

# **IKC UPDATE**

**A Quarterly Publication of The Indiana Karst Conservancy  
December 2001 Number 63**



# INDIANA KARST CONSERVANCY, INC.

PO Box 2401, Indianapolis, IN 46206-2401  
 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: Glenn Lemasters entering Old Still Pit  
 (Washington County). Photo by Danny Dible.

Newsletter staff: Keith & Bambi Dunlap



# QUARTERLY MEETING REMINDER

**SATURDAY, DECEMBER 8th, 1:00 PM**

**Pendleton Community Library, Pendleton, 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 cave and karst conservation and related topics. Past, present, and future IKC projects are discussed to solicit comments and input from our members and the caving community as a whole. The meetings are informal, and everyone is encouraged to attend and participate. The IKC Board *wants* your input.

Preliminary Agenda Items: Brief recap of last quarter's activities; Buddha Property/Cave fundraising update and selection of management team; Shaft Pit fence proposal; 2002 tree planting at Sullivan and Buddha; HNF kaolinite mine gating report; Land Acquisition Committee activities, Potential Conservation Easement donation, HNF inventorying project; NCKMS report, Bat Gate Forum update, and more....

Meeting directions (also see page 25 for map): From Indianapolis, exit I-69 at SR 38, the Pendleton exit. Travel east through Pendleton for 1.9 miles to the intersection of SR 38 and SR 67 (the second stop light). A bank and Rickers Marathon gas station are at the intersection. Turn north on SR 67 and travel 0.4 miles to Water Street (do not take SR 36 which branches off to the east). Turn left on Water and travel 0.1 miles to the Pendleton Community Library on the right. The meeting is in the community room just inside the door.

From the north, exit I-69 at SR 67 south. Travel 2.3 miles through the little community of Huntsville to Water street. Water street is just south of fall creek. Turn right on Water street and travel 0.1 miles to the Pendleton Community Library.

Lunch option: Prior to the meeting (11:30 AM suggested), some of the board will be dining at La Charreda Mexican Restaurant. La Charreda is located in a strip mall just north of Water Street (less than 0.1 mile). The restaurant is visible from SR 67 if you are watching. The entrance is just south of the Fall Creek bridge. Please advise Bill Tozer (WTozer@aol.com) if you are planning to meet for lunch so he can reserve adequate table space.

## ACTIVITIES CALENDAR

- 08 DEC = IKC QUARTERLY MEETING, Pendleton (see above)
- 10 DEC = ICS QUARTERLY MEETING, Southport
- 15 DEC = HNF COMMITTEE MEETING/FIELD DAY, contact Kriste Lindberg
- 19 JAN = HNF FIELD WORK DAY, contact Kriste Lindberg
- 04/06 MAR = BAT GATE DESIGN FORUM, Austin TX (see page 5)

For more information on the Indiana Karst Conservancy, visit our web site at <http://www.caves.org/conservancy/ikc> 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 back cover for the membership application form or to make a donation.

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...

A good leader is supposed to be a visionary; someone who is willing to look several years down the road, see where he wants to be, assess what potential the organization has, and steer it in that direction. To that end, this column has often served as my sounding board; a way to throw out ideas that are occasionally half-baked and see who bites on it. Today I'm going to share an idea that I suspect will polarize people. So be it.

For over 15 years now, the IKC has been an entirely volunteer organization. With nothing but our initiative, and sometimes flying by the seat of our pants, we've managed to accomplish great things. We have forged cooperative relationships with many other organizations, both public and non-profit. We've pursued research opportunities and done things that only "real" scientists are supposed to do. We've become the people everyone in Indiana turns to when dealing with karst-related issues. To top it off, five years ago we took a leap and became landowners, and have been very successful at both fund-raising and management. It's truly remarkable what we've been able to achieve through nothing but grassroots effort.

The question is: Where do we go from here? How do we take the IKC to the "next level?"

Let's face it... there are some shortcomings to our current organizational structure. It's difficult to get hold of the IKC when we're needed. With no permanent office, people can't just pick up the phone and call us when they have a question; they have to "know someone" instead. A post office box doesn't exactly exude commitment, compared to a street address. Until recently, we didn't even have a consistent email address. Although we all do our best, most of us have day jobs and simply aren't available from 9-5 on weekdays, when we're most likely to be needed. We sometimes appear to outsiders to be an organization that's constantly in some state of transition. Even more important, I believe we could soon reach our saturation point, where we have more opportunities on our plate than can possibly be addressed by volunteer labor. Finally, I feel we may not be taking full advantage of fund-raising opportunities.

One way to address this would be to hire someone and establish an office. This new Executive Director would provide quarterly reports to the Board and be in close contact with the President. We would have to cover computer and phone expenses, and provide office expendables. This person would be the IKC's primary source of contact to everyone outside the organization. His first responsibility would be to bring in enough money to pay himself; but he would also coordinate volunteer activities and manage the "business" of the IKC. With appropriate talent, he would be our landowner contact, keep track of land acquisition opportunities, provide summary reports of our stewardship activities, and edit/publish the newsletter.

The IKC board would have to establish an appropriate salary and performance management objectives for each year. It would be the President's responsibility to do a performance review, and the Board would establish a pay structure. While this does add a level of complexity, most of it would be handled by our hire.

Remarkably, there are many foundations and major donors that are more willing to finance operational expenses than land acquisition. Once a solid donor base is established, these things really are self-perpetuating. The job isn't likely to be a full-time position at first. But over time, such things have a way of taking off. I've already received several resumés from folks interested in doing this very thing for the IKC. Some of them seem eminently qualified. I should quickly state that the people who are already doing these things are not doing a bad job. I am saying that by freeing ourselves of office/business activities, our volunteers will be more effective.

Although this idea will receive some discussion at the December board meeting, I don't expect us to pursue it anytime soon. I also understand there will be some resistance to abandoning the "hands-on" approach that has served us so well over the years. While my vision sees this as inevitable if we expect substantial growth of the IKC, maybe substantial growth isn't what the rest of our membership wants. Your feedback is definitely sought!

*Bruce Bowman*

## NEWS BRIEFS...

- ❑ At the September IKC quarterly meeting, the Executive Board approved a management plan for the Buddha property. This plan can now be found on our website ([www.caves.org/conser-vancy/ikc](http://www.caves.org/conser-vancy/ikc)). The next step is to appoint a management team consisting of a cave patron and a property manager (or one person to perform both duties). The cave patron handles access to the caves and focus their attention to activities inside the cave. The property manager handles the above ground activities such as organizing workdays, trail maintenance, and parking lot issues. If you are interesting in either of these positions, please contact Bruce Bowman immediately.
- ❑ Speaking of the Buddha property, the IKC received a \$10,000 grant towards it's acquisition from the AES IPALCO Golden Eagle Environmental Grant program. This is the third grant in four years from IPALCO, totaling \$19,500. A special thanks should go to Hank Huffman for preparing an outstanding application. There were nine other grants awarded in 2001 out of thirty applications submitted. See page 7 for the presentation plaque.
- ❑ At the September quarterly meeting, seven formal bylaw proposals were presented and discussed (see page 7 of the June *IKC Update* for specifics). The first six proposed changes were adopted by the membership, the seventh, related to filling Board vacancies, was rejected and referred back to the bylaws committee with instructions for revision. The updated bylaws are available on the IKC website.
- ❑ In August, the IKC had the Orangeville Rise property surveyed to relocate our boundary markers. As suspect, we confirmed the county highway department unnecessarily located part of their guard rail onto our property. We also determined that part of the neighbor's pasture encroaches onto our land. Corrective actions will be pursued. Concrete monuments will also be installed at some boundary corners.
- ❑ In March, an interactive technical forum will be held on cave and mine gates. The purpose of the forum is to present, share, and capture the most current techniques on constructing gates on caves and mines with emphasis upon fauna protection. Keith Dunlap is on the organizing committee and the IKC will be a co-sponsor. Thirty-seven papers will be given and these papers will be published into a Proceedings for others to use as an information guide, replacing several outdated publications. To find out more about this forum, follow the link on the IKC's website.
- ❑ As part of the next step in constructing the I-69 billion-dollar link between Indianapolis and Evansville, the list of possible alignments have been narrowed from the original fourteen down to just five. Of these, four of the alternative will cross karst regions, and two of them would have significant impact (one actually carves it way across Coon and Blair hollows in the Garrison Chapel area). The only alternative to not cross karst (the US 41/I-70 route) is also the cheapest and the one that seems to have the most popular support, however seems to have the least political support. It find out more or to download the proposed alignment map, go to [www.i69indyevn.org](http://www.i69indyevn.org).
- ❑ Several years ago, the IKC and a coalition of other organizations produce an educational "sinkhole" flyer which explained karst hydrology and presented a few best-management practices related to protecting sinkhole. Over 10,000 of these flyers were distributed to farmers, landowners, and interested residents throughout the southern Indiana karst region. Because of this success, this flyer was reprinted (after minor revisions were made) and the IKC once again has a good stock of these brochures for distribution (contact Kriste Lindberg for copies). In the near future, we hope to also have this flyer downloadable from our website.
- ❑ In the November/December *Outdoor Indiana* DNR magazine is a very nice article/photo spread on the DNR/IKC mine gating activities. The photos are mostly from the Ayleshire mines completed in 1999 and the text focuses on the Turkey Run gate completed in 2000.



- ❑ Another very interesting article can be found in the October issue of *Indianapolis Monthly*. Entitled "Bat Man", the article features Dr John Whitaker of Indiana State University. Dr Whitaker is one of the nation's most knowledgeable authorities on mammals in general and bats in particular with over 40 years of field and research experience. This is one of the better and informationally correct articles I've read on bats and bat biologists. Definitely worth trying to find a copy.
- ❑ Marsh Supermarkets has started a new Community Shopper program that allows one-percent of the purchase price of Marsh-branded products to be donated to the charitable organization of your choice (and of course we know that organization will be the IKC). In order to participate, you first designate your preferred charity (our express ID is 311185033) using the [www.marsh.net](http://www.marsh.net) website or by filling out a form and turning it in at any Marsh service center. Then you must use your Marsh Fresh Ideas card during check-out.
- ❑ Four new members have joined the IKC in the past quarter. Welcome Daniel Pesta (391), Kristy Gunnink (392), Patrick Burns (393), and Debbie Burns (394). The IKC membership now stands at 177.

## HNF/IKC KARST INVENTORY PROJECT UPDATE

by Kriste Lindberg

Despite Kelle Reynolds and Steve Harris being called off to work on the September 11th New York recovery efforts for awhile, they still managed to help make sure things were running smoothly for us. Let's take a minute to honor Kelle, Steve, and the other HNF personnel who have been striving so diligently on all ends. United we stand!

The HNF/IKC Karst Inventory Project meeting on October 20 was the first we have had since July. As you can imagine, we had many topics to cover -- including new caves on the forest, management plans, significant cave approvals, the cave biology study, and of course the gating of several kaolinite mine entrances (Keith Dunlap will tell you more about that in a separate article starting on page 10), and upcoming events. Afterwards, during the fieldwork, we visited some new-to-us caves just south of Paoli, thanks to Spike Selig and his son, Matt. We documented them on Indiana Cave Survey forms and promised to return soon to finish the inventory paperwork, as well as survey them. Since then we've heard there are more on the way, too. We are now up to 123 confirmed caves and counting!

We have another meeting coming up on December 15. Feel free to join us and put in your two cents worth!

As a reminder, a few HNF/IKC Karst Project t-shirts are still available. Hurry and

volunteer some time so you, too, can receive one. They sport both the HNF and IKC logos, true-to-color and joined together, with the phrase "Partners in karst conservation". We have sizes M, L, XL, and XXL available. Proudly display your project pride!



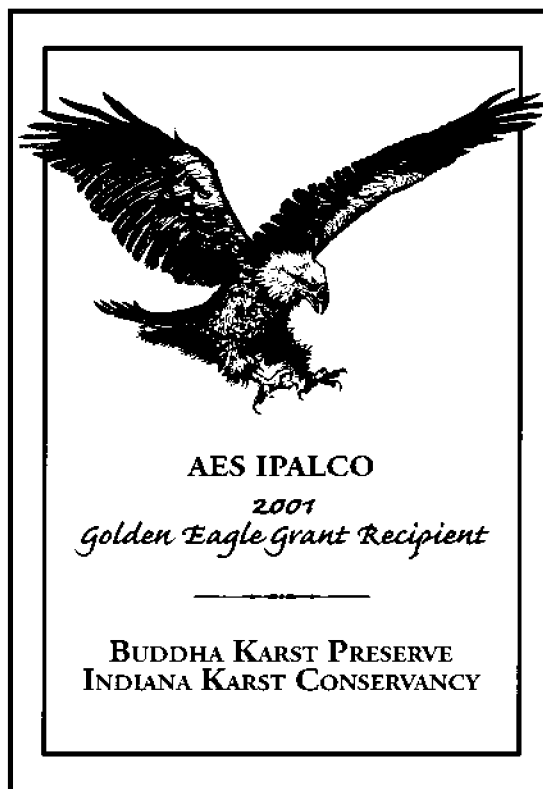
Jack Wood emerges from the newly discovered Big Forkin' Tree Cave on the HNF.  
photo by K Lindberg

BUDDHA DONATION LIST	
\$10,000 or more	
EAS IPALCO Golden Eagle Environmental	
\$1,000 to \$4,999	
Bruce Bowman	
Bob Decker	
Keith Dunlap	
Kriste Lindberg	
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Tom Rea	
Tom Sollman	
Bruce Trotter	
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Ernie Payne	
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Tim Heppner	Kevin Strunk & Jeanette Holland
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Kim & Tom Metzgar	Barry Welling
Jon Miller	Kathy Welling
Scott Nordhoff	Gary Whittaker
Sandy Packman	Rich Whisler
Gene Pelter, Jr	Scott Worpell
Charles Perkins	Lost River Conservation Ass'n
Jay Pittenger	Mid-Hoosier Grotto
Jan Pursley	Sub-Urban Grotto
Last updated: 11/19/2001	
Donations total: \$33,640	

## BUDDHA FUND-RAISING STATUS

by Keith Dunlap

With the Buddha Karst Preserve management plan approved, and planning for next year's physical activities underway, we now only need to complete the most important task -- fund-raising to pay off our short-term loans. To date, we have raised over \$33,600 in cash donations and pledges, including a \$10,000 grant from the IPALCO Golden Eagle Environmental Grant program and a \$3,000 grant from the National Speleological Foundation. *Unfortunately, we are still over \$40,000 in debt!* But all is not lost... our Indiana Heritage Trust funding has been completely approved and should be available once we complete the Nature Preserve dedication paperwork (this is likely to take several more months). So, it is still not too late to donate, but realistically, we believe that once the IHT transaction is complete, we will be back in the black and positioned to start looking for other acquisition opportunities.



## 2001 NATIONAL CAVE AND KARST MANAGEMENT SYMPOSIUM

by Bruce Bowman

The National Cave and Karst Management Symposium is a wonderful opportunity for people to share ideas on how to overcome the unique challenges associated with managing karst systems. Held every two years, it is coordinated by a steering committee consisting of representatives from major landholding organizations, including the Forest Service, Bureau of Land Management, Parks Service, The Nature Conservancy, National Caves Association, ACCA, NSS, and others. In 1995, the IKC hosted this event at Spring Mill State Park; this year, the symposium was held on October 16-19 at the Inn Suites Hotel & Resort, located in the heart of downtown Tucson, AZ. Despite some concerns about traveling (being only one month after the terrorist attacks), the event was well-attended; Kriste Lindberg and I arrived separately and represented the IKC.

The weather was beautiful all week. As might be expected, being in the Sonoran desert, it didn't rain; but was also unseasonably warm and comfortable the whole time. The hotel is an excellent facility, and a bargain. For less than \$65/night, including taxes, the room had a microwave, refrigerator, a free morning breakfast (not just a "continental" breakfast), and two free drinks during happy hour. That said, we were never actually present at the hotel during happy hour, and unfortunately they shut down both the swimming pool and the bar at 10 PM. You take the bad with the good.

The whole group was definitely shaken by the first order of business: An announcement of the death of George Huppert. A cave book reviewer, co-founder of the ACCA, and perhaps *the* expert on cave protection law in the US, George was a long-time fixture at the NCKMS and the conservation section of the NSS. Unfortunately, he was involved in an auto accident on the way to the symposium. He will be sorely missed.

Unlike previous symposia, most of the presentations were held in one session rather than having concurrent sessions. This is an advantage because you don't have to choose between two or more presentations that might be of interest. The keynote speaker, Harvey DuChene, gave a 45-minute

speech on "What are Cave & Karst Resources and How Do You Manage Them?" This was followed by the Arizona State Balladeer, Dolan Ellis, a professional musician who had written a piece especially for the occasion. The song was interesting but a little overstated, comparing entering caves to hell and such, but nonetheless interesting. Unfortunately, Dolan played two other songs, the wrap-up being one with a sing-a-long refrain:

*God bless A-mer-i-zo-na  
Little itty bitty USA!*

This Arlo Guthrie-type act might have gone over better at 10 PM after a few drinks, but didn't play well to a gang of travel-weary cavers still groping for their morning coffee. Coupled with some delays setting up the A/V equipment, it made for a rather shaky start.

I had the dubious honor of being the first presentation after the music. My speech was about writing cave management plans and how external forces and organizational structure can influence their content. Buddha Karst Preserve and Dillon Cave were used as case studies. Kriste was good enough to lend me her laser pointer and run PowerPoint for me. I was told that the session head would stand up when I had five minutes left. Imagine my chagrin when the guy stood up and I was only halfway done! So I blasted through the rest of my slides, and even then ran 10-15 minutes long. In hindsight, I should have practiced it out loud and got a better idea of how long it really



Formations in Kartchner Caverns with the silhouettes of three symposium delegates. photo by K Lindberg



took to complete. Live and learn.

Having struggled to get PowerPoint and the projector working for my own presentation, I became the unofficial A/V expert for the rest of the event. People came to me to load the computer with their presentations or set up their slides or overheads. It made for much a smoother transition between speakers, and I had the added benefit of a ringside seat. Some highlights of the rest of the day's presentations included discussion of conflicts between cave user groups, cave management from a global perspective, in-cave "weather stations," and an overview of the Lechuguilla entrance culvert replacement project.

The evening events generally included a "Cracker Barrel" session where people informally talked about a topic of interest. I generally missed these, but would have enjoyed the discussion of caves as "confined spaces" and OSHA requirements associated with working in such environments. The first evening also included a mixer with a cash bar, and the meeting of the NCKMS steering committee. The committee approved a bid to hold the next event in Florida, hosted by the NSS Cave Diving Section. The Proceedings from the last symposium are almost complete. The Nature Conservancy has named a new member to the committee, Heather Garland. The NCKMS is also seeking artists to design a logo. Submissions should be sent to Cheryl Jones (committee chair), or Rane Curl.

The second day opened with more presentations to the whole group, starting at 8 AM. Highlights included the karst groundwater model, cave potential map of Wind Cave, and threats to Mammoth Cave. Kriste also gave her presentation on Leonard Springs Nature Park this morning. The work being done there is an excellent example of karst management using an inter-agency approach, and I'm sure Kriste's presentation was enjoyed by all. It's impossible to do justice to everyone's work in a single article like this. Anyone with more than a passing interest in cave management really should consider purchasing the Proceedings from this or past symposia (available - very inexpensively - from the NSS Bookstore).

This was only a half-day session so we could participate in the afternoon field trip to Kartchner Caverns. Kartchner is a beautiful cave discovered on private property

some years ago and kept secret until it could eventually be developed into a state park (it was also the subject of a special issue of the NSS News in 1999). The process and materials used to develop the cave are considered a model for show cave development elsewhere. We were split into four groups and shown the commercial tour, some laser mapping hardware, the gift shop/theater/museum, and a special trip to sections of the



Bruce Bowman, Kriste Lindberg, Carol Zokaites (Project Underground), and Jim Kennedy (BCI) in man-made cave entrance at Sonoran Desert Museum.

cave that are still under development and not available to the public. On returning to the hotel, we took part in a cookout (called a "barbecue") courtesy of the hotel. This consisted of hot dogs and hamburgers cooked on the grill. Things were pretty picked over by the time we got back. I suspect the folks who returned on the last bus had to find their own evening meal.

Thursday opened with more presentations, this time concurrently in two separate rooms. Dr Jerry Lewis opened with a presentation on the Illinois Cave Amphipod as a case study for non-lethal censusing of endangered species. Other highlights included limiting algal growth in commercial caves, microbial diversity in caves, a 50-year overview of fatal cave accidents, and several presentations on GIS/mapping applications.

Presentations ended at 2 PM so we could participate in a field trip to the Sonoran Desert Museum. I really can't say enough

## HNF MINE GATING PROJECT

by Keith Dunlap

Just when we thought our mine entrance gating activities were about finished after working three years with the Indiana DNR, the Hoosier National Forest approached us to assist them with some entrances on their properties near Huron. Rather than coal mines as in the past, these turn-of-the-century mines were used to mine kaolinite, a type of uncommon mineral originally used in the manufacture of glass pots and white ware (e.g. Corning cookware). But regardless of what was mined, these open mines were perceived to be unstable and posed a human hazard to those who might be curious enough to enter them.

The HNF gating project actually started years ago with the recognition of the problem and the posting of the entrances with warning signs. About a year ago, after some preliminary consultation with the IKC and Mark Stacy of the DNR, the HNF published a scoping letter to solicit public comments. Several IKC members visited most of the entrances and provided comments. The only other scoping comments were provided by Dr Lewis who also stressed the potential importance of maintaining accessibility to these mines for cave-like fauna, especially bats.

The original proposal was to install an angle-iron bate gate on the large South Gardner Mine entrance, but to simply collapse the other nearby entrances. The IKC was concerned that these other entrances

were air-flow connected to the South Mine passage and if collapsed, would drastically change the habitat in the main mine. Additionally, entrance netting by Dr Whitaker concluded that bats were using these smaller entrances. Our recommendation was to install culvert with grates on two of these smaller entrances and to secure a third entrance with expanded metal mesh.

After some additional consultation, a formal decision was made by HNF management to contract with the IKC to perform the closures per our recommendations. The actual contract instrument was through a Challenge Cost-Share Agreement. Basically, we would provide the design, material, equipment, logistics, and knowledgeable work force, while the HNF would contribute \$5100. This contribution was based upon the material required and in-kind value of the services and labor provided using HNF labor rates. The agreement was signed in August and the installation was scheduled for November 3rd and 4th.

So on Saturday, November 3rd, twenty-five volunteers turned out in force. We had an aggressive schedule for the day, but also had many experienced workers who knew what to do with little supervision. We immediately assembled a digging crew (Ray Sheldon, Bruce Trotter, and Tom Sollman) to prepare the trench required for the sill plate on the main entrance angle-iron gate. While the digging progressed, others set up the cutting torches and organized the steel for easy access. Still others positioned the "portable" welder/generator near the entrance and ran the welding cables and electrical cord down to the work site. Before we had a chance to catch our breaths, the trench crew had radioed up the first measurements for steel and the routine of cutting (Terry Clark and Bruce Devore) and team hauling of the heavy pieces of steel down to the entrance had begun with the in-mine crew (Sheldon, Trotter, and Bob Zatarski) welding and measuring for the next piece of the structure.

Once the southern gate activities were rolling, several other volunteers (Dick Vernier, Bob Sergesketter, Steve Weinzapfel, Steve Lockwood, and others) turned their attention towards hauling the heavy cul-



Kelle Reynolds standing at the entrance of the South Gardner Mine near Huron. The location of the gate is about 20 feet into the mine at the bottom of the debris pile.

verts, pre-fabricated culvert grates, and support equipment down the steep slope to the other work site. When we broke for lunch (deliciously prepared by Bambi Dunlap), the south gate crew was within one bar of being finished and the culvert crew had everything in place and were anxiously waiting for the welder before they could continue.

Soon after lunch, the south gate was done and the welder was hauled up the one hill and back down the other, placed so that the cable leads would reach the other three entrances. This also meant the painting crew (Bambi, Hal Hempe, and others) could start their prep and priming on the main gate.

The most northern culvert was 24-inches in diameter and took very little "framing" and expanded metal mesh to close off the rest of the opening. The second mine opening used a 30-inch culvert and took significantly more "engineering" to fabricate and pin the frame on both sides of the culvert to the sandstone. Even so, things went relatively quickly. The third entrance was secured using only framing and expanded metal since it appeared bats were not using this entrance, yet we wanted to retain airflow, rather than completely closing it.

Despite the short days of November, the last of the welding was completed before dark and by the time we had all the equipment hauled back up the hill and repacked, the painting crew had completed all of the priming on the gates.

The next morning, Keith and Bambi returned to apply the top coat of paint and the task was completed. In the end, the HNF staff were happy, the bats were likely happy, and the IKC volunteers were happy.

Participants included Stephanie Baumann, John Benton, Bruce Bowman, Virgil Brack, Terry Clark, Bruce Devore, Bambi Dunlap, Keith Dunlap, Jeff Frazier, Steve Harris (HNF), Hal Hempe, Thomas Hempe, Kriste Lindberg, Steve Lockwood, Gene Pelter Jr, Kelle Reynolds (HNF), Bob Sergesketter, Ray Sheldon, Tom Sollman, Bruce Trotter, Bob Vandeventer, Dick Vernier, Steve Weinzapfel, Jamie Winner, and Bob Zatarski.

*A footnote: During the workday, both Ray Sheldon and Virgil Brack independently "rediscovered" another mine entrance. It is likely the IKC will install a culvert gate in that entrance too, perhaps next spring.*



The "gate crew" working in the entrance of South Gardner mine. At the location of the gate, the tunnel was 16 foot wide by 6 foot high.



Because of their smaller size and instability, a 10-foot long by 24-inch diameter culvert was installed into this mine entrance. A pre-fabricated grate was then welded on the open end.



Adjacent to the entrance shown above is another entrance which used a 30-inch culvert. Framing and expanded metal mesh was then used to secure the rest of the opening.

## EDUCATION AND OUTREACH COMMITTEE REPORT

by Kriste Lindberg

As I mentioned in the September Education and Outreach Committee Report, things are really coming together for us. All this despite the events of September 11. Folks seem even more committed now to working cooperatively. A lot of good has come from the tragedy.

Since all is going so well, I am attempting to concentrate primarily on our Education and Outreach Committee as far as my involvement with the IKC is concerned. That includes events taking place at Leonard Springs Nature Park. Now that the physical aspect of the park is well underway, we are focusing on education. Therefore, you will find updates related to the expansion in this column from now on. Heck, we might as well start there.

To help take pressure off of me as far as maintenance of the park is concerned, the Bloomington Indiana Grotto will be adopting it under a MOU with the City of Bloomington Parks and Recreation department via a newly created Adopt-A-Trail program. They will be responsible for general activities including vegetation growth control, removing sticks from the trail, repainting trail markers, cleanups, and other light maintenance activities. To help with that, our friends at the Monroe County Solid Waste Management District have once again offered to supply trash bags, gloves, orange vests and cones, and dumpsters for efforts at the park (this goes for other cleanups we do in the area, too, so keep that in mind!).

In September, I set up a collaboration with



Kids from St Mark's in Shirley Springs Shelter Cave.

WonderLab. It is an amazing little museum of sorts in Bloomington that offers a plethora of science-related activities... kind of like a smaller scale Science and Industry Museum in Chicago. We held a classroom activity at the Monroe County Public Library which included a slide show on caves and karst, an activity from Project Underground, and a karst/groundwater model demonstration. Afterwards, we took a tour of Leonard Springs park. All went so well that we will be doing more collaborations in the future. They are yet another "partner" and excellent source of education and outreach opportunities.

In October, Bruce Bowman and I traveled to Tucson, Arizona for the 2001 National Cave and Karst Management Symposium. We both presented papers. He presented, "Cave Management Plans: Targeting your Audience", and I did one on of all things, "Leonard Springs Nature Park -- A Karst Property Focusing on Conservation and Education." Both were well received. It was also fun to see our Project Underground friends there, including Carol Zokaites who is the National Coordinator, Will Orndorff, and others. *[For more information on the symposium, see Bruce Bowman's article on page 8]*

I also presented my paper to both the Bloomington Parks and Recreation board and the Monroe County Soil and Water Conservation District board. They were quite impressed and highly praised our efforts. All are supportive of doing even more education and outreach with us in the future.

One of the board members from BPR even took the opportunity to bring her kids out to the park, along with their whole pre-school class -- teachers and all (see photo)!

We also worked with various other groups in the community, including Indiana University. Several folks from the IU Foundation helped us out during a service-learning project and had a great time. I have the feeling we'll be hearing from them again. Leah Garlotte, Director of IU's Hilltop Nature Center and I also strengthened ties. You may recall her from previous issues. We have been working on collaborations for awhile, mainly with me presenting a section on caves and karst during a natural history class she teaches and are now discussing taking it a little further... she would like to see me teach a cave and karst education class of my own for the university. It is much needed in this area.

We are also progressing on more collaborations with agencies who are part of the USDA Service Center here in Monroe County, including of course the Indiana DNR Stormwater and Sediment Control Specialists, the Monroe County Soil and Water Conservation District, Natural Resources Conservation Services, the Farm Service Agency, and their associates to work with our neighbors as far as erosion is concerned. For example, we are working with our neighbor to the north of Leonard Springs Nature Park and these efforts are starting to be seen as a demo on how to best control runoff from agricultural practices in karst areas, as this one section drains directly into Shirley Springs Cave. In addition, plans are in the works to possibly secure a nearby farm, or parts thereof, as a demo area alongside another Bloomington Parks and Recreation trail. It would be ideal. Let's keep our fingers crossed on this one!

Through working with them, I learned of the Brown County Nature Expo. They invited us to set up our display there. Several folks from miles around, including landowners, and agencies stopped by to see what was going on. Other agencies were represented, as well, such as the Indiana DNR, NRCS, and even a turtle rescue foundation (don't know about you, but I've found a few injured box turtles inside and around caves before!). It was a great opportunity to network.

I have been doing some training with the Service Center folks to learn more about how to assess construction sites that are associated with karst systems and other types of terrain. We have traveled to various sites checking on such factors as drainage, siltation, and measures to keep them in check in Monroe and Lawrence counties and beyond. The most recent was a trip to the city of Vincennes to meet with Mayor Mooney and a handful of others to discuss projects of mutual interest.

We have been working together on other city projects as well. I was asked to coordinate efforts concerning a new storm drain stenciling project that is being put together here in the City of Bloomington. Folks from the City of Bloomington Utilities, Monroe County Solid Waste Management District, US Fish and Wildlife Service, and Project Wet are all involved. Students from a Harmony School science class, lead by David Christman, will be doing the actual stenciling. Our first meeting will take place just after the deadline for this issue of the *IKC*

*Update* so I won't be able to report on these efforts until the next issue in March!

Just a couple of weeks ago, Dr. John Whitaker of Indiana State University and I presented a collaborative paper at the Environmental Education Association of Indiana annual conference near Turkey Run State Park. I began with a bit on cave and karst education and outreach and he followed up with his specialty, bat conservation. It went quite well so I suspect we'll be doing more of them in the future, too!

Speaking of the future, things are continuing to progress with the Spring Mill State Park committee, too. Tom Rea, Hank Huffman, myself, and others have been diligently working on suggestions for the park as far as caves and karst and other natural resources within and affecting their area is concerned. We are now focusing on the cave-fed lake. Additionally, I am working with them on education programs, too. More on these efforts in upcoming issues....

Whew! It's interesting all of these efforts are connected, and how well we all work together. It's really a small world.

One final note, things are going so well and so many folks are interested in working with us that we are doing more recruiting. In October (while I was at the NCKMS), Carita Noe attended an education workshop which included collaborative efforts between Project Underground and the American Cave Conservation Association. She has joined our committee. Let's welcome her and all the good ideas and energy she is bringing.



Jerod Chew, Indiana DNR Resource Specialist, and Kriste Lindberg in front of the IKC display at the Brown County Nature Expo.

# POPULATION TRENDS OF INDIANA BATS IN INDIANA

by Keith Dunlap

As part of the recovery plan for the federally endangered Indiana bat (*Myotis sodalis*), biennial population counts are made to assess the status of the bat. In this article, I will present the cumulative data systematically collected over the past eleven censuses (1981-2001), along with some historic data dating as far back as 1950. The majority of the recent data has been amassed by Dr Virgil Brack, originally as part of his PhD work in the early 1980's, and more recently under contract with the Indiana Department of Natural Resources. The exceptions are the population figures for Batwing and Twin Domes caves which were obtained under the direction of Richard Clawson of the Missouri Department of Conservation. Clawson is the USFWS Indiana Bat Recovery Team leader and since 1981 has been responsible for censusing the original seven Priority I caves in Indiana, Kentucky, and Missouri.

The table below represents the summary of over 194 cave visits to twenty-nine different caves documented to have had Indiana bats in recent years. In addition, another

twenty-six caves have been visited one or more times over the past twenty years to look for Indiana bats without success (although four caves have historic records).

It is interesting to note that most of the active hibernacula have been "discovered" in the last twenty years, many originally reported by cavers. Most of these new caves have small colonies that do not contribute much to the overall population; nevertheless, these caves could be 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 three-quarters of the state's population is in just three caves, while over 97% of the population hibernate in just seven caves.

The Indiana bat (*Myotis sodalis*) was one of the first species to be protected under the 1973 Endangered Species Act. The reason for the bat's listing was the well documented observations of population declines in the seven major hibernacula known at the time

RECENT POPULATIONS OF MYOTIS SODALIS IN INDIANA CAVES

CAVE NAME	1981	1982/83	1985	1987	1989	1991	1993	1995	1997	1999	2001
Twin Domes (Harrison) <sup>1</sup>	98250	70750	56650	79650	70800	78500	87350	78875	67100	59775	50325
Ray's Cave (Greene)	12500	13475	16200	22990	28581	41854	38386	41157	51365	62464	48219
Wyandotte (Crawford)	2152	4550	4627	6681	10344	12994	17304	23878	25424	26854	28584
Jug Hole (Harrison)				5535	6424	7640	13924	12463	20741	11900	20151
Batwing Cave (Crawford) <sup>1</sup>	29950	26650	14750	17450	14500	13150	9350	9300	7400	10125	9350
Coon Cave (Monroe)	1190	550	777	2950	2103	3696	4451	4455	4786	6341	6395
Grotto Cave (Monroe)	3190	2692	4198	3778	2985	1996	1568	2018	2435	4361	5419
Parker's Pit (Harrison) <sup>2</sup>		(500)		1803	1104	926	1045	1276	1139	(987)	989
Salt peter (Crawford)		352		427	295	508	375	647	577	800	849
Endless Cave (Washington)		2		1		134	335	450	404	403	800
Clyffy Cave (Greene)		66		198	412	357	307	299	369	379	469
Robinson Ladder (Crawford)					(95)	388	376	219	326	223	366
Wallier Cave (Harrison)						36	72	465	409	381	310
King Blair/Brinegar (Monroe) <sup>3</sup>				(12)			442	514	663	453	263
Panther/Neyman (Washington)								86	156	167	220
Nichols Cave (Orange) <sup>4</sup>							(200)				
Gypsy Bill Allen											134
Sexton Spring Cave (Greene)						(0)	67	117	98	75	100
Swinney Cave (Harrison)									(11)	29	39
Wildcat Cave (Crawford)		29		0		31	61	34	48	19	35
Mitchell Quarry (Lawrence)						9				31	
Leonard Springs (Monroe)					135	112	92	82	92	81	25
Salt peter (Monroe)		(83)		(19)		221	245	175	136	40	24
Achcraft Cave (Greene)							20	28		3	
Binkley Cave (Harrison)									84		9
River Cave (Washington)		104		5		1				2	
Buckner Cave (Monroe)		488	301	336	24	51	25	41	15	6	1
Salamander Cave (Monroe)		74		0		0			1		
Bentz Cave (Crawford)		0			3						0
<b>TOTAL (adjusted)<sup>5</sup></b>	<b>155800</b>	<b>127000</b>	<b>105500</b>	<b>143000</b>	<b>136900</b>	<b>163100</b>	<b>176000</b>	<b>176800</b>	<b>184000</b>	<b>186200</b>	<b>173300</b>

1 Censused by Richard Clawson for the USFWS.  
 2 Partial census in 1983 by Michele Wright. Partial census in 1999.  
 3 Partial census in 1987 - Brinegar Cave only.  
 4 Censused by Scott Johnson & Keith Dunlap in 1992, permission denied on subsequent attempts to visit cave.  
 5 For the purpose of comparisons, populations for non-censused (or unknown) caves were estimated to give an adjusted total.

in Indiana, Kentucky, and Missouri.

Figure 1 shows the estimated “adjusted” Indiana bat population in Indiana hibernacula for the period from 1981 to 2001. As can be seen, from 1985 to 1999, the population has been gradually increasing with the latest census showing a noticeable decrease.

Looking at population trends in individual caves is interesting in that several caves have been showing consistently increasing trends, others caves have been generally decreasing, while the remainder have undeterminable trends or there has not been enough data collected to make a determination. *(I should state a disclaimer here that all the trend predictions made in this article are unscientific and represent a relatively short sampling period which may or may not reflect anything significant.)*

Recent Indiana bat populations in Twin Domes cave (figure 2) have fluctuated up and down over the past twenty-five years, but has shown a definite decrease during the last four census. The 2001 population was the lowest ever recorded and is cause for concern since this cave’s population is such a large component of the total population. Despite this loss, Twin Domes is the largest hibernacula in Indiana.

Perhaps the biggest disappointment among Indiana hibernacula has been in Batwing Cave (figure 3) where the population has decreased almost every census since the cave

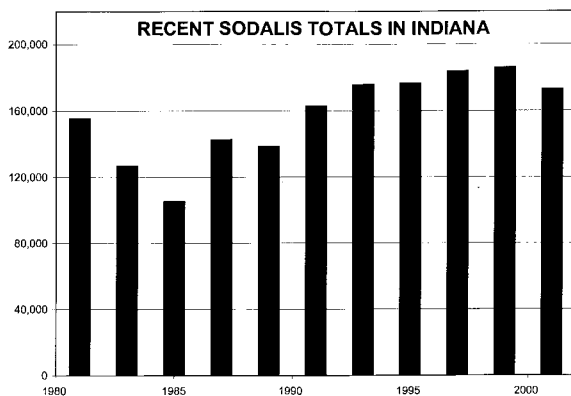


Figure 1

was originally found to be a hibernacula in the mid-70’s. The past two censuses have shown some stabilization, but the current is still only one-fifth of the population known in 1977. While it is conceivable that the gate installed in June of 1988 could be part of the problem, the design has proven successful in other situations (including Wyandotte). It is

also speculated that increased entrance debris may have restricted airflow causing the cave to warm enough such that the cave is only a marginal habitat (temperature monitoring equipment was installed in 1998

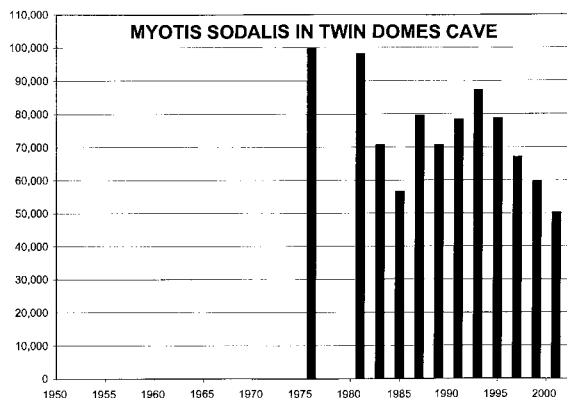


Figure 2

to test this hypothesis). The latest explanation for the decreasing population is the observation that the bottom of the cave floods occasionally. In the spring of 1996, heavy rains caused water to back up into the cave to an estimated depth of 36 feet which was sufficient to drown at least several hundred bats (this observation was made in August of 1996).

Wyandotte Cave is an interesting contradiction in resource management. While it serves as an ever increasingly significant hibernacula, it is 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 in this cave and thus the “Indiana” designation). Numerous gates have been placed on the cave with different degrees of air flow 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 stone wall gate was installed, the population was only one-tenth that size. The population fluctuated around 2000 bats until the late 1970’s when the original gate was replaced with a more open grate-type gate. It is presumed that this partially restored the pre-gate airflow into the cave, providing a better winter habitat. Since 1981, the population has increased every census to over 28,500 (number 3 in Indiana). The gate replacement in July of 1991 apparently has been acceptable to the bats



and may have further improved airflow into the cave, witnessed by the significant increases over the past five counts.

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 hibernacula historically (Merlin Tuttle, personal communication). Figure 5 shows a general seesaw, but increasing trend that hopefully will continue. The 2001 census had the largest population in recent times. The number of little brown bats (*Myotis lucifugus*) in Saltpeter is also at an all-time high.

Previous research supports the observation that Indiana bats are very habitual in using the same hibernacula year after year. But with the population increasing so fast at Wyandotte while similar decreases are being experienced at nearby Batwing and Twin Domes, one can only speculate that at least some transferring is occurring. To better quantify this Wyandotte area meta-population, figure 6 shows the combined numbers from Twin Domes, Batwing, Wyandotte, and Saltpeter caves which accounts for approximately half of the total Indiana population. It can be observed that the population appears to be much more stable and indicates that the number of bats hasn't really changed much over the past eleven census.

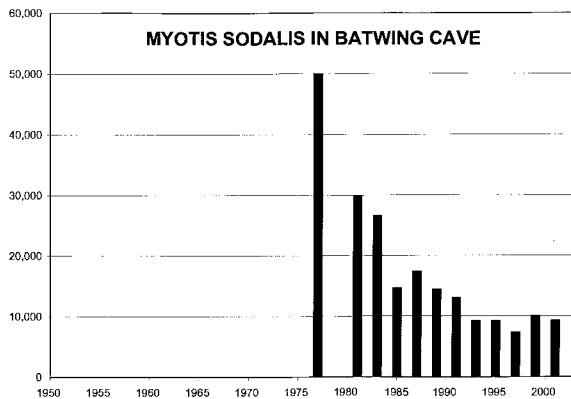


Figure 3

It is my hypothesis that the majority of new bats in Wyandotte are migrating from Batwing and Twin Domes because Wyandotte has now become a better hibernacula with its airflow restored. Since banding Indiana bats is disallowed and recovering banded bats in Wyandotte would be difficult anyway due to the inaccessibility of the bats on the high

ceilings, the question of bat inter-cave transferring may go unanswered.

Of the other caves in the Harrison/Crawford area, Jug Hole is of the greatest importance with the fourth largest population.

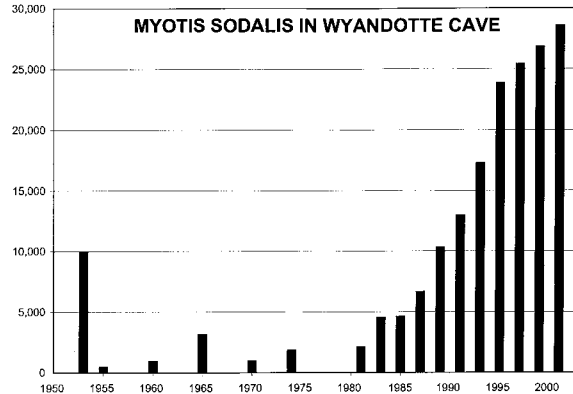


Figure 4

First censused in 1987 with 5500 bats (see figure 7), the populations in 1989 and 1991 showed modest increases, but nearly doubled in 1993 to almost 14,000 bats. The 1995 census showed a slight decrease, but the cave took another huge jump to over 20,700 in 1997, only to fall significantly in 1999. The 2001 census rebounded to nearly the 1997 numbers with 20,151 bats. Thus the population here seems quite variable, although part of this may be explained by the difficulty of estimating cluster sizes on the high ceilings in this cave.

Figure 8 shows the number of bats counted in Parker's Pit. This is another difficult cave to census, not in counting the bats per se, but in getting the "counters" to the bats. Most of the counts include all areas from the entrance pit to the e<sup>i</sup> Room. The 1982 count (performed by Michelle Wright) and the 1999 count included only the entrance pit area and the room below the second drop (just before the S-bend). On the whole, since 1989, the population in Parker's seem to be relatively stable.

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. The 1995 through 2001 counts were 465, 409, 381, and 310 bats. It is unclear what caused this significant jump in 1995 or where these additional bats came; and there are no other known hibernacula even remotely close. It will be interesting to see what the future holds for this cave.



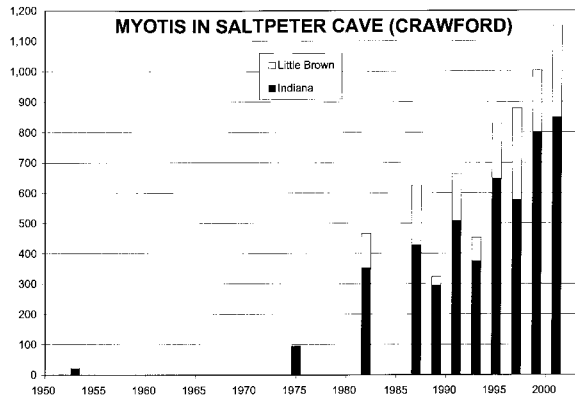


Figure 5

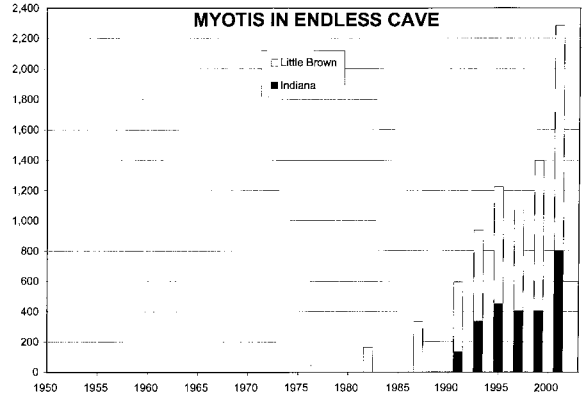


Figure 9

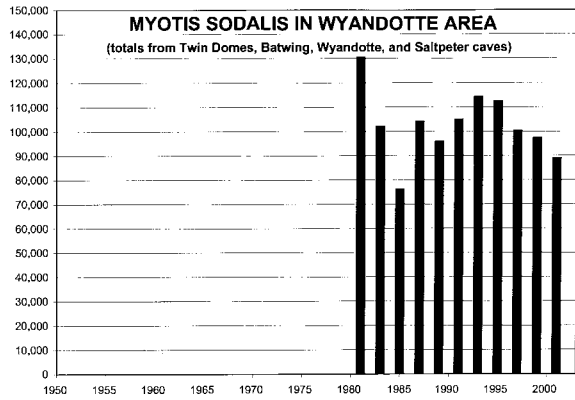


Figure 6

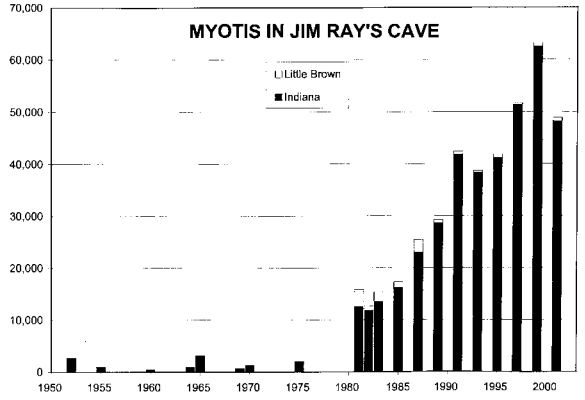


Figure 10

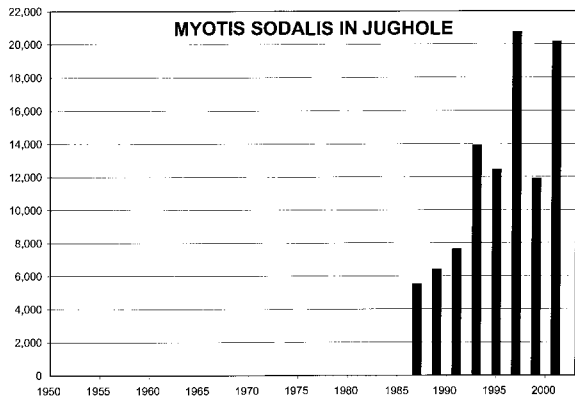


Figure 7

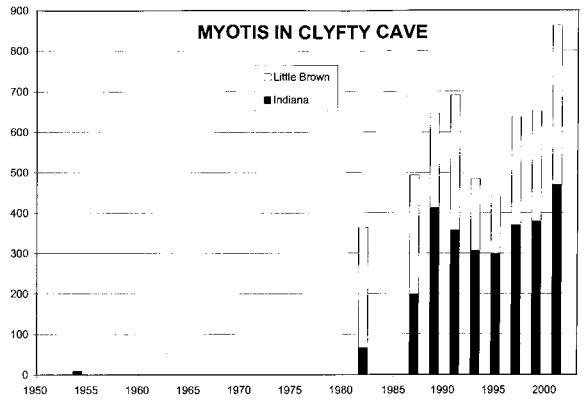


Figure 11

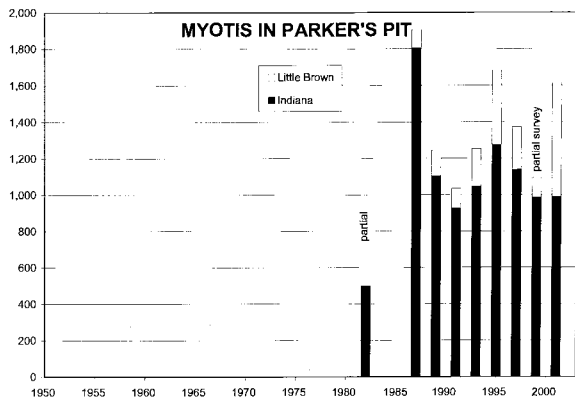


Figure 8

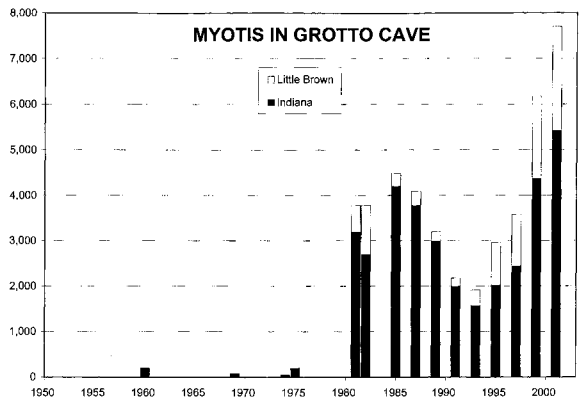


Figure 12

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 9). However, the last six counts have shown an encouraging population of both Indiana and Little Brown bats. In 2001, nearly twice as many Indiana bats were found there compared to any previous census. Likewise, the number of little brown bats this census were at an all-time high.

Jim Ray's Cave in Greene County has had remarkable population growth in recent years (see figure 10). Historic records by Mumford and others showed the cave's population never exceeded 3200 bats in nine visits between 1952 and 1975. Brack's visits in the early 1980's showed the population had already jumped to approximately 12,000 Indiana bats and several thousand little brown bats. In 1987, 1989, and 1991, the population 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. Unfortunately, in 2001 the population took a large hit, dropping to just over 48,000 bats.

Disregarding the most recent drop, the increase over the past twenty years has had no clear explanation, but two contributing factors may have played important roles.

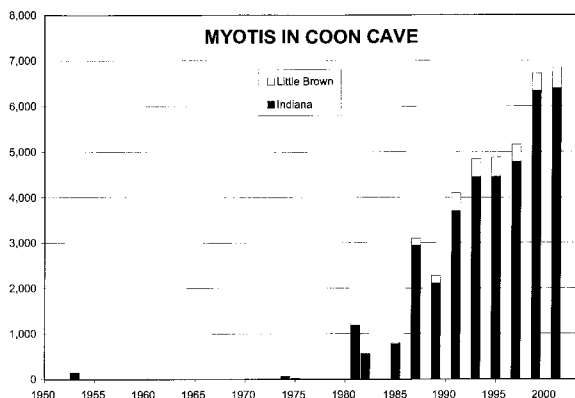


Figure 13

First it is known that a medical researcher from IU was illegally collecting perhaps thousands of bats each winter during the 1970's. 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

hibernacula. Currently there are two winter temperature studies being conducted in Ray's (one by the DNR/IKC and one by BCI) to see if there is anything obvious to make this such a desirable cave for Indiana bats.

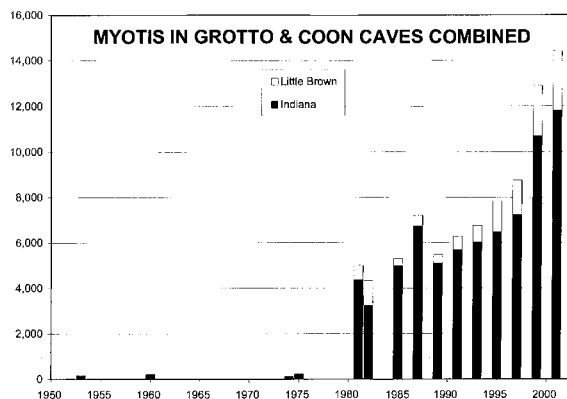


Figure 14

Approximately five miles to the north of Ray's is Clyfty Cave. Figure 11 shows a bat population that appears relatively stable over the past seven counts, although 2001 had the highest populations of both Indiana and little brown bats compared to any previous census.

Moving to Monroe County, Grotto Cave has been another puzzling hibernacula. Historic records showed very small populations in the 1960's and 1970's (see figure 12). However, in the early 1980's Brack reported significant numbers of Indiana and little brown bats. The cave peaked in 1985 with 4200 Indiana bats and then decreased the next four census to a low of less than 1600. However, in 1995 and 1997, the population rebounded slightly, and in 1999 and 2001, the numbers jump significantly. There are now more than 5400 Indiana in Grotto Cave, an all-time high. Furthermore, the 2001 census recorded nearly 2300 little brown bats, the largest winter population known in any cave within Indiana.

The "sister" cave to Grotto is Coon Cave located less than one-half mile away. It too had historic records in the 1950's through 1970's of only a few hundred bats (see figure 13). Brack's observations in the early 1980's were around 1000 bats. Since 1985 when only 777 bats were found, the population has increased significantly to almost 6400 Indiana bats in 2001 (another all-time high).

In the early 1990's when Grotto's population was dropping as Coon's was increasing, it was speculated that this might be another

instance of inter-cave migration. However, looking at the combined numbers for Grotto and Coon (figure 14) shows that the meta-population appears to be consistently increasing over the past twenty years.

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

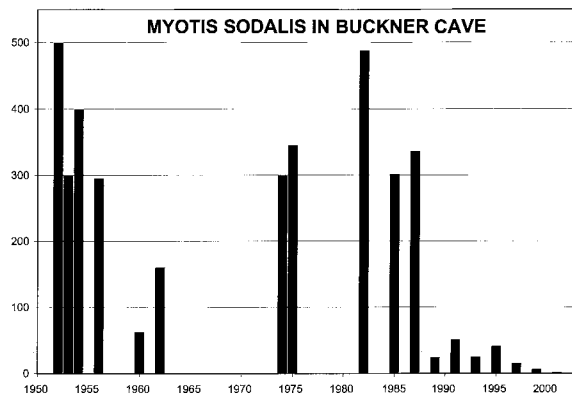


Figure 15

in its entrance room (see figure 15), but since 1989 there has not been more than 50 bats found. Obviously repeated disturbance 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. There is little hope for this hibernacula unless there is a significant change in its winter visitation policy.

There are other interesting observations and speculations that can be made from this census data, but in reality the number of sample points are still too few and the time durations are too short to truly make any meaningful conclusions. Perhaps in another twenty years of systematic censusing, definitive trends can replace general speculations.

IKC members who participated on the 2001 bat census were Keith Dunlap, Tom Sollman, Bambi Dunlap, and Steve Collins. Scott Johnson (DNR) coordinated the project.

## LEONARD SPRINGS NATURE PARK UPDATE

As Kriste Lindberg announced in her Education and Outreach article (page 12), future activities related to the Leonard Springs Nature Park will be reported upon in that article. Thus, for this final LSNP article, Kriste asked Steve Cotter, the Natural Resource Coordinator for the Bloomington Parks Department to summarize his views of the IKC/BPD partnership. This is what he provided:

*Parks departments typically rely on volunteers to help with a wide variety of programs and Bloomington Parks and Recreation is no exception. Over the first two years in the life of Leonard Springs Nature Park the Indiana Karst Conservancy has proven to be one of the most dedicated and resourceful volunteer groups ever to assist the department. IKC members have shared their efforts and expertise to improve the 84.5-acre park in several ways. A few tons of tires, appliances, rubble, and other trash have been removed from the caves, creeks, and steep slopes that grace the*

*property, thanks to the IKC and other caving groups. A partially collapsed picnic shelter was dismantled and salvaged. Hiking trails have been stabilized and surfaced with wood chips, native vegetation has been planted, cave maps and biological surveys of the caves have been done. In addition, IKC members are involved with local cave rescue folks in putting together a cave rescue plan for the park. These contributions, and others, have allowed the Parks department to focus on the educational mission of the park, which is to provide a place for the Bloomington community to learn about Karst areas and the many values and challenges that are associated with them. The complementary goals of IKC and Bloomington Parks and Recreation have led to this productive collaboration and the Bloomington Parks and Recreation sincerely appreciates all the hard work that IKC members have generously contributed to the park. Thank you and keep up the great work!*

Steve Cotter

## SULLIVAN CAVE TRIP REPORT

by Mark Jones

July 21, 2000 -- With Patty Daw down with an illness it was the same crew as the past two weekends -- Lara Storm, Kevin Toepke and I -- traveled to Lawrence County, Indiana to get a peek at Sullivan Cave. I picked up the key on Friday and met Lara in Bloomington to drive the half hour to the IKC property. A new gravel driveway wound through a locked gate to a secluded clearing where we camped for the weekend. With plenty of day left we dropped through the gated 3' x 2' entrance to be greeted by several cave salamanders in a sloping canyon. The carved passage stepped down a series of shelves to a 10' room, with a trickling waterfall in a small alcove. Turning right took us through a 4' tall canyon that soon intersected the infamous 1,200-foot "Backbreaker".

Once in the Backbreaker we turned right to see what lies to the north. Having always gone south it made sense to take two hours to see what we were missing in the other direction. Shallow mud puddles dotted the floor for 100' until we came to a sculptured dome room off to the left. Water continues to drip over the rock slowly cutting out more cave before pooling on the floor. Past this point the floor became dry, hard-packed mud with occasional breakdown blocks. The ceiling varied from smooth watercut to rough peeling slabs covered in gypsum crystals. With more confining crawling ahead and two hours in the cave we called it a day and returned to the surface.

A good night's sleep in the clearing by Sullivan Cave let the three of us get underground by 9 AM. Lara wasted no time in scrambling into the Backbreaker to start the 1,000-foot stoopwalk in the mostly featureless, dry passage. Lara's pace required Kevin and I stoopwalk more than crawl to keep up with her.

Arriving at the "T" we turned right to see the Merry-Go-Round, a site of numerous cave rescues prior to the gating of the entrance. Climbing over big rocks for 100' brought us to a room of breakdown that dropped into a 10' sloping canyon that circled counterclockwise for 25' back onto itself (hence the Merry-Go-Round). It didn't seem that difficult to determine the way out but we had more than one flashlight and a map.

Back at the T-junction we, stayed straight entering a large walkway that contained

small pockets of aragonite hidden under rock outcroppings. The next 300' was a jumble of small breakdown in 12' high passage with some 5' canyon dips along the way. Rather than go through crawlway to the Mountain Room we strolled left, for 400' on the *easiest* walking trail outside of a commercial cave. Imagine our disappointment when breakdown started covering the floor requiring us to use actual caving moves. Three breakdown piles almost sealed the passage along the way but a little bit of crawling was all it took to continue on. Now instead of just graffiti we saw speleothems beginning to appear.

According to the map we had entered the Helictite Passage, a well vandalized, yet still impressive crawlway. The 100' of hands and knees crawl beyond here richly rewarded us with the Lost Formation Room. A comfortable belly crawl on the left wall took us into 20' of the best formations that I've seen at the cave. Unfortunately a formation/mud pinch forced us to retreat in search of more cavable passage.

The map indicated there were several routes that stretched to the east and south, but evidently they don't connect with the Helictite Passage, so we retreated back to the crawlway and canyon leading us to the Mountain Room. This was the first "big" room that I'd encountered in caving and it still is an impressive sight. The onyx stalagmite podium near the summit of the huge breakdown pile drew us up the trail to get a better look. This room alone is worth the efforts of the IKC in saving Sullivan Cave.

Beyond the Mountain Room debris we entered a large stream borehole that led to the South "Y" where another stream joined in from the north. Traveling downstream along a mud bank on the left side we stopped at Armstrong's Folly to take in this excavation marvel. A 100' long 4' x 2' horizontal tunnel was mined in anticipation of virgin cave. Alas, all they discovered was more digging.

Satisfied with the trip we exited the cave seven hours after our start. Although we'd seen a lot of Sullivan Cave, it has much more to offer.

Reprinted and condensed from the Nov 2000 *Echoes* (Mark Twain Grotto)

## INDIANA KARST CONSERVANCY TREASURY REPORT

### Income/Expense Statement From July 1, 2001 to September 30, 2001

**INCOME:**

Dues Apportionment and Residuals	685.75	
Donations	250.00	
Buddha Acquisition Fund	6758.01	
Aluminum Can Recycling	48.36	
Hat sales	160.00	
SpeLoggers	455.00	
Interest	173.69	
	173.69	\$8,530.81

**EXPENSES:**

IKC Update (printing, production, mailing)	223.42	
Membership (postage, meeting notices, etc)	87.61	
Stewardship/Conservation	413.97	
Education/Outreach	79.55	
Buddha expenses (from general fund)	47.90	
Business (safety deposit box, service charges, etc)	12.97	
SpeLoggers	409.36	
Transfer to restricted funds	6918.01	
	6918.01	(\$8,192.79)

NET OPERATING EXCESS (DEFICIT) THIS PERIOD: \$338.02

### Balance Sheet September 30, 2001

**ASSETS:**

Cash in Checking Account	3947.08	
Cash in Savings Account	30164.82	
Notes Payable	-64000.00	
Sullivan Karst Preserve	72000.00	
Buddha Karst Preserve	82890.00	
Orangeville Rise Nature Preserve	7000.00	
Indian Creek Conservation Easement (valued at \$1/acre)	13.16	
	13.16	\$132,015.06

**LIABILITIES & OPERATING EXCESS:**

Hancock Property Maintenance Fund	100.22	
Buddha Acquisition Restricted Fund	8420.45	
Deferred Dues Restrctied Fund (175 members)	1972.50	
Hat Fund (excluding 1 hat in inventory)	422.16	

Previous Operating Excess	22858.55	
Net Excess (Deficit) This Period	338.02	
	338.02	
Current Operating Excess	23196.57	
Real estate liquidity (minus outstanding loans)	97903.16	
	97903.16	

Total Liabilities & Operating Excess \$132,015.06

## IKC QUARTERLY MEETING

Saturday, September 15, 2001

Clayton, Indiana

### BOARD MEMBERS PRESENT:

Bruce Bowman  
 Kriste Lindberg  
 Keith Dunlap  
 James Adams  
 Bruce DeVore  
 Dave Haun  
 Steve Lockwood (arrived after the meeting started)  
 Nick Noe (arrived after the meeting started)  
 Tom Rea  
 Bob Sergesketter (by proxy Sue Vernier)  
 Tom Sollman  
 Bill Tozer  
 Bob Vandeventer (arrived after the meeting started)  
 Dick Vernier  
 Kathy Welling

### BOARD MEMBERS ABSENT:

none

Also in attendance were members Don Bohl-  
 ing, Bambi Dunlap, Don Ingle, Glenn Lemas-  
 ters, and Carita Noe.

The meeting was called to order at 4:08 PM at  
 the home of Bruce and Cissy Bowman in Clay-  
 ton, Indiana, President Bruce Bowman presid-  
 ing. Sue Vernier was accepted as proxy for  
 Bob Sergesketter.

The minutes of the Summer Director's Meeting  
 were approved as published on the IKC web-  
 site and in the September 2001 *IKC Update*.

Treasurer K Dunlap reported the following:

The membership stands at 199, which in-  
 cludes 26 members whose dues have ex-  
 pired and will be dropped soon.

Cash and accounts receivable	\$33,439.74
Land assets	161,903.16
Loans	(64,000.00)
Net	\$131,342.90

### Buddha Karst Preserve specific:

The Buddha fund (including Land Acquisi-  
 tion Fund, raffle tickets, and pledges) has  
 \$19,185.45 Possible future grants and oth-  
 er sources of income:

Indiana Heritage Trust*	\$54,000.00
IPALCO Golden Eagle Grant	10,000.00
National Speleo Foundation	5,000.00

Total	\$88,185.45
Initial purchase	(73,680.00)
Potential excess	\$14,505.45

\* K Dunlap reported that he attended the  
 Indiana Heritage Trust meeting on Sep-  
 tember 11 and that funding for the Buddha  
 Karst Preserve was approved. It was the  
 first step in a three-step process before  
 funding is actually provided.

Various members reported that other caving  
 organizations, including the CIG for \$1500,  
 IUSC for \$100, and SJVG for \$250 are expect-  
 ed to donate.

Bowman mentioned that the October 2001  
*NSS News* will have an article on the Buddha  
 Karst Preserve so it may bring in a few more  
 donations. Despite an apparent excess, the  
 grants are by no means certain and funding  
 should continue to be solicited.

Bowman mentioned that there is an updated  
 version of the Buddha Karst Preserve waiver  
 form on the IKC's website. This form needs to  
 be used for future cave trips.

Bowman led a discussion on the following pos-  
 sible changes to be made to the draft Buddha  
 Karst Preserve Management Plan:

The board approved a change by acclama-  
 tion that all wording would be updated to  
 reflect the fact that there is more than one  
 cave on the property.

Haun moved that the wording be changed  
 to reflect that a "current" waiver be kept on  
 file. The implication of this motion was  
 that this would require getting a new waiver  
 at least every two years (the stated file  
 purging interval), while not requiring a  
 waiver every time the cave(s) are visited.  
 Adams seconded. Motion passed, 10-1-2.

K Dunlap moved that the wording be  
 changed so that permission to dig above  
 ground also requires approval of the IKC  
 board. Tozer seconded. Motion passed, 14-  
 0-0. Bowman noted that Nature Preserves  
 would likely want to also review such  
 changes as part of the Master Plan.



Nature Preserves suggested in e-mail that any trees planted should be indigenous to the Mitchell Plain karst region. The IKC board accepted this recommendation by acclamation.

Several other topics received discussion, primarily signs on the property, prohibition of youth groups, caving group size, mechanical vehicles, camping, and clarification as to when caving permits are needed. These topics did not yield a motion.

Welling moved that the plan be approved subject to the above changes. Adams seconded. Motion passed, 14-0-0.

K Dunlap moved that 1,000 trees be planted next year on the Buddha Karst Preserve at a total cost of up to \$500 (approximately \$250 to be spent on trees and \$250 to be spent on supporting materials such as mulch). Lockwood seconded. During discussion, it was believed that the planting would most likely take place at Under/Above Earth Day 2002, as would a general cleanup of the property and caves. It was also clarified that the purpose of the tree planting was to add screening from the neighbors and the road and not necessarily part of a reforestation effort. Motion passed, 14-0-0. Several other activities need to take place on the preserve the same weekend.

K Dunlap moved that up to \$100 be allocated for a survey to better delineate the southern property line so a fence could be installed on the Buddha Karst Preserve. Rea seconded. Motion passed, 14-0-0. During discussion, it was believed that steel T-posts with woven wire would be the best fencing to be used. Allocation of funds to purchase the fencing was deferred to the December meeting.

Bowman led a discussion on seven bylaws change proposals:

- 1) Editorial changes to clarify the original intent of the bylaws.
- 2) Change director terms from two to three years, and modify the election process to correspond.
- 3) Stipulate that Robert's Rules of Order will define the IKC's default meeting process.
- 4) Modify Secretary/Treasurer responsibilities so the same person who takes money also maintains the membership database.
- 5) Add a requirement that the Board will review and approve the annual election

ballot.

- 6) Change the election process so the new Executive Board is seated after the Annual Business Meeting (rather than immediately after the elections during the meeting).
- 7) More clearly define a process to fill Board vacancies. The new process calls for an election to select one of the Directors to fill any open Officer positions, while Director vacancies will remain vacant until the next general election.

Haun moved that all seven bylaws changes be approved. Adams seconded. Much discussion ensued, mainly revolving around concerns about possible bylaw change number seven. Rea proposed an amendment to review only the first six bylaw changes as a group. K Dunlap seconded. Original motion passed as amended, 14-0-0. *[President's note: The vote tally for both the amendment and final approval are uncertain. They were not clearly recorded, and the entire membership voted on the motions, not just the executive board. Nonetheless, there was no opposition to the first six motions.]*

Rea moved that possible bylaw change number seven be referred back to committee to decide on a process to replace directors. Noe seconded. Motion passed, 11-4-1.

Bowman noted that The Nature Conservancy is preparing to reprint the sinkhole flyer and wants the IKC to determine how much they are willing to contribute. K Dunlap moved that \$300 be allotted to pay for "sinkhole flyers" (2000 flyers at 15 cents each). Welling seconded. During discussion, Ingle mentioned he may have a source who could get them printed for less, 12 cents each, and that he would follow up on it. Motion passed, 14-0-0. K Dunlap expressed concern that the eastern karst region is not mentioned in the flyer. Bowman will follow up.

Two events are coming up that the IKC may want to contribute to as sponsors. K Dunlap moved that \$250 be allocated to sponsor the National Cave and Karst Management Symposium in Tucson, Arizona in October, 2001. Welling seconded. During discussion, Adams offered an amendment that it should only be done if the IKC is recognized accordingly. Haun seconded. Amendment passed, 13-1-0. After additional discussion, the amended motion failed, 2-9-4.

Welling moved that \$250 be paid to cover the two presenter's (Bowman and Lindberg) registration costs for NCKMS 2001. Devore seconded. Motion passed, 14-0-1.

Haun moved that \$250 be allocated to sponsor the Cave and Mine Gate Forum to be held in Austin, TX in March of 2002. Adams seconded. Motion passed, 13-0-2.

Haun moved that \$300 be allocated to cover travel expenses for Mark Stacy to attend the Cave and Mine Gate Forum. K Dunlap mentioned that Mark would only attend the Forum if his employer paid the expenses. Motion failed for lack of a second.

Adams moved that all three presenters be allocated \$100 in additional expenses for their respective conferences. Haun seconded. Motion failed. [*President note: No vote tally available.*]

Additional topics on the agenda were deferred to the Winter Director's meeting. This meeting will be held Saturday, December 8 at 1:00 PM,

preceded by lunch, in Anderson or Pendleton, Indiana. Tozer will determine an appropriate site.

Adams moved that the meeting adjourn at 6:25 PM to the annual picnic. Devore seconded. Motion passed, 14-0-0.

Respectfully submitted by Kriste Lindberg,  
Secretary

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Post-meeting/cook-out notes:

Congratulations to the annual dessert contest winners:

1st place: Apple pie, contributed by Tom Sollman (and Marsh Supermarket)

2nd place: Persimmon pudding, made by Bruce Bowman

3rd place: Pecan pie, made by Keith Dunlap

Also Louise Whisler (Chicago) was the winner of the big-screen TV private drawing (\$1800 was subsequently donated to the Buddha Fund).

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continued from page 9...

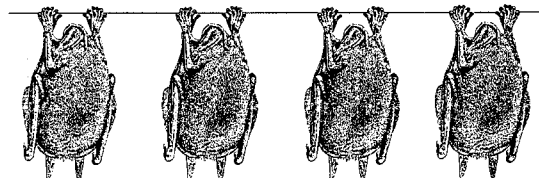
about this place. The museum does an excellent job at presenting the plants and animals in a natural setting. The outdoor exhibits include birds, big cats, javelinas, coyotes, and otters/beavers. To top it off, this place has the best fake cave I've ever seen. The speleothems are wonderfully made, and there are sections where you would swear you're really in a cave if you didn't know better. Jim Kennedy deserves our thanks for taking us on a "personal tour" of the facilities. This was followed by a happy hour with another cash bar, and a banquet of spiced chicken. The banquet speakers were Randy Tufts and Gary Tenen, co-discoverers of Kartchner Caverns. The slide show and plot twists on the whos/hows of converting this treasure into a state park is too big of a topic to present here, but made for a fascinating story for the symposium attendees.

The last day of the symposium is typically a half-day so people can return home before the weekend. The final sessions focused primarily on reduction/remediation of hazardous waste in karst systems, including sinkhole and cave cleanups. There was also one presentation on resource management of apokryptic (concealed) karst, but I missed

this one because I had to catch the hotel's shuttle service and return to the airport.

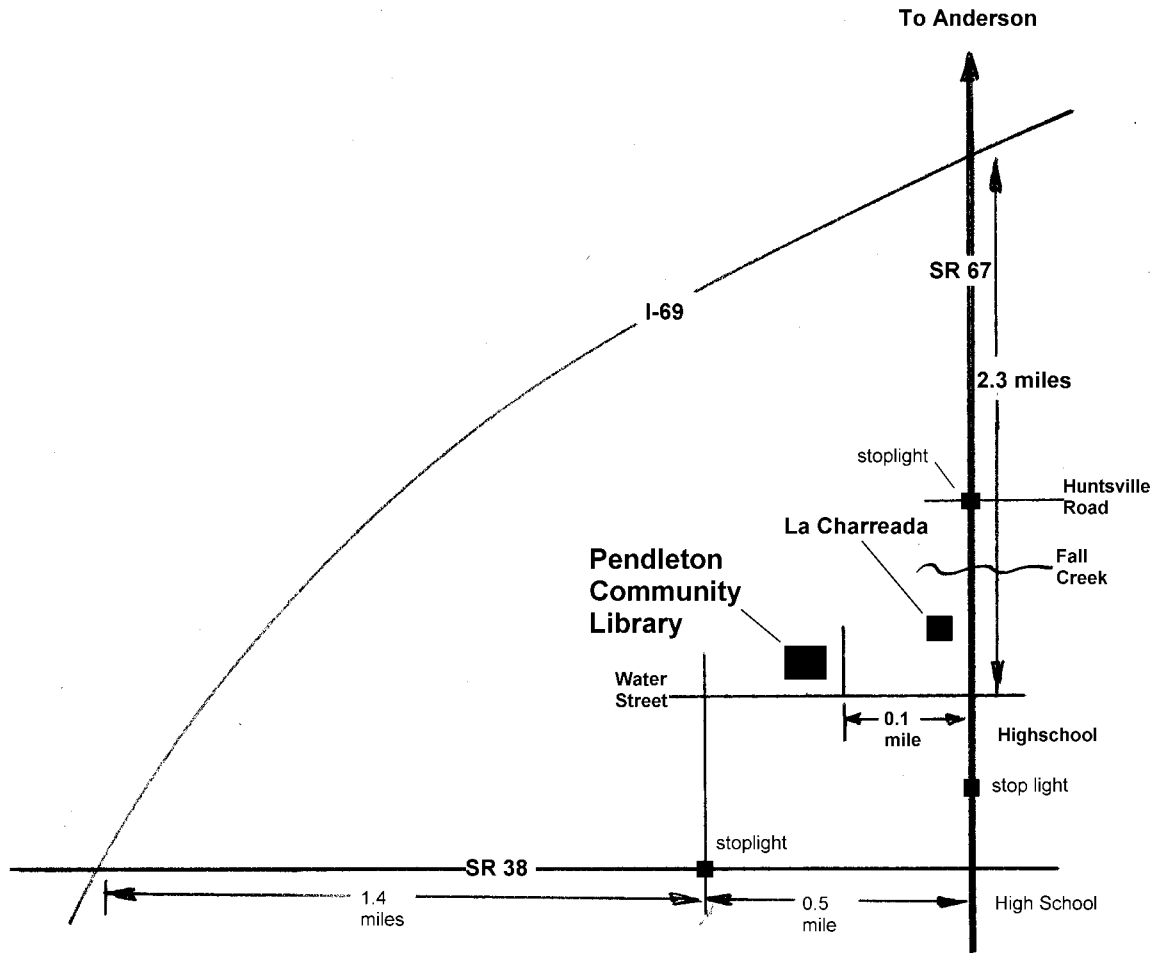
I should also mention that there were a number of pre- and post-symposium opportunities that didn't get my participation. These included field trips to undeveloped caves in the area, a Project Underground workshop, and a Bat Management workshop hosted by Bat Conservation International.

From experience, I've found that hosting the NCKMS can be a daunting task; and the organizing committee for the 2001 event should be commended for doing such a fine job. In particular, Jerry Orcutt, and Jerry and Sandy Trout, deserve special credit for chairing the organizing committee and (I'm sure) doing a lot of the legwork. Kriste and I would also like to thank the IKC for sponsoring us by covering our registration expenses. Now if we could just find the time to write up our papers for the Proceedings!





**MAP TO THE IKC QUARTERLY**  
**SATURDAY DECEMBER 8th, 1:00 PM**  
 Pendleton Community Library  
 (directions on page 3)



**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.

