Clyfy Cave (Greene) | | 66 | | 198 | 412 | 357 | 307 | 299 | 369 | 379 | 469 | 457 | 575 | 611 | 828 |
| Saltpeper (Crawford) | | 352 | | 427 | 295 | 508 | 375 | 647 | 577 | 800 | 849 | 681 | 907 | 830 | 586 |
| Swinney Cave (Harrison) ³ | | | | | | | | | 11 | 29 | 39 | 184 | 200 | 383 | 244 |
| Panther/Neyman (Washington) | | | | | | | | 86 | 156 | 167 | 220 | 337 | 349 | 350 | 244 |
| King Blair/Brinegar (Monroe) ⁴ | | | | 12 | | | 442 | 514 | 663 | 453 | 263 | 190 | 193 | 218 | 218 |
| Leonard Springs (Monroe) | | | | | 135 | 112 | 92 | 82 | 92 | 81 | 25 | 138 | 109 | 82 | 188 |
| Gypsy Bill Allen | | | | | | | | | | | 134 | 250 | 177 | 134 | 95 |
| Robinson Ladder (Crawford) ⁵ | | | | | 95 | 388 | 376 | 219 | 326 | 223 | 366 | 204 | 192 | 333 | 73 |
| Sexton Spring Cave (Greene) | | | | | | 0 | 67 | 117 | 98 | 75 | 100 | 113 | 95 | 90 | 61 |
| Saltpeper (Monroe) ⁶ | | 83 | | 19 | 24 | 221 | 245 | 175 | 136 | 40 | 24 | 96 | 88 | 83 | 48 |
| Buckner Cave (Monroe) | | 488 | 301 | 336 | 24 | 51 | 25 | 41 | 15 | 6 | 1 | 40 | 12 | 49 | 10 |
| Storm Pit (Lawrence) | | | | | | | | | | | | | 28 | 28 | 48 |
| Sullivan (Lawrence) | | | | | | | | | | | | | 25 | 25 | 9 |
| Nichols Cave (Orange) ⁷ | | | | | | | 200 | | | | | | | | |
| Reeves (Monroe) ⁸ | | | | | | 9 | | | | 31 | | | 17 | 17 | 0 |
| Mitchell Quarry (Lawrence) | | | | | | | | | 84 | | 9 | | 3 | | 27 |
| Binkley Cave (Harrison) | | | | | | | | | | | | | | | |
| Achcraft Cave (Greene) | | | | | | | | 28 | | 3 | | | | | |
| Wildcat Cave (Crawford) | | 29 | | 0 | | 31 | 20 | 34 | 48 | 19 | 35 | 17 | 0 | 0 | 0 |
| Salamander Cave (Monroe) | | 74 | | 0 | | 0 | 61 | | 1 | | | | | | |
| River Cave (Washington) | | 104 | | 5 | | 1 | | | | 2 | | | | | 3 |
| Bentz Cave (Crawford) | | 0 | | | 3 | | | | | | 0 | | | | |
| TOTAL (adjusted)⁹ | 155800 | 127000 | 105500 | 143000 | 138900 | 163100 | 176000 | 176800 | 184000 | 186200 | 173300 | 183600 | 206900 | 238400 | 190100 |

1 Twin Domes and Batwing census conducted by Richard Clawson from 1981 to 2005.

2 Parker Pit census in 1983 conducted by Michele Wright. Partial census in 1999, 2003, 2005, 2007, and 2009.

3 Swinney partial census in 1997.

4 King Blair / Brinegar partial census in 1989.

5 Robinson Ladder partial census in 1989.

6 Saltpeper partial census in 1983 and 1987.

7 Nichols census in 1992 conducted by Scott Johnson and Keith Dunlap.

8 Reeves census in 2003 conducted by Andy King, US Fish & Wildlife.

9 For the purpose of comparisons, populations for non-censused (or unknown) caves were estimated to give an adjusted total.



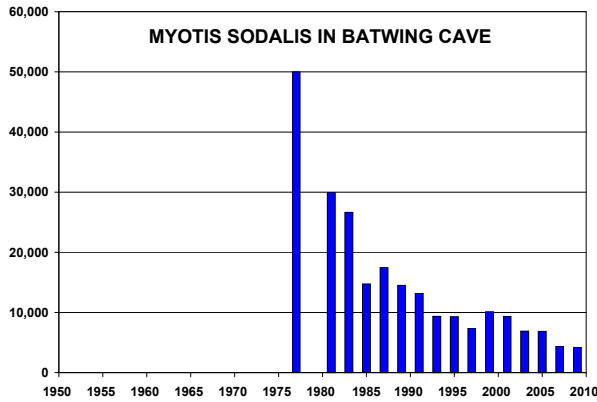


Figure 3

1977 estimate). Again, it is likely these bats are not really disappearing, rather they are ending up in other nearby caves. There has been much speculation why Twin Domes and Batwing are not attracting bats like they once did. The current hypothesis is that both have been sub-optimum caves temperature-wise, 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 winter closure, the bats are “coming home to roost”.

Wyandotte Cave has always been an interesting contradiction in resource management. While it serves as an ever increasingly significant hibernacula, 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 estimated the population at 10,000 bats (see figure 4). However, just a few years later and after a solid stonewall gate was installed, the population was only one-tenth that size. The population fluctuated around 2,000 bats

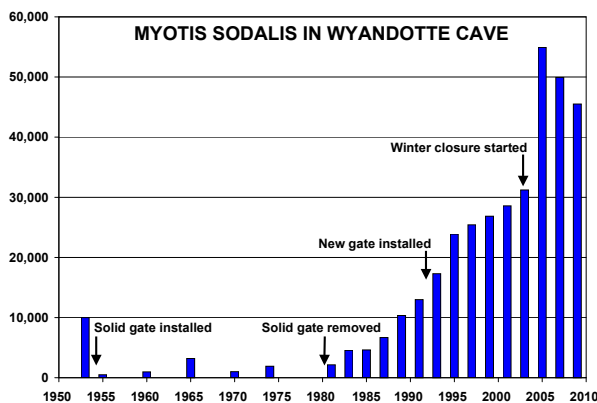


Figure 4

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, although the 2007 and 2009 populations were down compared to the 2005 census. Regardless, the decision by the DNR in 2003 to discontinue winter tours will likely prove to be another milestone for the bats in this cave.

Just a short distance north of Wyandotte Cave is Saltpeter Cave. While the number of bats hibernating there is small compared to its neighboring caves just discussed, it is nevertheless an important cave for Indiana bats and was probably a very significant hibernaculum historically (Merlin Tuttle, personal communication about the ceiling stains). Figure 5 shows a generally increasing saw-saw trend, but the 2009 numbers were down sig-

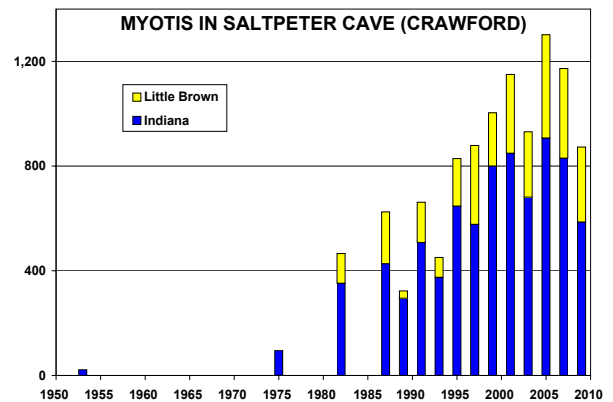


Figure 5

nificantly. The 2009 census counted a total of 873 Indiana and little brown bats (*Myotis lucifugus*), a third less than the total in 2005.

Of the other caves in the Harrison/Crawford area, Jug Hole is of the greatest importance, now with the third largest population in the State. First censused in 1987 with 5500 bats (see figure 6), the population has been on an impressive increase and in 2007 jumped 60% over 2005 to 46,664 bats. In 2009, the count was 36,067 which is down considerably from 2007, but still the second greatest number recorded there. There is no real explanation for the increases at this cave other than winter trips by cavers has probably decreased over the years as organized cavers have been educated about the cave being a significant hibernaculum.

Previous research supported the observation that Indiana bats are very habitual in using the same hibernacula year after year. But as suggested earlier, with the population increasing at Wyandotte and Jug Hole while similar decreases are



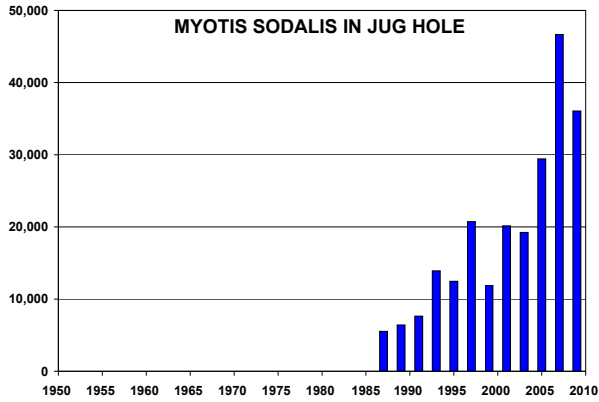


Figure 6

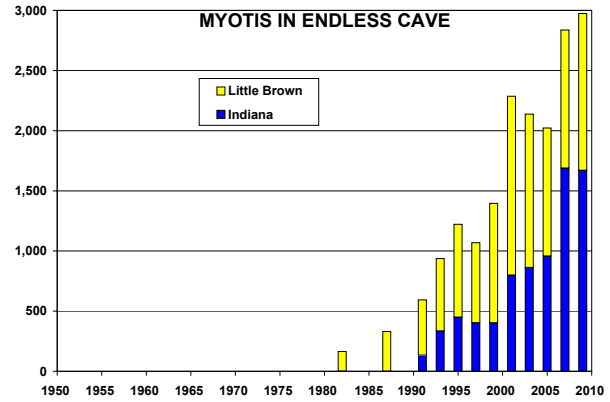


Figure 10

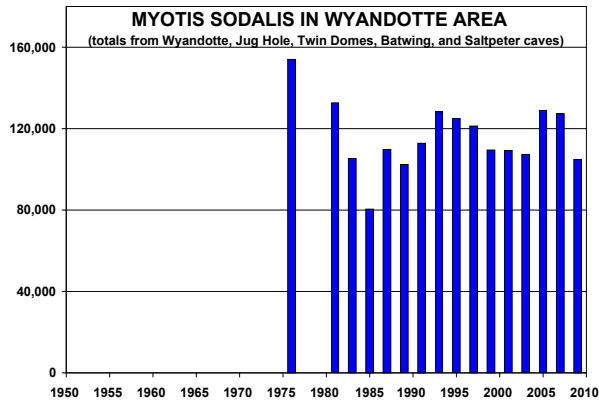


Figure 7

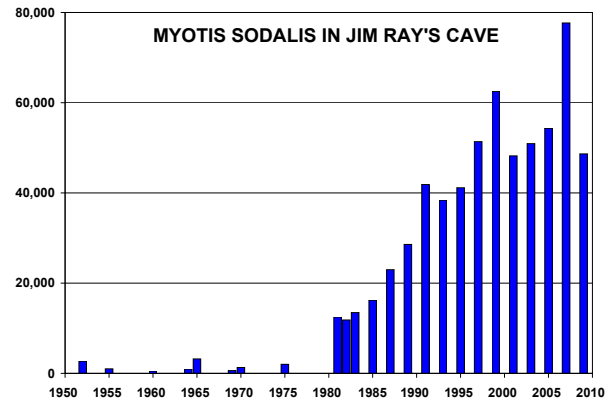


Figure 11

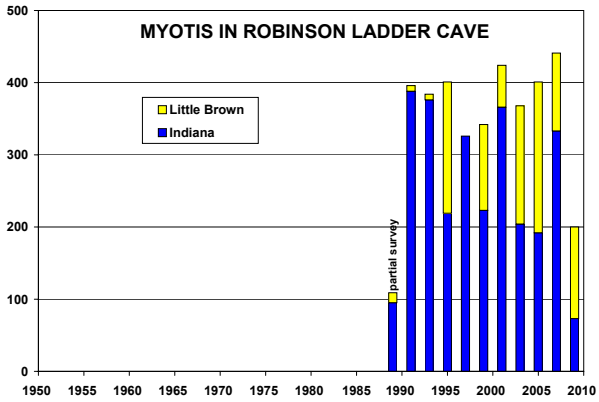


Figure 8

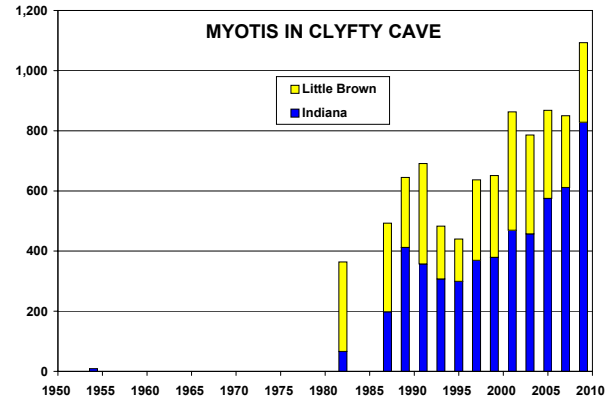


Figure 12

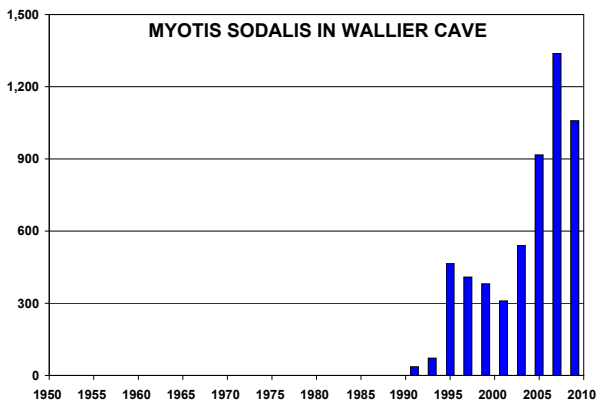


Figure 9

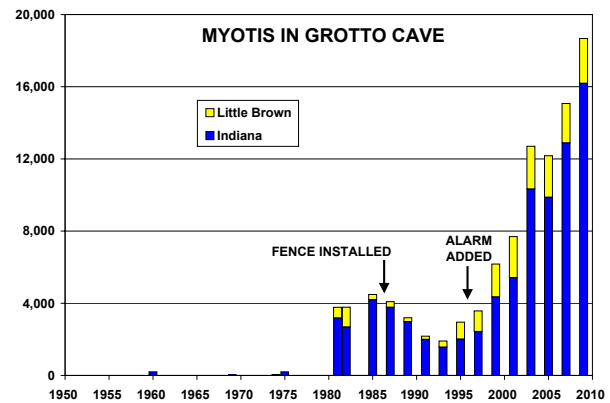


Figure 13



being experienced at nearby Batwing and Twin Domes, one can only speculate that at least some redistribution is occurring. To better quantify this, figure 7 shows the combined numbers from Wyandotte, Jug Hole, Twin Domes, Batwing, and Saltpeter caves which accounts for approximately 50% of the total Indiana population. It can be observed that the population appears to be much more stable and indicates that the total number of bats within the region hasn't really changed that much over the past fifteen censuses.

Figure 8 shows recent censuses in Robinson Ladder Cave, owned by the IKC. Since 1991, the combined populations of *Myotis* have been relatively stable, averaging 390 bats with the 2007 numbers setting a new record of 441 bats. However, the 2009 combined population was only 200 bats. There is no explanation for the sudden loss of more than half the bats.

The final cave in the Harrison/Crawford area to highlight is Wallier Cave, southeast of Laconia. The 1991 and 1993 census included 36 and 72 Indiana bats respectively (see figure 9). The 1995 through 2007 counts were 465, 409, 381, 310, 541, 916, and 1,339 bats, the latter being the largest population to date. In 2009, the population dropped to 1,059, but still the second largest number of bats observed at this cave. It is unclear what is driving the overall positive trend.

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 10). However, the last ten counts have shown an encouraging population increase of both Indiana and little brown bats. In 2009, 1,671 *sodalis* were counted, just a few bats less than in 2007. Likewise, the number of little brown bats this census were relatively high (second only to the 2001 survey). The combined total was the largest to date. This was the first winter that the number of disturbances was greatly reduced. The new gate should have a continued positive impact on this cave (although WNS may change this in the future).

Jim Ray's Cave in Greene County has had remarkable population growth over the past 30 years (see figure 11). 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 1987, 1989, and 1991, the popula-

tion exploded, topping out at almost 42,000 Indiana bats (making it the second largest hibernacula in Indiana). In 1993, the population decreased slightly, but rebounded slightly in 1995 and made large jumps in 1997 and 1999 to over 62,000 bats. The 2001 and 2003 censuses showed a retreat, recovering slightly to 54,000 bats in 2005, but still enough to be on par with Wyandotte Cave. In 2007, the number of bats took another huge jump to 77,686, making it the largest known hibernaculum anywhere. The 2009 census showed a significant drop to 48,657 bats, but still enough that it out ranks all other hibernacula. The dramatic increase over the past twenty-five years 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.

Approximately five miles to the north of Ray's is Clyffy Cave. Figure 12 shows an Indiana bat population that appears to be gradually increasing over the past eleven counts, while the population of little browns over that same time period appear to be relatively constant. The 2009 count had 828 Indiana bats, the largest to date.

Moving to Monroe County, Grotto Cave has been another puzzling hibernaculum. Historic records showed very small populations in the 1960s and 1970s (see figure 13). However, in the early

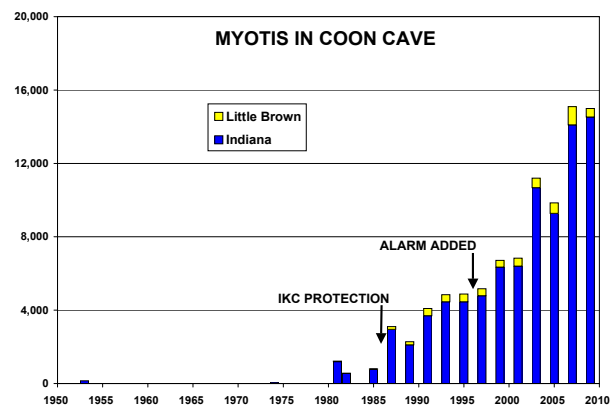


Figure 14



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. However, 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. In 2009, the population jumped once again to 16,190. Furthermore, the 2001-2009 censuses recorded more than 2,000 little brown bats, the largest winter concentration known in any cave within Indiana.

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 14). Brack’s observations in the early 1980s were around 1,000 bats. Since 1985 when only 777 bats were found, the population has increased significantly to almost 6,400 Indiana bats in 2001. In 2003, like Grotto Cave, the population jumped substantially to over 10,000. In 2005, the count was down, but took a huge jump in 2007 with 14,099 bats counted. In 2009, the population increased slightly to 14,525.

These two caves combined now host more than 8% of the entire winter population and the observed increases (see figure 15) are primarily

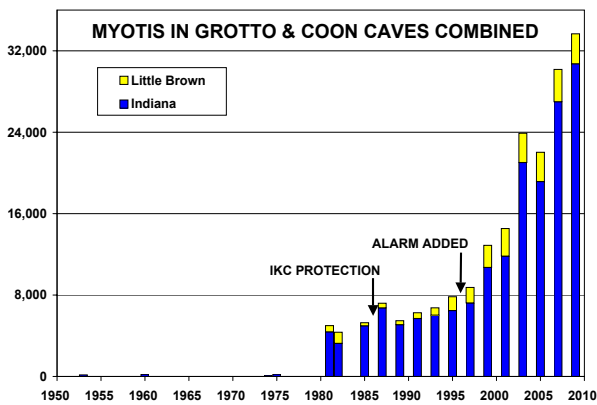


Figure 15

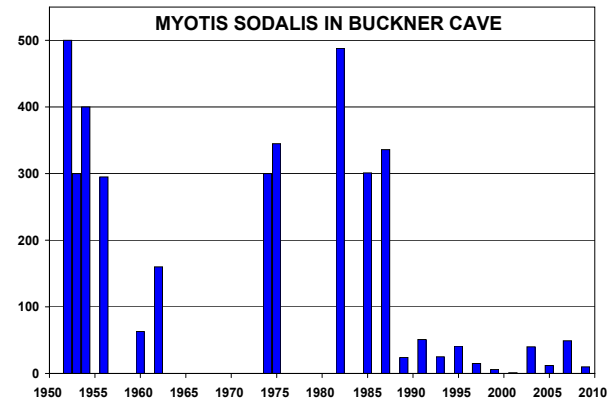


Figure 16

attributed to the efforts of the IKC in managing access to these caves since 1985.

The last cave in Monroe County for which there is long term data is Buckner Cave. Historically (1950-1980) Buckner has had a relative stable population of 300 to 500 bats in its entrance room (see figure 16), but since 1989 there has not been more than 50 bats found. Obviously repeated disturbances could be blamed, but the sudden drop between 1987 and 1989 would be more indicative of a single-event, intentional or accidental eradication (e.g., shotgun or entrance room campfire). Only one Indiana bat was found in Buckner Cave in 2001 which pretty much tells the story. In 2003 the number jumped back to 40, but then dropped to only 12 bats in 2005. In 2007, 49 bats were found in January, but a quick check a month later after a long cold spell, did not find any. In 2009, only 10 Indiana bats were found. There is a strong potential that this cave could once again host a significant population, but it would require winter closure, something cavers may not want to support. The cave is now owned by the NSS so it will be interesting to see where the cave’s management philosophy evolves.

IKC members who participated on the 2009 bat census were Steve Collins, Bambi Dunlap, Keith Dunlap, Robert Sollman, Tom Sollman, Dave Stahl, and Elliot Stahl. Scott Johnson (DNR) coordinated the project.

INDIANA KARST CONSERVANCY TREASURY REPORT

**Income/Expense Statement
From July 1, 2009 to September 30, 2009**

INCOME:

| | | |
|-----------------------------------|---------------|------------|
| Dues Apportionment and Residuals | 658.75 | |
| Donations - General | 322.44 | |
| Donations - Land Acquisition Fund | 36.00 | |
| DNR Endless Cave Gate | 7500.00 | |
| Interest | <u>551.15</u> | |
| | | \$9,068.34 |

EXPENSES:

| | | |
|--|---------------|--------------|
| IKC Update (printing, production, mailing) | 236.50 | |
| Education / Outreach | 110.35 | |
| Stewardship | 469.27 | |
| Conservation | 150.00 | |
| DNR Endless Cave Gate | 4495.59 | |
| Business (property taxes, website, fees, etc) | 27.47 | |
| Transfers to/from restricted funds/other adjustments | <u>267.83</u> | |
| | | (\$5,757.01) |

NET OPERATING EXCESS (DEFICIT) THIS PERIOD: \$3,311.33

**Balance Sheet
September 30, 2009**

ASSETS:

| | | |
|---|--------------|----------------------------|
| Cash in Checking / Saving Accounts / CDs | 98406.76 | |
| Accounts Receivables (DNR reimbursement) | 7500.00 | |
| Wayne Cave Preserve (20.00 acres) | 75000.00 | |
| Robinson Ladder Cave Preserve (40.40 acres) | 75000.00 | |
| Sullivan Cave Preserve (28.00 acres) | 72000.00 | |
| Buddha Karst Nature Preserve (36.84 acres) | 29000.00 | |
| Orangeville Rise Nature Preserve (3.01 acres) | 7000.00 | |
| Indian Creek Conservation Easement (valued at \$1/acre) | <u>13.16</u> | |
| | | <u><u>\$363,919.92</u></u> |

LIABILITIES & OPERATING EXCESS:

| | | |
|---|------------------|--|
| Land Acquisition Restricted Fund | 34793.59 | |
| Deferred Dues Restricted Fund (176 members) | 3240.00 | |
| Stewardship Endowment Restricted Fund | 30145.49 | |
| Previous General Fund (total) | 34429.51 | |
| Net Excess (Deficit) This Period | <u>3311.33</u> | |
| Current General Fund (unrestricted) | 30690.84 | |
| Current General Fund (committed) ¹ | 7050.00 | |
| Real estate liquidity (basis value) | <u>258000.00</u> | |

Total Liabilities & Operating Excess \$363,919.92

NOTES:

1) Added to better track funds committed by Board motions, but not yet expended

IKC QUARTERLY MEETING MINUTES

Saturday, September 12, 2009 – Lewis Property, Burns Hollow, Borden, IN

BOARD MEMBERS PRESENT:

Jerry Lewis, President
 James Adams, Secretary
 Keith Dunlap, Treasurer
 Dave Haun
 Don Ingle (proxied by Carla Winner)
 Kriste Lindberg
 Steve Lockwood (proxied by Sue Vernier)
 Bob Sergesketter
 Bruce Silvers
 Karen Silvers
 Tom Sollman
 Bob Vandeventer
 Richard Vernier
 Jamie Winner

BOARD MEMBERS ABSENT:

Bruce Bowman

The Executive Board Meeting was called to order at 5:00 PM at the home of IKC President Lewis, Lewis presiding. Two proxies were accepted and one Board Member was absent. Minutes of the June 2009 meeting were accepted as published in the September 2009 *IKC Update*.

Record of E-mail Motions

Since the June meeting, there was an e-mail motion and vote regarding White-Nose Syndrome as follows:

7/21/2009: Haun moved to support Dr Lewis' proposed project to look at the effects of fungicide on cave fauna in connection with the White-Nose Syndrome. This IKC grant will be for out-of-pocket expenses only and will require receipts for reimbursements. The total grant will not exceed \$1,500. Vandeventer seconded the motion.

7/24/2009: Motion passed, 14-0-1.

Also, since the June meeting, there was an e-mail motion and vote regarding the USFWS Buddha Karst Nature Preserve habitat improvement grant, as follows:

8/20/2009: Lewis distributed information from Richard Geboy of the USFWS outlining a grant to the IKC to fund \$4,500 of a \$5,600 project to machine plant trees on the pasture areas of the Buddha Karst Nature Preserve. This left a balance of \$1,100 as the IKC portion of the project; Lewis offered to donate \$200 toward the project, leaving a balance of \$900 cost to the IKC.

8/21/2009: Haun made the motion that the IKC approve the expenditure of \$900 in support of the grant. Vandeventer seconded the motion. Lewis called for discussion. Further manipulation of the numbers by Geboy brought the IKC balance to \$300, or \$100 or less after the Lewis donation. Thus the cost of the

project to the IKC would be minimal.

8/22/2009: Lewis called for a vote.

8/25/2009: With 13 "YES" votes received, President Lewis deemed the motion passed, 13-0-2. The contract was signed and returned to the USFWS for processing.

[Editor's note: This cost-share contract was later amended to increase the total contact amount, but the IKC's share was still within the original motion.]

Treasurer's Report

Dunlap reported cash assets at \$106,472.81 plus land at \$258,000 for a total of \$364,472.81. Funds included Land Acquisition, \$34,793.59; Stewardship, \$29,913.66; Deferred Dues, \$3,761.25; General, \$38,004.31.

Membership is at 174 members.

Robinson Ladder Cave Preserve

Cassie Hauswald of The Nature Conservancy spoke regarding the proposed expansion of the IKC property through a transfer of two tracts currently owned by the TNC plus a donation to our stewardship endowment. Approval by the TNC is pending until at least their December meeting. Dunlap moved that IKC agree to accept all of The Nature Conservancy lands adjacent to the Robinson Ladder Cave Preserve subject to final terms agreeable to the IKC Board of Directors. Motion seconded by Sergesketter. Motion approved, 14-0-0.

Hauswald then shared a list of TNC karst priorities. She would like the IKC to give thought to pursuing acquisition of any of these properties with assistance from TNC to promote conservation due to their biological significance.

Dunlap noted that the Robinson Ladder property will qualify for Classified Forest enrollment, reducing our property taxes. Dunlap moved to enroll the 40 acres of Robinson Ladder Cave Preserve as a Classified Forest and to fund expenses not to exceed \$150. Seconded by Dick Vernier. Motion approved, 14-0-0.

Dunlap noted that a second controlled burn at the Robinson Ladder Cave Preserve property might be appropriate in 2010. Dunlap moved to fund a controlled burn in Spring 2010 of the two fields not to exceed \$2,500, pending expert agreement. Seconded by Dick Vernier. Motion passed, 14-0-0.

Wayne Cave Preserve

No further information has been received regarding purchases of conservation easements that would impact the Wayne Cave Preserve property.



Indian Creek Conservation Easement

Lewis reported on the boundary survey to determine the extent of the Indian Creek Conservation Easement. He has met with owners who are concerned with bank erosion and were planning to bulldoze concrete into the bank. Lewis advised against this action.

Buddha Karst Preserve

The IKC has received a grant from the USFWS to plant the remainder of the Buddha Karst Preserve with trees. A contractor to do the planting and spraying must be selected for the scheduled Spring 2010 planting. Mowing and spraying will need to be completed by October 2009. Dunlap will follow up with the details.

Sullivan Cave Preserve

Vandeventer reported that the locks would be switched out soon at the Sullivan property.

Education and Outreach Committee

Lindberg reported on activities of the Education and Outreach Committee including discussion regarding out-of-pocket expenses that can be paid by the Treasurer without a formal motion. Also, at the NSS Convention in July, the IKC received a Merit Award for the IKC's Storm Drain emblem program.

Vandeventer is working as the Central Indiana Coordinator for the DNR Hoosier Outdoor Experience.

Cave River Valley

Volunteers coordinated by the IKC have installed a bat-friendly gate at Endless Cave in Cave River Valley. Dunlap reported that the IKC's work is done and he is working on the paperwork to receive payment. The DNR has not yet painted the new gate.

Milltown Biomass

IKC member Kevin Strunk contacted Lewis soliciting

a letter from the IKC requesting that an Indiana Department of Environmental Management hearing be held regarding water permits. Lewis sent a letter on behalf of the IKC.

Property Acquisition

Dunlap has spoken to the owner of Eller Cave who wants to sell a 100-acre tract. Most of the cave is off the property. The IKC is not currently interested in the full 100 acres, but might consider a smaller tract containing the entrance if the owner would be willing to divide it. The property is adjacent to Saltpeter Cave, an Indiana bat hibernaculum.

Five acres south of the Buddha Karst Nature Preserve property are available, but contain a modular home.

Items From The Floor

Dunlap has received a ribbon and plaque for a second place *IKC Update* cover at the annual NSS Convention. Lindberg also noted that an Honorable Mention award was received for our IKC poster.

Lindberg also received an inquiry regarding a "Fowler Cave" that might be located near Leonard Spring Nature Park that has a bat population. A second inquiry was received from a landowner concerned with their recently purchased cave. They don't know how to deal with a cave on their property.

Next Meeting

The next meeting was scheduled for Saturday, December 12 in Bloomington at the IU Geology Building beginning at 10:00 AM. Lewis will follow up with Dave Everton for room availability.

Meeting adjourned at 6:39 PM to the annual pitch-in dinner and dessert contest.

Respectfully submitted by James Adams, 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.

