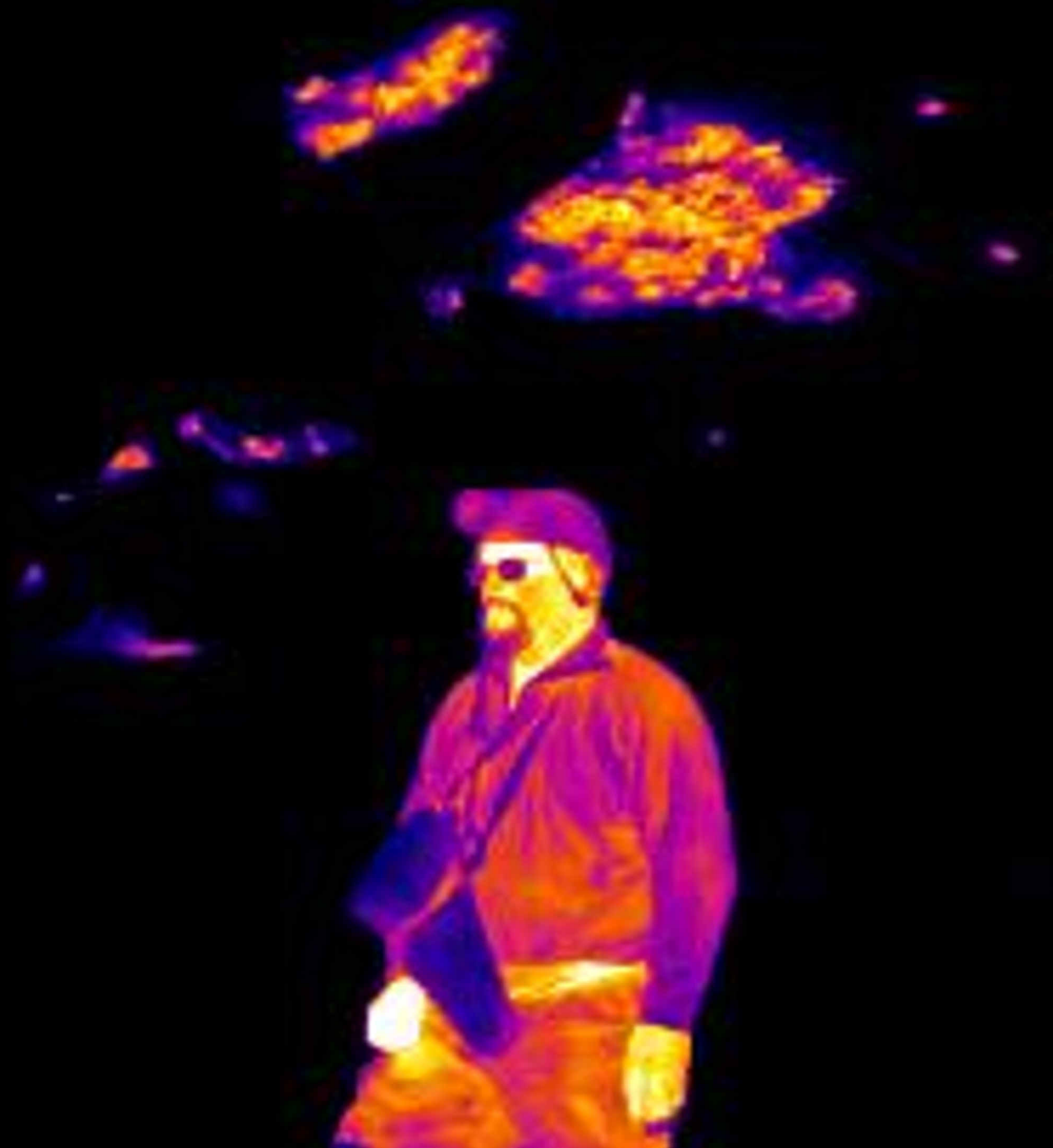


IKC UPDATE

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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: Thermal image of Tom Sollman under warming clusters of bats during the 2007 bat census. Read more about this image by Justin Boyles on page 13.



ANNUAL BUSINESS MEETING

SATURDAY, MARCH 24th, 11 AM

GREENWOOD, INDIANA

WHITE RIVER PUBLIC LIBRARY

1664 Library Blvd 317-885-1330

The Annual Business meeting is for the explicit purpose of Board elections. Annual reports from the IKC Cave Patrons and Property Managers are also presented. And as always, the meeting is for members and other interested persons to have an open forum for talking 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 meeting is informal, and everyone is encouraged to attend and participate. The IKC Board *wants* your input.

Preliminary Agenda Items: Elections; Cave Patrons/Property Managers annual reports; Brief recaps of last quarter's activities; Upcoming workdays at the Buddha and Robinson Ladder properties; Robinson Ladder Cave Preserve surface restoration; Indiana Cave Symposium; Financial Report and Land Acquisition Fund-raising activities; HNF inventorying project; and more....

Following the meeting (approximately 2 PM), we will most likely socialize/de-brief over lunch at a nearby restaurant.

Meeting directions: See page 23 (inside back cover) for directions and map.

ACTIVITIES CALENDAR

- 23 MAR = CAVES: LIFE BENEATH THE FOREST PREMIERE, Bloomington (see page 5)
- 24 MAR = IKC ANNUAL BUSINESS MEETING, Indianapolis (see above)
- 14 APR = BUDDHA PRESERVE TREE PLANTING, Buddha (see page 5)
- 14 APR = LOST RIVER TOUR, Orleans (see page 5)
- 21 APR = TNC HELLBENDER HUSTLE, O'Bannon Woods State Park (see page 5)
- 21 APR = UNDER-EARTH DAY/ROBINSON LADDER, Milltown (see page 6)
- 21 APR = INDIANA CAVE SYMPOSIUM, Milltown (see page 6)
- 05 MAY = TAKE PRIDE IN AMERICA/HNF WORKDAY (see page 5)
- 26 MAY = TREE MAINTENANCE AT BUDDHA PROPERTY (date tentative, see page 5)
- 02 JUN = LOST RIVER TOUR, Orleans (see page 5)
- ?? JUN = IKC QUARTERLY MEETING, Bloomington

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 much appreciated donation.

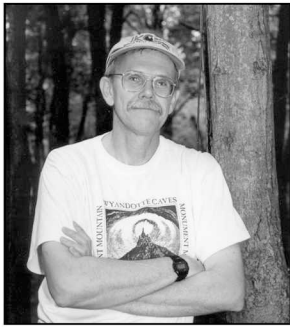
The *IKC Update*, distributed for free, is published quarterly for members and other interested parties. The purpose of this newsletter is to keep the membership and caving community informed of IKC activities and other news related to cave/karst conservation. Submission of original or reprinted articles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

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RAMBLINGS FROM THE PRESIDENT...

And now, right here on our stage...

-- Ed Sullivan



Mark your calendars for Friday March 23 and plan to attend the World Premiere of *Caves: Life Beneath the Forest* (working title Cave Biota) at the restored, historic Buskirk-Chumley Theater in downtown

Bloomington. Over two years in the making, this video production by Ravenswood Media, which is sponsored by the Hoosier National Forest, the IKC, and the NSS is now ready for release. Many of you have seen the trailer, which was shown at the last NSS Convention and at some grotto meetings; and we have heard lots of favorable comments. Dave McGowan, the Academy Award nominated producer / director has been keeping the final version under wraps -- but a few people have seen it to proof the content and I have been assured that it is excellent!

This will be a great event to bring the kids to with activities like Project Underground, the Inflatable Cave and live bats. Oh, and knowing how cavers are -- door prizes! Admission is *free* and there's seating for over 500, so invite your non-caving friends as well. Kids activities will begin at 5 pm and the program will start at 7 pm. This is probably a once-in-a-lifetime event, so don't miss it!

On other subjects, in January I attended Conservation Day at the Statehouse, sponsored by the Indiana Conservation Alliance. One of the issues that was featured was the decreasing sales of the Environmental License Plate. This specialty plate, as some of you know, provides over half the funding for the Indiana Heritage Trust (IHT), a program which is the State's only dedicated land acquisition fund for natural and recreational properties. For example, we have obtained IHT funding in part to acquire the Buddha Karst Preserve. Over the years, 48,909 acres have been protected by the State and by organizations such as the IKC and The Nature Conservancy using IHT funds. The goal is to protect 100,000 acres by 2016, the State's bicentennial. Unfortunately, while the Environmental License Plate remains

the number one selling affinity plate in Indiana, competition from other specialty plates and other factors is cutting into sales. You can help by paying a little extra for the Environmental Plate when you renew -- it's a great way to get some guilt relief for driving that Hummer!

On a similar subject, when you're doing your taxes, don't forget to take advantage of the option to donate a portion of your refund to the Indiana Nongame Wildlife Fund (line 34 on form IT-40 the one with the eagle symbol). Monies from this fund help the Indiana Department of Natural Resources manage and protect over 550 nongame and endangered wildlife species such as the Indiana bat and the bald eagle. While game species management has an established, mandatory funding mechanism -- income from hunting and fishing licenses -- there is no such equivalent for nongame. Thus, what I consider to be the most important conservation work done by the State gets carried out largely on the basis of voluntary contributions. I actually find it encouraging that people do contribute, with no expectation of any personal return such as fish fillets or deer burgers. There is an excellent article about the Nongame Fund in the March/April issue of *Outdoor Indiana*, including a photo by IKC member Scott Johnson. Donations are also accepted even if you expect no refund.

Something that you can do that doesn't cost a thing is to contact your Federal Representative and Senators regarding funding for the US Fish and Wildlife Service (USFWS). Funds for many of the services provided by the USFWS have been frozen at previous levels -- for instance the Midwest Region of the National Wildlife Refuge System has had its operating budget frozen at the 2004 level. Expenses have not been frozen and consequently they are being directed to cut personnel. Indiana is expected to lose almost 40% of its Refuge personnel. Two of Indiana's National Wildlife Refuges (Muscatauck and Big Oaks) include karst and all three provide roosting habitat for the Indiana bat. Ask for increases in funding in the 2008 budget for the US Fish and Wildlife Service to cover inflation and to prevent losses of personnel, particularly for Environmental Services and the National Wildlife Refuge System.

Richard Vernier

NEWS BRIEFS...

- ❑ With winter winding down and spring just around the corner, the IKC's activity calendar is once again full of cave conservation/educational projects (see page 3 and other announcements throughout this issue). Pick a few projects to volunteer your labor while having a little fun too. IKC projects can be very rewarding and there is always lots of fellowship in accomplishing good things together.
- ❑ The first project of the year is at our Buddha Karst Preserve on April 14th. We plan to plant 500 tree seedlings (three species of oak), starting at 10 AM. Bring gloves and a light lunch and hopefully we will have enough people to make it a short day. Contact George Cesnik (see page 2) if you are interested in helping, or just show up. To date, we have planted approximately five acres of trees and plan to continue planting about one acre per year. Partial funding for the trees this year was provided by the Dogwood City Grotto.
- ❑ Later in May (probably May 26th, weather permitting) we will have another work day at the Buddha Preserve to perform tree maintenance (weed control) and invasive plant eradication. Also trail mowing. Contact Keith Dunlap if you are interested in helping.
- ❑ Also in May, on the 5th, the Hoosier National Forest will be sponsoring their annual Take Pride In America workday. There will be a number of forest-wide stewardship projects needing to be accomplished on that day (generally they have more than 100 volunteers). While no cave-related project has been planned this year due to the conflicting date with HogFest/Cave Capers, TPIA is still a good activity to support.
- ❑ The Buckner Cave Graffiti Removal project continues with a monthly workday (see article on page 8) and volunteers are still being solicited. Participants have found the project very rewarding as progress is made deeper into the cave. The IKC would like to encourage our members to support this effort. Camping is available, but please notify Dave Everton of your intentions. Dave would also appreciate it if you would notify him that you will be coming so he can plan manpower. Dave can be contacted at DEverton@indiana.edu or 812-824-4380.
- ❑ On April 21st, in addition to Under-Earth Day (see page 6) and the Indiana Cave Symposium (see page 6), you can start the morning off at the Hellbender Hustle at the O'Bannon Woods State Park Nature Center. In addition to running and walking events starting at 9 AM, there will be other nature-oriented family-friendly activities and displays, along with a local blues band (appropriately named the Hellbenders). For more information, contact Cassie Hauswald (chauswald@tnc.org 812-737-2087).
- ❑ Bob Armstrong and Dee Slater of the Lost River Conservation Association will once again be conducting their guided auto/hiking tours of the Lost River area, starting from the east at its head waters in Washington County, through Orange County to its disappearance near Orleans, and on to its rise near Orangeville. This year there will be two ... continued on page 9 ➡

CAVES: LIFE BENEATH THE FOREST PREMIERE REMINDER FRIDAY, MARCH 23rd

All IKC members should have received information in the mail last month about the "world premiere" showing of this documentary video. The location is the historic Buskirk-Chumley Theater, 114 East Kirkwood in Bloomington. Educational activities focusing on children will start at 5 PM EDT, with seating for the video beginning at 6:45. After the video, there will be a short session with the Producer and the scientist "stars". A reception wraps up the event around 9:30 PM. Admission is free and it should be a fun night for cavers, kids, and the general public.

INDIANA CAVE SYMPOSIUM 2007 PREVIEW

by Keith Dunlap and Dave Everton

The 15th annual Indiana Cave Symposium, co-sponsored by the Indiana Karst Conservancy and Indiana Cave Survey, will be held on Saturday, April 21, in Milltown, Indiana, at the Cave Country Canoes campground. The customary *free* cookout and *pitch-in* dinner will start at 5 PM Eastern Daylight Time, with presentations beginning at 7 PM EDT in the nearby Community Center building. The expected presenters and topics, not necessarily in this order:

Jerry Lewis	Bug Hunts R Us
Keith Dunlap	2007 Indiana Bat Census
Chris Schotter	Coon Trap Cave Exploration and Survey
Bruce Trotter	2007 HNF Cave/Karst Inventory Project Update
Krsite Lindberg	<i>Caves: Life Beneath the Forest</i> documentary video
Sean Lewis	Buckner Cave Resurvey Project
Dave Everton	Buckner Cave Graffiti Removal Project
SJVG	Lost River Cave System Update

Camping will be available on-site at Milltown Canoes campground. For more information about the Symposium, contact Dave Everton (deverton@indiana.edu or evening phone 812-824-4380) or visit the Indiana Cave Survey website at www.caves.org/survey/ics

UNDER-EARTH DAY -- ROBINSON LADDER PRESERVE SATURDAY, APRIL 21

The Indiana Karst Conservancy will once again organize a workday in celebration of Earth Day. This year we will return to the Robinson Ladder Cave Preserve to continue our grapevine and invasive plant eradications. We will also be working on improving the driveway to the upper field, grading the four truck loads of crushed stone delivered in February. Another project to be completed is the demolition of a truck camper on an adjacent property recently acquired by The Nature Conservancy. TNC is providing a dump trailer and the IKC is providing the labor. The workday will also serve as our "open house" for the members and caving community to explore the property, both above and below ground. Note that Robinson Ladder Cave will still be closed due to the bats, but there is another little cave on the property that can be explored.

You do not need any special skill to assist and family participation is encouraged. Bring gloves, good shoes, and water. If you have limb loppers, bring them too. Starting time will be 10 AM EDT (Indy time). We should be done by 3 PM so participants can attend the nearby Indiana Cave Symposium.

The property is located just off of SR 66, 2.8 miles north of SR 64 (Milltown) coming from the south, or 4.2 miles south of US 150 coming from the north. Watch for Baylor Road, heading west from SR 66 (the intersection has GPS coordinates N4249542 E0563592). The access lane to the IKC property is directly opposite of Baylor Road heading to the east. Take the lane 1/4 mile to the property. If you need further directions or information, contact John Benton (JBenton@fullnet.com or 812-683-2733).

EDUCATION AND OUTREACH COMMITTEE REPORT

by Kriste Lindberg

As you may recall from the December 2006 *IKC Update* we had just acquired materials from Black Lumber to construct our new "cave". I'm happy to report that the building process went well and we now have our 37.5 foot "cave" up and running. Well, maybe not at the moment but it is available for tours in a matter of minutes. The inflatable cave is one of the most effective and convenient educational tools I've encountered... people love it! It really draws them in to learn more about caves and conservation.

As with any design, we're currently working on improving the entrance with a structure made of PVC pipe to mount the fans (see photo). Thanks to Don Foddrill and crew from Bloomington Parks and Recreation for their help.

We've been making an effort to work more and more with schools and the "cave" is a big hook. We are getting more and more requests for it. In February, we took it to Grandview Science Night where it was well received. Afterwards we were contacted by another local school, Edgewood, to bring it to their Science Night.

Speaking of working with schools, we hosted a booth at the annual Hoosier Association of Science Teachers (HASTI) meeting in Indianapolis. This was our first year and we hope to join them in the future, as well.


While there, we discussed the "cave". Word of it is getting around fast. Since putting it together in mid January, we've offered tours of it at the following: a Project

Underground Workshop I taught at the Natural Resources Education Center at Ft Benjamin Harrison State Park; a Project Underground activity, Cave Creations, taught at Bloomington Parks and Recreation's Twin Lakes Lodge; an after school program at Bloomington Parks and Recreation's Banneker Community Center; and a Project Underground activity, Going Batty, taught at Bloomington Parks and Recreation's Twin Lakes Lodge. A special thanks to guest speaker, Laura Hohman of Bat World Sanctuary, for sharing her informative bat PowerPoint and bringing her two live Big Brown Bats for people to see!

On March 23rd, we will be co-hosting the premiere of the "*Caves: Life Beneath the Forest*" cave life documentary at the Buskirk-Chumley Theater. You can read more about that elsewhere in this issue. Here, we will just cover the educational aspects. The film and individual video clips are already proving to be invaluable karst conservation education tools for schools. And, at the premiere we will have five Project Underground activities in action to choose from as well as Laura Hohman of Bat World Sanctuary with her two live bats. We will also have a number of booths with educational information and offer teacher packets. We're working with the schools to set the production to curriculum and standards. Needless to say, the effort has far exceeded our expectations. An article will appear in *The Herald-Times* on the Sunday before the premiere and there will likely be a reporter at the event, as well. We hope you can join us for the evening. For more information, see: www.cavebiota.com.

In the next few months we will be giving a presentation on karst conservation for an IU SPEA class. Also we will be doing a three-day educational event for the 6th grade classes of five elementary schools at Leonard Springs Nature Park hosted by Bloomington Parks and Recreation. This is the pilot project for an event we hope to host every year. There will be a number of stations set up for students to learn from: karst, creek, forest, and wetlands.

We also plan to show the "*Caves: Life Beneath the Forest*" documentary at the Indiana Cave Symposium on April 21st.

...continued on page 22 



The new PVC entrance structure for the IKC's portable inflatable cave constructed of black plastic.

BUCKNER CAVE GRAFFITI REMOVAL PROJECT UPDATE

by Dave Everton

Monthly workdays continue to be held at Buckner Cave to use the sandblasting equipment owned by the Peppersauce Cave Conservation Project and managed by Ray Keeler. The following is an update of the project, which began in April, 2006.

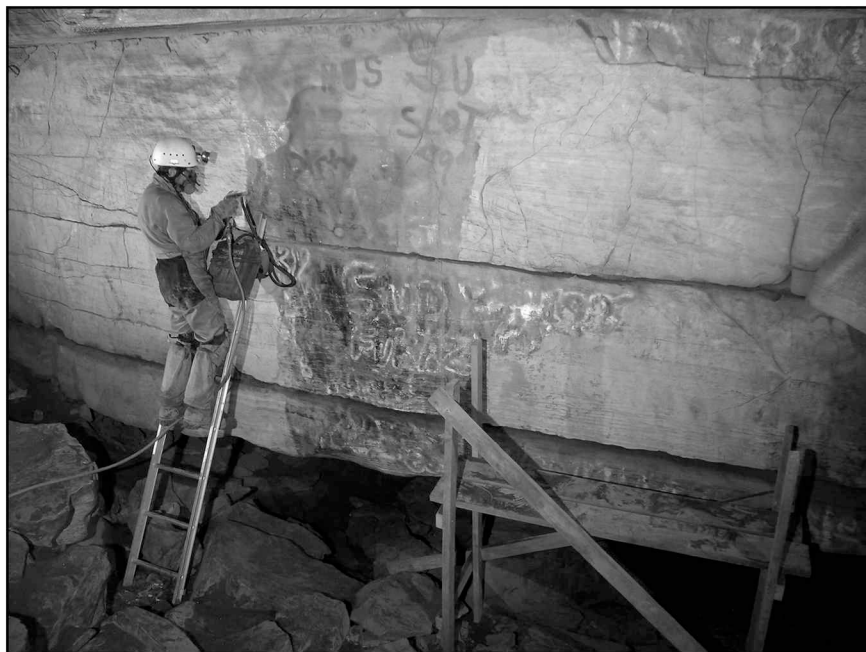
Before actually starting the work, I had no real clue of what kind of effort would be needed. As the project has proceeded, the work has gone fairly smoothly, thanks in part to the approval by the board of the Richard Blenz Nature Conservancy to leave the air, power, and phone lines set up inside the cave throughout the project. Therefore, a minimum time for equipment setup and stowage is needed for each project workday or weekend.

Prior to November 2006, workdays were held on both Saturday and Sunday in order to try and maximize the time spent while equipment was set up and volunteers were available, and in hopes of encouraging entire weekend visitation by cavers who have to travel a long distance to participate. During the winter months, which typically hold less appeal for camping, efforts have been scaled back to a single workday per month, held on Saturday. December's workday on the 23rd even had a special guest; one of Santa's helpers showed up in an effort to boost troop morale. Although he showed up empty-handed, his appearance did seem to be enjoyed by the volunteers.

At the outset of the project, I targeted the

formerly-called Signature Room (now being dubbed the L.V. Cushing Room for the late 18th century original signature left there) as a must-get-to area of the cave. We knew there would be plenty of graffiti to remove in every direction in the immediate vicinity for as long as we had the equipment. However, rather than head there right away, work began in the entrance room, and proceeded through parts of the crawlway, in addition to setting up the central base of operations at the Tee area. Since three separate teams can blast simultaneously, one team worked in certain "rooms" in the crawlway, while another team worked in the Tee, and the third team worked in the passage adjacent to the L.V. Cushing Room. Each subsequent month, the crawlway effort continued proceeding toward the Tee, while the Tee Team continued in that area, and the third team worked in the Cushing Room. RBNC President Anmar Mirza and friends created a section of scaffolding partway into the project, which came in very useful the past four workdays. Currently, efforts are concentrated in the Cushing Room and adjoining upper level passage.

It has been somewhat difficult for me to be objective about the project results. It seems to be going very slowly, and I have not gotten as much interest and participation from the Indiana caving community as I'd hoped or wanted. However, being my own biggest



Sandblasting away spray-painted graffiti in the former "Signature Room"

critic, perhaps I'm being too hard on myself. Notlong ago, I was looking at some "before" photographs taken by Elliot Stahl prior to much being done in the crawlway, and was actually surprised to realize that a lot of graffiti has been removed in certain parts of the crawlway. It was actually encouraging! Another big boost recently is to see one of the main walls of the Cushing Room come clean; that was a particularly offensive area, and it is such a good feeling to see that change. It is absolutely astounding to me to imagine how in the world some of the offenders armed with spray paint were able to reach the spots they did in order to leave their mark! Even creating human pyramids doesn't seem to be a plausible explanation for it. It's a wonder that many necks and other bones weren't broken in order to do so.

The project has gotten a verbal commitment from equipment manager Ray Keeler to continue to use it beyond our initially-established one-year timeframe, although we didn't discuss exactly how much longer. Once that commitment was made though, efforts have been ongoing over the past few months to open a hole large enough to permit air and power lines to be run into the cave through the former Domocile Pit entrance, which would allow graffiti removal in the Volcano Passage. That area is beyond the reach of lines where the compressor is currently set up at the main entrance. In the meantime, plenty of work remains in the Cushing Room and adjacent areas, although we realize we'll have to move on at some point, without actually removing all the graffiti present.

Ultimately, my idea of a successful job is this: for the average future visitor to the cave to have no clue of what we've done. That's not to say that there will be no trace of graffiti removal having taken place; those who've removed it can easily pick out spots where the

surface colors will never blend in with the natural color of the walls and ceilings, and anyone stopping to observe will likely notice unusual patterns, including traces of graffiti too difficult to obliterate. However, if a visitor simply passing through doesn't immediately notice, that will be a favorable and desirable result, in my opinion. In addition to trying to make the surfaces blend in to unvandalized areas when removing the graffiti, the used blast material which wasn't collected with tarps at the time of blasting will ultimately be removed from the floor and rocks as well. Some cavers have even had the rare distinction of having operated a vacuum cleaner in a cave! At any rate, the closest approach possible to leave no trace is being attempted.

The annual NSS Convention being planned for Indiana in 2007 could prove to be interesting timing in regards to the graffiti removal project and Buckner Cave in a number of ways. Other cavers possibly interested in obtaining the sandblasting equipment may be able to see what has been accomplished with it in the cave. The property and cave could certainly become the property of the NSS in the not-too-distant future, and the opportunity for visitation in relation to that effort by board members or other interested cavers during Convention will likely be available.

Lastly for now, the effort of each and every person who has participated in the project in any way up until now is greatly appreciated, as well as continued participation and new involvement by each person willing to help. For more information on the Buckner Cave Graffiti Removal Project, visit www.caves.org/grotto/big/rbnc/Graffiti%20Removal.htm or contact Project Coordinator Dave Everton by e-mail at deverton@indiana.edu or phone 812-824-4380 (evening land line).

Continued from page 5...

spring tours scheduled: April 14th and June 2nd. The orientation lecture starts at 7:40 AM at the southeast corner of the square in Orleans and will depart promptly at 8 AM. Reservations are not required. Tours will go, *especially* if it rains. There will be some moderate hiking so sturdy footwear and long pants/sleeves are strongly recommended. The tour is free, but a small donation is suggested for the optional printed handouts. This is a must-do tour, if you are interested in Indiana karst. For more information, contact Dee at (317) 253-6951.

- ❑ Five new members have joined the IKC in the past quarter. Please welcome Kevin Smith (460), John Kirby (461), Matt Bomba (462), Troy Jones (463), and Rob Jarboe (464). The IKC membership now stands at 184.

SAMPLING FOR BIOTA IN IKC PRESERVES

by Jerry and Salisa Lewis

At present the Indiana Karst Conservancy manages six preserves: Orangeville Rise Nature Preserve, Sullivan Cave Preserve, Indian Creek Sinks Conservation Easement, Buddha Karst Nature Preserve, Wayne Cave Preserve, and Robinson Ladder Cave Preserve. Of these six, Lewis & Associates have sampled the fauna of the Lost River area extensively during our work for the Hoosier National Forest, including caves in the recharge areas of the True Rise and Orangeville Rise. At Indian Creek there is not any subterranean habitat, although we have done extensive work in adjacent Binkley and Blowing Hole caves. Thus, there are four preserves with enterable caves on them. In the last two years, we have undertaken the task of conducting cave faunal inventories in two of the remaining four preserves owned or managed by the IKC.

Buddha Karst Preserve

In 2005 we conducted a bioinventory in the Buddha Karst Preserve, Lawrence County. This preserve is comprised of thirty-seven acres located less than a mile south of the small village of Buddha (five miles southwest of Bedford). The area occupied by the preserve is isolated within the Mitchell Plain and is for all intents an island about six miles in length. The Preserve is about a mile east of the East Fork of White River, with the tributary Guthrie Creek flowing along the north then curving back toward the river. Only a narrow isthmus a few hundred feet in width called the Devil's Backbone prevents the area from being a true island.

Buddha-Christian Cave receives water from a wet-weather sinking stream via the Buddha Cave entrance. The cave has a mapped length of 3,119 feet, consisting of a dry upper level and a lower stream passage accessible by a twenty foot pit. The cave is remarkable for its pristine condition, particularly the highly decorated stream passage. Under normal conditions exploration downstream is stopped by a stream sump, although in dry weather a through-trip can be made and exited via the Christian Cave entrance (on private property).

Several smaller caves are known on the Buddha Karst Preserve. Chase Cave is in a sinkhole west of the Buddha Cave entrance. After the entrance room the cave consists of a stream crawlway. It seems likely that Chase Cave is a disjunct piece of the Buddha-Christian Cave system and that its water enters the larger cave at some point. Another cave on the property is Chase Pit, approximately twenty feet in depth that usually requires removal of wood and other debris.

Fifty-two species were recorded during the survey of Buddha-Christian and Chase caves. Of these, thirteen were troglobitic. Three species of extreme rarity were found. Of these, Jordan's groundwater isopod (*Caecidotea jordanii*) is actually an inhabitant of non-cave groundwaters, living in the epikarst -- it was found under a ceiling drip in Chase Cave. The range of this species now spans a distance of about seventy miles from Bloomington to the Blue River basin in Crawford County. The habitat of this species is notoriously difficult to sample and the range suggests that the lack of localities is an artifact of collection. Never-the-less, it certainly remains endemic to the southcentral Indiana karst.

Two species of cave ground beetles were also found in Buddha Cave. In all likelihood the Buddha cave beetle (*Pseudanophthalmus* undescribed species) is endemic to the small karst island isolated by the East Fork of White River and Guthrie Creek. At present it is known only from the Buddha-Christian Cave, but other caves within this limited area have not been sampled. Emerson's cave beetle (*Pseudanophthalmus emersoni*) is known only from two localities spanning about 5 miles, between which again no caves have been sampled.

Robinson Ladder Cave Preserve

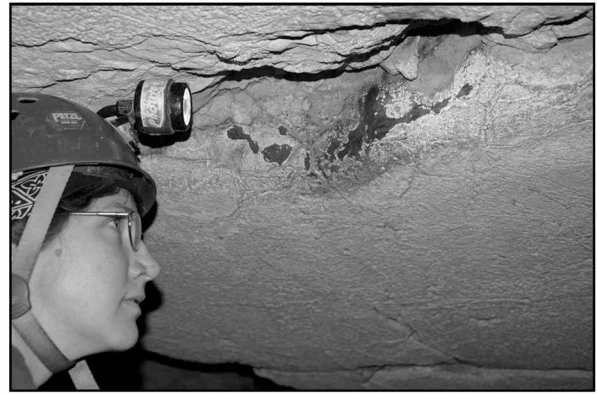
In 2006 we sampled in the Robinson Ladder Cave preserve in Crawford County. Robinson Ladder Cave has a total of 1,731 feet of mapped passages. The cave is entered by first climbing down the steeply sloping sinkhole floor, then descending a thirteen-foot drop on a flowstone wall. As the name of the

cave implies, a ladder or rope and vertical gear are typically used to enter. At the bottom of the entrance drop, a canyon passage leads downward into a room with large flowstone and drapery formations. At the far side of the room (about fifty feet from the entrance) the main passage of the cave continues about fifteen feet up on the wall. A frequent practice is to use a ladder for the entrance drop, then move it to ascend the climb-up to the passage. Water drips in from the ceiling and a tiny streamlet runs a few feet along the wall until disappearing in the breakdown.

At the top of the climb a traverse can be made to the left to an upper level alcove used by hibernating bats. The main route through the cave is entered via a crawlway at the top of the climb. Continuing beyond the entrance room, the hands and knees crawlway enlarges to a breakdown-strewn passage. This area of the cave varies from walking passage to stoopways and crawls. The passage is dry and dusty, with gypsum encrusting the walls. After about 500 feet a moister area is encountered associated with a dome-pit complex. In the main passage a formation room is present, with wet weather rimstone pools. Immediately past the formation room are two pits along the left wall. To continue past the dome-pits one must crawl through a hole in breakdown. This opens into walking passage. The passage continues as walking and crawling until a room is reached. A tight crawl of six feet leads to the terminal room. This room is ten feet in diameter with enough room to sit up.

A second smaller cave is present on the Robinson Ladder property. Known as Breakdown Falls Cave, the Indiana Cave Survey lists it as having 174 feet of surveyed passage with a vertical extent of 48 feet. At the time that it was surveyed in 1986, it was possible to traverse downward to a small waterfall. In 2006 perhaps twenty-five feet of passage was enterable. Sliding into the sinkhole entrance allowed entry to a low passage with the breakdown floor tilting downward toward the former route deeper into the cave. The passage has apparently slumped shut.

Robinson Ladder Cave is best known as a bat hibernaculum. There are usually about 400 bats roosting around the entrance room during the winter months, more or less equally divided between Indiana (*Myotis sodalis*) and Little brown (*Myotis lucifugus*) bats.




Salisa Lewis recognizing bat stains in a ceiling crack in Robinson Ladder Cave. The stains indicate prolonged use of the cave by bats.

A few Big brown bats and Pipistrelles may be added to the mix.

The cave was formerly inhabited by woodrats, as indicated by the many latrines starting in the entrance room and extending as far as the pit complex in the center of the cave. The fecal pellets are desiccated and the rich invertebrate community characteristic of woodrat latrines in extant populations was absent. The invertebrate fauna of the cave was in general commensurate with the sparse suitable habitat. Much of Robinson Ladder Cave is dry, dusty and largely unsuitable for cavernicoles other than bats. With the collapse/filling of the passage in Breakdown Falls very little habitat was available for sampling.

Overall, between both caves twenty-two kinds of invertebrates were found. Six obligate subterranean species were found: the isopod *Caecidotea stygia*, sheet-web spider *Phanetta subterranea*, Blue river cave millipede *Pseudotremia indianae*, springtails *Pseudosinella fonsa* and *Arrhopalites lewisi*, and dung fly *Spelobia tenebrarum*. This assemblage is a subset of the Blue River area fauna noted during our survey of 190 caves in the basin for The Nature Conservancy from 1996-1998. The millipede is fairly common within a narrow distribution in caves in and adjacent to the Blue River drainage. Turning over stones lying in the passage in the vicinity of the pit complex in the center of cave will usually produce one or more of these millipedes for viewing. The rarest animals found were the springtails *P. fonsa* and *A. lewisi*. *Pseudosinella fonsa* is known from caves in southern Indiana and

...continued on page 22 

TRAIL REPAIRS IN LITTLE WYANDOTTE CAVE

by Keith Dunlap

Last September, Crawford County was hit with a deluge. The resulted in a large amount of water entering Little Wyandotte Cave, a commercial cave owned by the State, but run by Gordon Smith who also is the proprietor of Marengo Cave. It is not unusual for runoff to enter Little Wyandotte since its entrance is in the bottom of a large sinkhole, but this rain event overwhelmed the cave's natural ability to drain and backed up water onto the tourist trail that had originally been constructed of clay fill. The water saturated the clay and caused a section of the trail to slump as the cave eventually drained. This nine-foot deep hole in the center of the trail caused the State to close the cave to tours approximately one month early (the concessionaire generally operates until the end of October before closing for the winter).

The task to repair the trail became the responsibility of the DNR's Engineering Section. They inspected the collapse but were uncomfortable quantifying the damage or proposing a repair method without outside consulting. They were proceeding down the path of hiring a professional consultant when it was suggested that they solicit my assistance, being a caver and licensed engineer. On December 23rd, Glenn Lemasters (another caver/engineer) and I met with Gordon Smith, Bob Sawtelle (Property Manager of O'Bannon Woods State Park), and a few other DNR staff. Inspection of the collapse from above and below (accessed from a crawl in another pit) revealed that the clay fill for the most part was set on a stable rock base. Thus, repairing the collapse could be accompanied by simply filling the void with concrete. However, it was also suggested that a vertical drain be installed that might prevent future slumping of the remaining trail should another flood event occur. It was also suggested that drainage outside the cave be made to redirect runoff from entering the cave in the first place.

I submitted my recommendation in writing several days later and suggested that the repair task could be completed by park staff as an alternative to contracting the work to an outside firm. I also indicated the IKC could also partner with the park to perform the needed work. Considering the desire to

re-open the cave for tourist on March 1st, the DNR requested the IKC to submit a proposal. This proposal was signed off on January 8th and planning started immediately. Volunteers were solicited and work dates of February 10/11th were selected. I worked with Bob Sawtelle to get material delivered and he utilized his corrections work crew to get sixty 80-lb bags of concrete and water hauled into the cave. The DNR also added extra lighting at the work area and assisted with other logistics. Gordon Smith also volunteered the use of his electric concrete mixer and several staff from Marengo to assist.

On the designated workday, IKC members John Benton, Terry Clark, Keith Dunlap, Glenn Lemasters, Bob Sergesketter, Ray Sheldon, Tom Sollman, and Jerry Walker, along with Tim Fields, Jeff Knierlen, and Gordon Smith from Marengo, got an early start. The first task was to use some



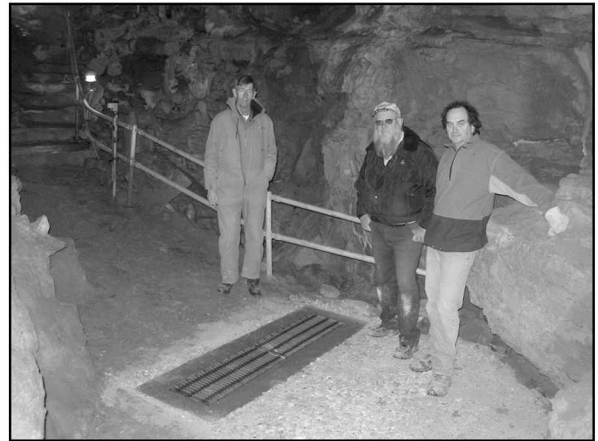
re-cycled concrete slabs and rocks to stabilize the bottom of the void. We had to assure that the collapse was "concrete-proof" such that when we started to pour, the concrete slurry would not ooze out and continue down the drain. Once that was completed, we positioned the twelve-inch diameter HDPE drain culvert and started mixing concrete. We poured the concrete in three stages, allowing time for partial setting to assure we didn't cause a "blow-out" in the bottom. When the level of concrete was approximately twelve-inches from the trail surface, we cut the vertical drain to height and installed the pre-fabricated form to create the horizontal trough and recessed shoulder for the twelve-inch wide by six-foot long stainless steel grate. We also fabricated the external form to shape the concrete skirt around the grate. Once this was done, the remaining concrete was poured. We spent the rest of the afternoon hauling in #2 crush stone in five-gallon buckets to level the portion of the trail that was not poured with concrete. After supper, Glenn, Terry, and I returned to edge and properly finish the concrete surfaces (we used evergreen branches to "broom" to an acceptable non-slip roughness).

The next day, Glenn, Terry, Bob and I finished hauling in #53 crushed stone, raking the trail surface, removing the concrete forms, and installing the grates. After a fin-

al cleanup on the work area, photos were taken and we called it a day.

This cooperative project was a win-win-win situation. The concessionaire was able to open the cave on time, the DNR got their problem fixed for much less than a typical for-profit contractor, and the IKC got to use their skills and expertise while generating funds for future cave conservation projects.

I would like to thank Bob Sawtelle, Leslie Grow (Assistant Property Manager), and Gordon Smith for all their assistance with this project.



The finished product... Three tons of concrete and another ton of rock is under the grate structure in Little Wyandotte Cave.

THERMAL IMAGING TESTS BAT CLUSTERING HYPOTHESIS

by Justin Boyles

It has long been assumed that hibernating bats form clusters for some thermal benefit. The most common and long-standing hypothesis is that clustering dampens the temperature fluctuations that individual bats experience, thereby helping them maintain body temperatures close to their preferred hibernating temperature. To test this hypothesis, Jon Storm and myself accompanied the Indiana Bat Census team during their biennial survey of caves in southern Indiana. During the survey, we photographed clusters of hibernating Indiana bats (*Myotis sodalis*) with a FLIR Systems thermal imaging camera which measures infrared radiation (see cover image). In total, we visited eight caves in south-central Indiana and took thermal images of several

hundred clusters ranging from solitary individuals to clusters of over 1000 bats in various stages of arousal. The thermal images will allow us to measure the difference between body temperature of bats and the surrounding rock. If the hypothesis is correct, larger clusters should have larger differences relative to rock temperature than do smaller clusters. The results of this research will further our understanding of the ecology of hibernating bats and will be helpful in determining the appropriate hibernating conditions for Indiana bats, thereby aiding in conservation and management decisions.

Justin is a graduate student in the Department of Ecology and Organismal Biology at Indiana State University, Terre Haute.

SULLIVAN CAVE - CLASSIFIED FOREST INSPECTION REPORT

by Keith Dunlap / Justin Schmal

Every five years properties enrolled in the Classified Forest Program are inspected by the DNR District Forester (or designated assistant). The inspection of the Sullivan Cave property was performed in August, 2006 and their report promptly forwarded. Excerpts from the report are as follows:

"This tract is well-stocked, with a few areas being overstocked. There are many large yellow popular, American beech, and oak trees throughout the tract. There are lot of oak and hickory regeneration in the understory. There are a lot of large red oaks in the south edge of the tract. The understory in the south edge is very open. Seedlings planted in the south field are showing stress from deer browse."

"Species present on the tract include sugar maple, red maple, white oak, chinkapin oak, black oak, red oak, scarlet oak, sassafras, sycamore, white ash, shagbark hickory, bitternut hickory, black cherry, persimmon, blue beech, ironwood, American beech, yellow popular, black walnut, redbud, dogwood, spicebush, paw paw, and bloodroot."

"Timber Stand Improvement work has been done in regards to cutting grapevines. There is a small amount of wind damage on the tract. Erosion has been controlled on the northeast corner of the tract by the construction of a path to Sullivan Cave."

The only recommendation made was to repost the missing Classified Forests signs on the borders of the property.

GRAPEVINE ERADICATION

by Keith Dunlap / Janet Eger

Over the past six years, the IKC has acquired a number of cave properties. In addition to being good stewards for the caves, we have also put a lot of effort into properly managing the surface resources. This includes improving our forested areas using Timber Stand Improvements as outlined under the Indiana DNR's Classified Forest Program.

One of the simplest improvements that can be undertaken is the eradication of grapevines. Grapevines are the most detrimental plants growing in Indiana woods. These vines compete with trees for sunlight and water, and due to their habit of heading toward the crowns of trees, they add considerable weight to the tree tops. Species such as yellow poplar have brittle tops that cannot tolerate the additional weight of the grapevines, especially during periods of heavy wet snows or high winds.

Grapevines also tend to grow on good sites such as north and east slopes, or in well-drained bottom lands. These sites are also where some of the most valuable timber species grow such as black walnut, white ash, yellow poplar, and sugar maple. Besides the added weight in the crowns of the

trees, the leaves of the grapevines compete for sunlight with the host tree. Sunlight is converted by plants into food, and thus energy for the plant to grow and thrive. When a tree is deprived of this energy, it will grow slower, be more subject to insect and disease attacks, and in severe cases, may actually die.

Deadening grapevines can make immediate improvements in the woods. Vines should be cut within 12 inches of where they emerge from the ground, and if an herbicide is applied, the tops and roots will be killed. Without herbicide, the tops will die, but sprouting may occur.

Grapevines do provide a source of food and nesting material for wildlife. To help balance the needs of the trees and wildlife, grapevines can be left along the edges of the woods. In addition, a few vines can be left in cull trees in the middle of the woods as long as they are not encroaching over into good trees where they will cause damage.

The IKC has pretty much covered the Sullivan property and has started at the Robinson Ladder property. The Wayne and Buddha properties need attention too as time permits.

INDIANA KARST CONSERVANCY TREASURY REPORT

Income/Expense Statement From Oct 1, 2006 to December 31, 2006

INCOME:

Dues Apportionment and Residuals	693.75	
Donations - General	749.37	
Donations - RLCP / Land Acquisition Fund	1755.00	
Interest	868.71	
		\$4,066.83

EXPENSES:

IKC Update (printing, production, mailing)	165.06	
Stewardship/Conservation	371.05	
Education / Outreach	1250.00	
Business (Insurance, PO Box rental, etc)	777.00	
Transfers to/from restricted funds/other adjustments	2061.87	
		(\$4,624.98)

NET OPERATING EXCESS (DEFICIT) THIS PERIOD: (\$558.15)

Balance Sheet December 31, 2006

ASSETS:

Cash in Checking / Saving Accounts / CDs	79408.88	
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)	13.16	
		<u>\$337,422.04</u>

LIABILITIES & OPERATING EXCESS:

Land Acquisition Restricted Fund	29550.80
Deferred Dues Restricted Fund (179 members)	2471.25
Stewardship Endowment Restricted Fund	25004.47

Previous Operating Excess	22953.67
Net Excess (Deficit) This Period	<u>(558.15)</u>
Current Operating Excess (unrestricted funds)	22395.52
Real estate liquidity (basis value)	<u>258000.00</u>

Total Liabilities & Operating Excess \$337,422.04

IKC QUARTERLY BOARD MEETING MINUTES

Saturday, December 2, 2006 -- Indianapolis, Indiana

BOARD MEMBERS PRESENT:

Richard Vernier, President
Bob Sergesketter, Secretary
Keith Dunlap, Treasurer
Dave Haun
Don Ingle
Jerry Lewis
Kriste Lindberg
Steve Lockwood
Nick Noe
Bruce Silvers
Tom Sollman
Bill Tozer (proxy by Kathy Welling)
Bob Vandeventer
Sue Vernier
Jamie Winner

BOARD MEMBERS ABSENT:

None

The meeting was called to order at 10:30 AM at the home of Nick and Carita Noe in Indianapolis, President Richard Vernier presiding. Kathy Welling was accepted as proxy for Bill Tozer. The minutes from the previous meeting were approved as published in the December 2006 *IKC Update*.

Treasurer Dunlap reported net cash assets of \$78,169 and land holdings worth \$258,000, so we have total assets of \$336,169. The cash assets consist of \$22,151 in the General Fund, \$24,902 in the Stewardship Fund, \$2,940 in the Deferred Dues Fund, and \$28,176 in the Land Acquisition Fund. A detailed Treasury Report may be found in the *IKC Update*.

Dunlap reported that we have 179 paid members which is about the same as last year. He is going to drop sixteen people who have not renewed.

Robinson Ladder Cave Preserve

Property Manager John Benton was not present to give a report. There has been no activity on property restoration. The boundary survey is complete and concrete corner posts have been set as well as many intermittent posts around the perimeter. The driveway to the upper field is in good shape for now.

Education and Outreach Report

Lindberg reported that Bender Lumber has donated material for a "portable cave" to be used in some of her presentations. Vandeventer described the construction techniques of building portable caves.

Lindberg said that she continues to receive requests to give presentations around the state. She said that Indiana University Press has recently published a book on Indiana Nature Preserves and they are interested in possibly publishing one on Indiana caves. They have approached her for input. Vernier said

this is worth pursuing and that it could fit in with the Cave Biota Video which is nearing completion.

There will be an Education and Outreach Report in the *IKC Update*.

HASTI Conference

Noe reported that the IKC will be an exhibitor at the Hoosier Association of Science Teachers Incorporated, convention at the Indianapolis Convention Center on February 7-9, 2007. We will have a booth, manned by Noe, but as of now, we will not be making any other presentation. Noe said that it's not too late to come up with a presentation, but the booth exhibit will receive a lot of attention.

Cave Biota Video

Lindberg reported that a possible Environmental Protection Agency Education Grant in the amount of \$50,000 is being applied for. The money would be used to develop a teaching guide to be used in conjunction with the Cave Biota video. If the grant were to be approved, it would have to be issued to a non-profit organization. Lindberg asked if the IKC would agree to act as administrator for the grant. After some discussion Noe made a motion that the IKC apply to serve as fiscal agent to administer the EPA Education Grant. The motion was seconded by Haun and passed 15-0-0.

Dave McGowan of Ravenswood Media, producer of the Cave Biota video was present and he said that the video will be finished by the middle of February. Right now he is trying to raise money to secure original music for the program. He has a composer lined up but he needs funding. Dunlap said that because of the potential benefits of this video, he would support the IKC putting some more money into the project. Dunlap made a motion to fund \$1,000 towards the production expenses of professional music for the Cave Biota video. Welling seconded and more discussion followed. Welling asked McGowan what he thought the music project would cost. He said that he thought it would take \$2,000 to \$3,000 with most of the expense going to recording studio time. He said that he will pursue additional funding but if none is forthcoming, he will get the best music possible for the money he has. Lindberg suggested asking The Nature Conservancy and maybe the Hoosier National Forest. Cindy Sandeno of the HNF said that their funds are very limited and asked if we could bump up the IKC funding a little more. There was no response and the vote was taken. The motion to fund \$1,000 passed 15-0-0.

I69/Indiana Bat

Noe reported that a suit has been filed by the Hoosier Environmental Council and that the Environmental Law and Policy Center in Chicago is in-

volved. He said that it is very early in the process and that he will keep us informed as to how the suit is going.

The effort to have the Indiana Bat officially designated as the State Bat of Indiana continues. The deadline for bill introduction for the next legislative session is December 15.

2007 NSS Convention

We discussed promotional items, particularly name badge lanyards, that we might be able to use to generate a little income during the 2007 NSS Convention. Welling brought some catalogs of various items and passed the books around. It soon became apparent that a decent lanyard would cost us a little over two dollars. We would have to sell it for three dollars and everyone thought that would be too much. There was more discussion of various promotional products but no action was taken. We will discuss the subject again at the next meeting.

Dunlap asked if it would be appropriate to give a copy of the Cave Biota video to each convention registrant. It would probably take 1,000 to 1,200 copies. There was much discussion. McGowan questioned why we would just give hundreds of copies away. Dunlap said that he thought the whole idea of the video was to educate people, however he agreed that it might be better to distribute the video at a place other than registration. He and others thought that it would be better to distribute the video to people who have a genuine interest in the subject rather than have it thrown in with the rest of the registration material. Welling said that our booth in the school would be a good distribution point. Everyone thought that was a good idea.

Cindy Sandeno said that the HNF would want a quantity of the video also.

No action was taken. It will probably be discussed further at the next meeting.

Vandeventer said that we need to be thinking about setting up a schedule of volunteers to man the IKC booth. It will be set up in the school along with the Hoosier National Forest booth. Richard Vernier will be the contact person for the IKC booth and Cindy Sandeno will be the contact person for the HNF booth.

Jeff Cody asked about led trips at the convention. He was informed that Ron Adams is coordinating led trips.

Wayne Cave Preserve

Property Manager Robert Sollman gave a brief report. He said that not much is happening at the property.

Buddha Cave Preserve

Dunlap reported that 500 trees have been ordered for planting in the spring. He said that he heard that the Dogwood City Grotto is looking for requests for small grants and so he is going to turn in a re-

quest for a \$250 grant to help with the trees at Buddha. The deadline for turning in the request is December 15.

Buddha Cave Patron Jeff Cody reported that visitation at the cave has been very light.

Sullivan Cave Preserve

Property Manager Dunlap reported that no action has been taken on the outhouse project or on the campground leveling. He said that the plant that is spreading in the camping area has been identified as smartweed. Lewis said that it is a very prolific reseed.

Sullivan Cave Patron Vandeventer reported that visitation has been heavy but there have been no problems.

Orangeville Rise

Dunlap and Lockwood will be reattaching the plaque to the stone monument soon.

Beck's Mill

Ingle said that there is not much to report. He intends to go to the next meeting of "Friends of Beck's Mill". They now have a newsletter called *The Grindstone*. Ingle asked what he's supposed to be doing other than just observe. Vernier said that's it. Just keep an eye on things and get a copy of their management plan if possible. Ingle said that he doesn't think that they are planning to do anything to the cave. They just want to restore the building. He has tried to point them towards applying for some funding grants but he doesn't think they have taken any steps in that direction.

Items From The Floor

Lewis presented a copy of his report, *The Subterranean Fauna of the Robinson Ladder Cave Preserve*. He intends to do a similar study for all of the IKC owned caves. He wants to work in Sullivan Cave next and so he made a motion to allow himself to begin the project. The motion was seconded by Vandeventer and it passed 14-0 with one abstention.

Vandeventer said that we need to get the word out about the study and let cave visitors know that they are not to disturb or remove any equipment left in the cave while the study is in progress.

Dunlap moved that we renew our membership in the Hoosier Environmental Council at the \$100 level, seconded by Ingle. The motion passed 14-0 with one abstention.

Dave McGowan said that visits to the Cave Biota website have been slowly increasing. We should keep getting the word out about the website in order to drum up interest in the video.

Next Meeting

The next meeting will be on Sunday, February 11,

2007, at Kriste Lindberg's home in Bloomington [*this was later changed to Saturday, February 3, 2007*]. The meeting will start at 1:00 PM Eastern Standard Time.

The annual membership meeting will be on Saturday, March 24, 2007 at the Decatur Branch of the Marion County Public Library [*this was later changed to the White River Public Library in Greenwood on the same date*]. The meeting will begin at 11:00 AM.

Election of all three officers and four Board members takes place at the March Annual Membership Meeting.

The meeting was adjourned at 1:39 PM.

Thanks to Nick and Carita Noe for hosting the meeting and providing refreshments.

Respectfully submitted, Bob Sergesketter, Secretary

IKC FEBRUARY BOARD MEETING MINUTES

Saturday, February 3, 2007 -- Bloomington, Indiana

BOARD MEMBERS PRESENT:

Richard Vernier, President
 Bob Sergesketter, Secretary
 Keith Dunlap, Treasurer
 Dave Haun
 Don Ingle
 Jerry Lewis
 Kriste Lindberg
 Nick Noe
 Bruce Silvers
 Tom Sollman
 Bill Tozer (proxy by Karen Tadsen)
 Bob Vandeventer
 Sue Vernier
 Jamie Winner

BOARD MEMBERS ABSENT:

Steve Lockwood

The meeting was called to order at 1:19 PM at the home of Kriste Lindberg in Bloomington, President Richard Vernier presiding. Karen Tadsen was accepted as proxy for Bill Tozer. The minutes of the December 2006 meeting have not yet been published so they could not be approved.

Treasurer Dunlap reported a cash balance of \$79,992.23. Land Holdings amount to \$258,000. Total IKC assets stand at \$337,992.23. IKC membership stands at 182. Sixteen people have been dropped because of non payment of dues. There is a complete and detailed Treasury Report in the *IKC Update*.

Nominations

Election of the three officers and one third of the Board members will take place at the March business meeting. Nominations are being sought for President, Treasurer, and Secretary which are one year terms. Five Director positions are also up for election, four for three year terms and one to finish out Bill Tozer's term which has one year left. Vernier, Dunlap, and Sergesketter agreed to run for re-election to the posts of President, Treasurer, and Secretary respectively. Directors whose terms are up are Ingle, Lockwood, Noe, and Winner. Ingle, Noe, and Winner all agreed to run for re-election.

Dunlap said that Jim Adams told him that he would run for a Director position. Lockwood was not present and it is unclear if he intends to run for re-election. Vernier said that he thinks he will. Dunlap moved to accept the ballot as described, contingent on Lockwood accepting the nomination. The motion was seconded by Ingle and passed 14-0-0. In the election for Director, the four candidates getting the most votes will get the three year terms. The fifth place winner will finish out the one year remaining on Bill Tozer's term.

Education and Outreach

Lindberg reported that all is going well in the Education and Outreach area. Just this morning she and Vandeventer presented a program based on Project Underground for the public through Bloomington Parks and Recreation. The 37 foot "inflatable cave" is often used and she said that it is a real hit with the people who attend. Lindberg reported that she recently presented a Project Underground workshop for the state. There were 21 teachers as well as other formal and informal educators taking part. She said it went over really well and now Indianapolis Parks wants to do one too.

She will be doing some sessions at the upcoming NSS Convention and is working on an article for the March *NSS News*. Vernier gave Lindberg an adaptation of an article about the history of the IKC that he prepared for the 2007 NSS Convention Guidebook thinking that she may be able to use it in her presentations.

The Hoosier Association of Science Teachers Incorporated, (HASTI), conference is February 7-9 at the Indianapolis Convention Center. The IKC will have a booth and Nick Noe will be staffing it. He said that he will need a lot of handouts and there was discussion of what handouts we can get. Suggestions included NSS and IKC membership brochures, the Sinkhole flyer, and information on the cave biota video. Bat information would also be needed.

Dunlap reported receiving information about the sixth annual "Bat Festival" to be held at Dobb's

Park in Terre Haute on August 11. The event, said to possibly attract 2,000 people, has been held in other cities in the Great Lakes area but Dunlap didn't think it had ever been held in Terre Haute before. What exactly happens at a Bat Festival is unclear at this time and our degree of involvement is also up for discussion but that discussion will take place at a future meeting. Vernier thought that we should have our booth set up and the cave biota video could surely be used somehow. The inflatable cave, some sort of Project Underground activity, and maybe the NSS Convention "mascot bat" were also mentioned.

Cave Biota Video

Vernier reported that the Environmental Protection Agency Education Grant that was being pursued to fund the development of a teaching guide to be used with the cave biota video is dead, at least for now. The EPA Educational Grants were not funded and the application deadline has passed anyway so the earliest anything could happen is next year.

The premier of the cave biota video will be March 23, 2007, at the Buskirk-Chumley Theater in Bloomington. The activities will begin at 5:00 PM, EDT.

I69/Indiana Bat

Noe reported that he has talked to the attorney who is handling the litigation and he seems to be taking his time so there is nothing new to report other than he said that Noe wouldn't be asked to say anything regarding the Indiana bat. He would be asked to give a more general testimony regarding the impact that the highway would have on cave life.

Vernier said that he talked to Thomas Cervone of Bernardin Lochmueller and Associates expressing our concerns about the urban sprawl that will be accompanying the highway. Cervone said that they were trying to keep sprawl to a minimum by having fewer interchanges but Vernier doesn't think that will prevent it. He said that Cervone assured him that mitigating actions are being taken but Vernier isn't confident that anything will really be done. For now, there isn't a lot we can do except monitor the situation and continue to express our concerns. Dunlap said that the question now is will the highway be a freeway or a toll road. Either way, it's going to be built but in his opinion, a toll road might be preferable because no one would use it and thus it would have less secondary impact.

Noe reported that the State bat legislation is moving forward very slowly. He said that it is in write up now and he has given them copies of the legislation used in Texas, Oklahoma, and Virginia. They will draft something and attach it to another bill. Dunlap said that it is assigned a Senate Bill, number 473. He said that it is the only thing on that bill and it is basically this one sentence. The bat commonly known as the Indiana Bat, *Myotis sodalis*, is hereby adopted as the Official Bat of the State of Indiana. The bill is assigned to the Rules and Legislation Committee. State Senator Richard Young, who introduced the bill, is on that commit-

tee. The future of the bill may now depend on how it gets pushed and that depends on how much interest is shown by constituents. Noe has volunteered to write a letter on behalf of the IKC and everyone is urged to write their own letter as well. This needs to be done very soon because all bills must be in third reading by February 28.

2007 NSS Convention

Caver access to IKC owned and managed caves during the convention was discussed. Vernier said that he talked to John Benton, Cave Patron and Property Manager for Robinson Ladder Cave, and he thinks it would be an appropriate convention cave but we probably don't want hordes of people stomping through it. Sue Vernier said that the fact that it has a vertical entrance may reduce traffic somewhat which lead to a discussion of whether or not we will rig ladders in advance and leave them in place all week. Dunlap thought that we need to have ladders in place at the entrance and at the climb up in the cave. Vernier agreed that having ladders in place would probably lessen the impact to the cave although it might also result in increased visitation and maybe a greater exposure to liability. Vandeventer suggested having only sign up/led trips throughout the week. Dunlap said that he didn't think it would be a problem to have open visitation as long as everyone signed release forms. Vernier said that we probably should have someone check the cave and the ladders every day. Dunlap volunteered ladders for the week.

Vernier asked about Sullivan Cave. Vandeventer, Cave Patron for Sullivan Cave, said that we'll certainly have to feature it. The cave has a lot of history and even though it is fairly distant from the convention site, it will be a popular destination. Dunlap thought that Sullivan Cave should be limited to one trip a day and have the party check out the key. People would have to sign up for the trip but it wouldn't necessarily have to be a led trip. He said that Dave Everton has volunteered to lead a couple of trips to Sullivan if there is a demand. There may be some trips to Sullivan during pre-convention.

Vernier asked about Wayne Cave. Dunlap thought that key checkout and signing a release form would work for Wayne Cave too.

Noe asked about Buddha Cave. Vernier pointed out that Buddha Cave is a little more hazardous and wondered how we want to handle trips. Do we want to rig it with a rope or a cable ladder in advance? Vandeventer said that we need to point out in the cave description that Buddha is hazardous and is a serious vertical cave. Vernier said that we need to get Jeff Cody's input on Buddha Cave. Dunlap said that there will be details about each cave including special hazards and also information about things like parking at the cave kiosk at the convention.

IKC promotional items were briefly discussed. Kathy Welling was doing some research into that but she was not present to give a report. Dunlap

said that we should order another round of IKC hats. We can sell them through Consignment Sales at the convention so we won't have to set up as a vendor. The last time we ordered hats, we got four dozen and they lasted two or three years. Sollman said that he will check on prices. Dunlap thought that we may want five or six dozen this time in case we sell a bunch of them at the convention. Vernier confirmed that he is still in charge of the IKC display at the school during the convention.

Buddha Karst Nature Preserve Tree Planting

Dunlap said that 500 trees have been ordered and April 14 is the planned tree planting day. Work will commence at 10:00 AM, EDT.

Orangeville Rise

Dunlap reported that the plaque has been repaired and given back to Lockwood for reattachment to the concrete monument.

Robinson Ladder Cave Preserve

Vernier asked Winner if he is willing to help John Benton plan, prepare, and carry out the burn plan for the property. Winner said he will. He said that he has done some research but more is needed. He said the first thing that must be done is to file a variance and that must be done sixty days before the proposed burn date. The names of all adjacent property owners must be obtained and included with the variance. A burn plan must also be filed with the state. The state will then notify the property owners of our intentions to have a controlled burn on our property. Winner said that actually writing the burn plan is not a problem. Vernier suggested to Winner that he may want to talk to Allen Pursell of The Nature Conservancy and get his input. Winner said that he has talked to Mark Bennett, Wildlife Biologist with the Indiana Department of Natural Resources, about the proposed burn. Winner said that a big concern is who actually does the burn. Last year the DNR Fire Headquarters said that as long as there was somebody to fill out the burn plan, they could probably come out and do the burn. He doesn't know if that offer is still on the table but he can ask. Sue Vernier said that TNC needs to take the lead on this because they have the expertise. Winner said that the paperwork for this is easy enough to figure out but determining the best day to do it and actually doing the burn requires someone with the manpower and knowledge to do it safely. Fire Headquarters certainly could handle it but we're not sure that they would. Vernier said that if we left it to TNC they would have to contract the job out to someone. Winner said that there are liability concerns that he doesn't know how to address. What if it gets out of control and gets onto a adjoining landowner's property? Do we need additional liability insurance? He talked to a person from Stewart Turner Forestry Consultants, a company that could conduct a prescribed burn, and the cost estimate was in the \$2,000 range. Winner thought that price was excessive but Lewis said that, when you consider what is

required for a job like this, it sounds like a bargain. He said that he has seen some real disasters with multi million dollar lawsuits. He said that when you start burning your property, you're getting into the big time. Vernier said that whether we do it ourselves or contract it out, we must keep in mind that the property is enrolled in the Wildlife Habitat Improvement Program which will provide funding to do this. They would pay for 75% of the cost. We would have to contribute 25% of the cost and at one time, TNC offered to pick up some or all of the 25%. If we were to have to pay \$2,000 or whatever, we could probably get most of that money from outside sources. He asked Winner to discuss the situation with Pursell and see what can be worked out. Winner said that he will try to get something going on this and he will keep Benton up to date on the proceedings.

Vernier reported that John Benton got a price quote for gravel for the lane that goes to the upper field. The price per ton of #53 stone would be \$8.30, delivered and spread. They estimated that it would take three 20 ton truckloads to do 500 feet of drive, ten feet wide and three inches thick. The total cost would be \$498. The quote was from the Robertson Quarry which is the closest to the property and they require a two to three working day lead time. Dunlap said we need to act on this quickly while the ground is frozen because if we miss this opportunity it will probably be next summer before it is dry enough to get a rock truck in there without tearing everything up. He thinks we ought to get four loads instead of three and said we'll probably have to put some more down next year. Dunlap moved that we authorize John Benton to order four truckloads of #53 stone to be delivered and spread, total cost not to exceed \$700, contingent on the ground remaining frozen. Sue Vernier seconded. The motion passed 14-0-0. Dunlap will inform Benton. Winner will remove the lock on the property entrance gate.

Dunlap announced that Under Earth Day will be observed by holding a workday at the Robinson Ladder property. The date will be April 21 and work will start at 10:00 AM, EDT. Scheduled activities will be grapevine eradication and debris removal including the destruction and removal of an abandoned truck bed camper that sits on TNC property just north of our property. TNC will provide a dump trailer to haul the junk away.

Lindberg said that TNC is having their annual open house the same day at O'Bannon Woods and we usually have an information stand set up. She will be unavailable that day. Vernier said that he and Sue can set up the display in the morning and still attend the workday. If someone wants to spend the day at the open house they are welcome to do so. The annual Indiana Cave Symposium will be held that evening in Milltown. The traditional pitch in meal will be served followed by the presentations.

Sullivan Cave Preserve

Dunlap reported that he has been busy with convention stuff therefore there is no outhouse, no camp-

ground leveling, and nothing has been done regarding weed control in the grassy area. The campground leveling will have to wait for drier conditions and as for the invasive weed, we'll wait and see what comes up in the spring.

Wayne Cave Preserve

Property Manager Robert Sollman was not present. Tom Sollman reported that everything looks good at the property. He wants to get a few of the trees that were ordered for the Buddha property to plant in the clearing. He said that the big pile of stumps and brush that was in the middle of the clearing is about gone. There is still some metal debris including the old culvert that needs to be hauled off sometime. Lindberg said that she might be able to get a dumpster for the metal for free. She said that if we find that new trash has been dumped there, the county will come out and pick it up free of charge.

Beck's Mill

Ingle said that he was unable to attend the January meeting of the Friends of Beck's Mill so he has nothing to report. He recommended that the subject be dropped from future agendas and if he has anything to report, he will bring it up under Items from the Floor. Vernier agreed.

Financial Support for SMSP Expansion

Dunlap reported that there is a forty-acre tract of land just north of Spring Mill State Park that lies over Whistling Cave. Two or three years ago the owner wanted to sell and John and Susan Bassett looked at it but decided that he wanted too much money. They tried to get state parks and TNC to buy it but it never worked out. The story then started that the owner was getting serious about subdividing the property into six or seven tracts and putting in some modular homes. True or not, the Bassetts took it seriously and purchased the property with the intention of eventually selling it to the state. The state is now interested in buying the land and will probably use Indiana Heritage Trust money to fund at least part of the purchase which would then become part of Spring Mill State Park. IHT requires, or at least favors, partners. TNC is willing to partner with the state and TNC is asking us if we would also partner with them. In other words, a financial commitment from the IKC. Dunlap told Les Zimmer of TNC that the IKC is scraping for money as it is. Zimmer asked if we could put in a token amount so that when they go to IHT, the IKC can be listed as part of the financial package. Lewis asked how much is a token amount? Dunlap said that they didn't discuss a figure but that he was making a motion to take \$1,000 out of the General Fund for this purpose. Sue Vernier seconded. Lewis wondered if \$1,000 would even show on the radar. Dunlap replied that when they go to IHT, they look at the number of partners more than at the dollar amounts. Lewis asked about the total amount needed. Dunlap said that the original owner was asking \$6,000 an acre which he thought was way too much. He thinks that it is now considerably

less than the initial asking price but he doesn't know what it is. IHT will be springing for most of it and TNC will also put in a significant amount. Dunlap pointed out that it is a very important piece of land situated as it is right over a cave system. Vernier said he thinks it's a good idea and we should support them. He thought that \$1,000 was a good number. Dunlap asked if the money should come from the General Fund as he proposed or from the Land Acquisition Fund. Sollman said that money in our Land Acquisition Fund should be used for acquiring land for the IKC. Vernier agreed saying that we should treat this as a contribution to a TNC project. Dunlap clarified the language of the original motion. The motion is; Dunlap moves to commit \$1,000 from the General Fund for the purchase of the forty acre tract of land north of Spring Mill State Park. The motion was seconded by Sue Vernier. With that wording, we won't be writing a check until the deal actually occurs. The motion passed 14-0-0.

Little Wyandotte Work Project

Dunlap reported that last September, a big rain caused a heavy inflow of water into Little Wyandotte Cave. The flood washed out part of the tour trail in the cave. A deep hole is now right next to what's left of the trail. The Department of Natural Resources had pondered for three months on how to fix it and the cave is supposed to re-open on March 1. Hank Huffman suggested that Dunlap consult on it so he looked at the situation in December and recommended installing a drain and filling the rest of the void with concrete. The DNR agreed and so Dunlap put in a bid on behalf of the IKC to do the job. The job will be done on the weekend of February 10-11 and, if necessary, February 17-18. The job will require five or six volunteers.

Land Acquisition Activities

Several future land acquisition possibilities were discussed but none were deemed to be feasible at this time.

Items From The Floor

Vernier reported that he and Sue are friends with the manager of the Patoka River National Wildlife Refuge and he recently got a call from the manager who told him that their budget has been frozen since 2004. Meanwhile, expenses rise due to inflation and other various factors. As a result of this, they have received a directive announcing that all personnel will be taking a 20% pay cut. Vernier said that this is going on nationwide but it's being rolled out one region at a time. In regions where this has already taken place, the results have been cutbacks in services, elimination of educational activities, shorter hours or closing of visitor centers, and possibly some areas closed to the public due to lack of staff. Vernier said that the particular focus of the IKC in this matter is the impact to the Muscatatuck and Big Oaks National Wildlife Refuges because they contain karst features. He read a portion of a letter he is drafting to be sent to the United States Fish and Wildlife Service requesting adequate funding be restored to the refuges. He is seeking input from the

Board on what points to bring up in the letter. Lewis offered some suggestions. This letter will be sent on behalf of the IKC to several legislators as well as to the U. S. Fish and Wildlife Service. IKC members are encouraged to write to their own representatives and request that funding be restored and increased.

Vernier also reported that the Indiana Heritage Trust is funded by the sale of the Heritage Trust specialty license plate and also by an appropriation of a certain amount by the legislature. Typically about half comes from plate sales and half is appropriated but in the last session there were no funds appropriated so the Heritage Trust must operate strictly on what is made from the sale of the specialty license plates. In the current two-year budget cycle, Governor Daniels has proposed a \$6,000,000 appropriation for the Heritage Trust. Vernier encouraged everyone to ask their representative to support the Governor's proposed appropriation for the Indiana Heritage Trust and reminded us that IHT money was used to buy the Buddha Karst Preserve. Noe reminded everyone that a donation to the Indiana Heritage Trust can be made on the Indiana state income tax return.

Dunlap said that we usually split the cost of the meat that is served at the pitch-in cook-out at the Indiana Cave Symposium with the Indiana Cave

Survey. He moved to spend up to \$60.00 for half the cost of the meat, seconded by Ingle. The motion passed 14-0-0.

Lindberg mentioned that Dave McGowan has recently been talking with TNC about doing a project on barrens and she was wondering if the Robinson Ladder property is officially a barrens landscape. Vernier said that it is not although we once thought that it might become one. According to the WHIP guidelines and the State Biologist's recommendations, it will be managed more as a savannah.

Vernier said that we need an election teller for the next meeting. Dunlap will ask Tom Rea to do it.

The next meeting will be March 24, 2007 at the White River Public Library which is located at the intersection of State Road 135 and Smith Valley Road in Greenwood, not at the Marion County Decatur Branch as originally planned. The meeting will begin at 11:00 AM, EDT.

The meeting was adjourned at 4:00 PM.

Thanks to Kriste Lindberg for hosting the meeting and providing refreshments.

Respectfully submitted, Bob Sergesketter, Secretary

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During the NSS CON 2007, we will have a day of education on Thursday, July 26th. It will start out with a Project Underground workshop to be followed by the annual Project Underground board meeting and then the Education Division meeting. Educational posters will be displayed in the school throughout the week. I would imagine we will have the "cave" there, as well.

On August 11th, the 6th Annual Great Lakes Bat Festival takes place at Indiana State University in Terre Haute. The "cave" will make an appearance there, as well. As you can see, we have a full spring and summer ahead of us!

What we are doing is working. Word of

karst conservation is getting out... More and more people are requesting our help, advice, involvement and looking for workshops and presentations. We are now in need of more people to assist with the demands. Therefore, I am in the process of forming a steering committee to craft a plan to train more people to help with the increased work load - the more of us that are out there pitching in on the effort, the better. I will be traveling to Washington DC in the near future to take part in a two-day Project Underground facilitator training and talk with them and others who have been through this process.

In the meantime, if you would like to help with any of the above, please contact me at (812) 339-7210 or lindberg@kiva.net

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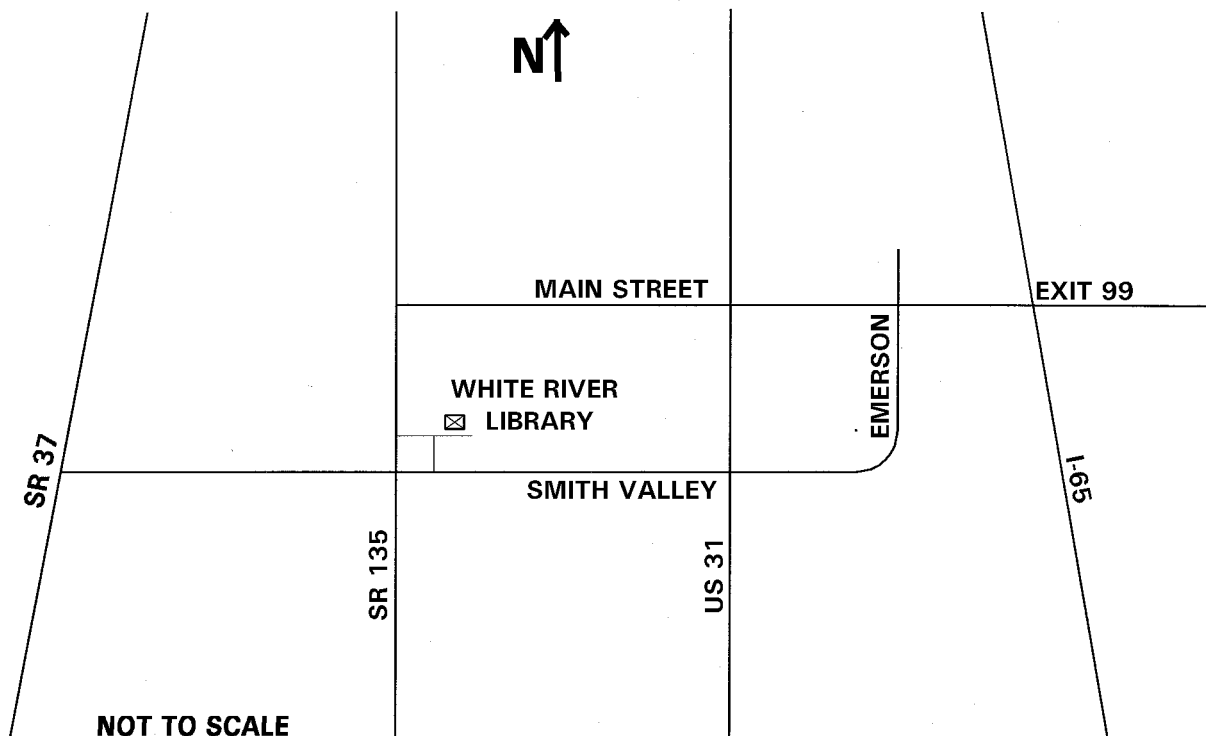
Ohio. Similarly, *A. lewisi* is reported from caves in southern Indiana and Illinois.

The Future

In 2007 we will be sampling in Sullivan

Cave, Lawrence County. Funding for the work in these three IKC properties has been generously provided by the Indiana Department of Natural Resources, Division of Nature Preserves, administered by Cloyce Hedge.

IKC ANNUAL BUSINESS MEETING
SATURDAY, MARCH 24th, 11 AM
WHITE RIVER PUBLIC LIBRARY, GREENWOOD, INDIANA



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.

