

IKC UPDATE

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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: Eversole Cave (Lawrence County) in flood.

Photo by James Adams (circa 1994).

Newsletter staff: Keith & Bambi Dunlap



ANNUAL BUSINESS MEETING

SATURDAY, MARCH 24th, 10 AM

GREENWOOD, INDIANA

WHITE RIVER LIBRARY

The annual business meeting is for the explicit purpose of elections. It is also 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 meetings are informal, and everyone is encouraged to attend and participate. The IKC Board *wants* your input.

Preliminary Agenda Items: Elections; Brief recaps of last quarter's activities; Patron/Steward annual reports; Under-Earth Day at Sullivan/tree planting; DNR abandoned mine gate project for 2001; Land Acquisition Committee activities, HNF inventorying project; and more....

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

ACTIVITIES CALENDAR

- 24 MAR = IKC ANNUAL BUSINESS MEETING, Greenwood (see above)
- 30/31 MAR = INDIANA BAT SYMPOSIUM, Lexington KY (see page 5)
- 31 MAR = LOST RIVER TOUR, Orleans (see page 4)
- 07/08 APR = UNDER-EARTH DAY/SULLIVAN TREE PLANTING, Springville (see page 7)
- 21 APR = HNF FIELD WORK DAY (morning), contact Kriste Lindberg
- 21 APR = INDIANA CAVE SYMPOSIUM (evening), Taylorsville (see page 12)
- 28 APR = EARTH DAY INDIANA, Indianapolis (see page 5)
- 05 MAY = TAKE PRIDE IN AMERICA (HNF), contact Kriste Lindberg (see page 5)
- 12/13 MAY = DNR ABANDONED MINE GATING, Parke/Vermillion County (see page 8)
- 19 MAY = HNF COMMITTEE MEETING/FIELD DAY, contact Kriste Lindberg
- 19 MAY = EARTHFEST, Bloomington, contact Kriste Lindberg (see page 5)
- 02 JUN = LOST RIVER TOUR, Orleans (see page 4)
- 16 JUN = HNF FIELD WORK DAY, contact Kriste Lindberg
- 23/24 JUN = DNR ABANDONED MINE GATING, Parke/Vermillion County (see page 8)
- 14 JUL = HNF COMMITTEE MEETING/FIELD DAY, contact Kriste Lindberg
- 16-19 OCT = NATIONAL CAVE & KARST MANAGEMENT SYMPOSIUM (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...

Two thousand was quite a year for the IKC and our accomplishments have been many.

Just to mention a few -- besides the yearly Indiana Cave Symposium we do in conjunction with the Indiana Cave Survey, we signed the papers for the transfer of the conservation easement at the Sinks of Indian Creek from The Nature Conservancy to us. We removed the old trailer and planted hundreds of new trees on our Sullivan Cave property as part of enrolling it in the state's Classified Forest program as well as received yet another IPALCO Golden Eagle grant for our efforts. A new sign was put up announcing our ownership at the Orangeville Rise. Other activities involved erecting a few new bat gates for the IDNR, as well as putting the finishing touches on Leonard Springs Nature Park in Bloomington. Progress was made with the Hoosier National Forest project involving inventorying cave and karst features. We received an NSS website award and an NSS Conservation Committee grant to purchase a karst/groundwater model to strengthen our education and outreach initiatives around the state and country.

Things are going so well with our education and outreach efforts that we have formed an Education and Outreach Committee. I will be chairing the committee and have had several IKC directors and members offer to help, including Bambi Dunlap, Don Ingle, Bill Tozer, Bob Vandeventer, and Kathy Welling. Agencies, schools, and individuals around the

state have been looking us up for help in teaching them about our underground resources.

We've been so busy that I will be "retiring" as President to focus on this valuable and timely endeavor. Your roving karst conservationist will still be available for a variety of IKC-related issues, just working mainly on educating folks around the state on the importance of our underground resources.

There is much to do. The future of our seldom-seen-or-thought-of caves and karst is in our hands, literally. We are the "subject-matter experts" here and need to get the word out to those that need to hear it. Those that especially need to hear our message are agencies, schools, developers, realtors, legislators, and the like as these folks are the ones that will be making decisions about the future of caves and karst. For more info on this and the committee, see the related article later in this issue.

On a personal note, the past few years have been some of the best in my life. I've branched out and met so many wonderful people and have been able to do so much for our caves and karst. I'd like to thank the entire IKC Board, members, and friends, but especially Keith Dunlap, Bruce Bowman, and Steve Cotter for all of their support. I look forward to working with everyone in my new education capacity.

Kriste Lindberg

NEWS BRIEFS...

- ❑ With the relatively inactive winter winding down, the caving calendar is once again full of cave conservation/educational projects. Check out the calendar on page 3 (and related articles throughout this issue) and pick a few projects to volunteer/participate in while having a little fun too. IKC projects can be very rewarding and there is always lots of fellowship in accomplishing good things together.
- ❑ 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 only be *three* tours: March 31st, June 2nd, and September 29th. The orientation lecture starts at 7:45 AM on each of those dates at the southeast corner of the square in Orleans and will depart at 8 AM. Reservations are not required. Tours will go, *especially* if it rains. There will be some moderate hiking and 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 Bob or Dee at (317) 253-6951.



- ❑ Indianapolis will be hosting Indiana Earth Day on April 28th, 11 AM to 5 PM, at the American Legions Mall (two blocks north of the Indiana War Memorial building downtown). This is usually a highly visited event (depending upon weather) with musical entertainment and food vendors, along with a large number of environmentally friendly booths, including commercial vendors, conservation organizations, and government agencies. The IKC will have a booth there, promoting karst awareness and protection. Bruce Bowman will be staffing our booth, but he could use several other volunteers. Please contact him to help, or just drop in and check our booth out.
- ❑ The City of Bloomington, in conjunction with Monroe County's Karst Farm Park, will be hosting another EarthFest. This year's theme is on geology and will be titled, "Earth Rocks" and it will take place on Saturday, May 19, from noon until 4 PM. The event will offer tours of Karst Farm Park and Leonard Springs Nature Park, booths staffed by various agencies including the IDNR, Indiana Geological Survey, Monroe County Soil and Water Conservation, Monroe County Solid Waste Management (the folks who help us with cleanups), and other conservation agencies and organizations. The IKC will be involved, as well as cavers from local caving organizations (the Bloomington Indiana Grotto and the Indiana University Spelunking Club). Those well-versed in cave rescue techniques and conservation will be staffing a small "cave" which is being created for interpretive purposes. We are fortunate that the city and county are sensitive to the needs of our karst features and that we have such a good working relationship with them. If you would like more information on this event and/or help, contact Kriste Lindberg.
- ❑ On May 5th, the Hoosier National Forest will be sponsoring the 15th annual Take Pride in America event. This is a nation-wide program to encourage volunteers to spend a day performing various tasks for the Forest Service. Locally, there will be a number of projects to choose from, perhaps even one related to karst (this has not been decided yet). The kick-off starts at 9 AM at shelterhouse #1 in Hardin Ridge Rec Area. Work will be completed in time to arrive back at the shelterhouse for an afternoon cook-out. Free camping is also provided. If you would like to participate or have questions, contact Teena Ligman (812-277-3579) or Bruce Whittredge (812-277-3599) at the HNF Bedford Office.
- ❑ In early February, the IKC finalized the enrollment of the Sullivan Property into the IDNR's Classified Forest Program. The program promotes the use of good management practices for woodland areas, but does not require timbering. Certain development restrictions are placed on the property, but these are compatible with the IKC's long-term management plan. To qualify the whole property in the program, the open fields had to be reforested which will be completed this spring with the planting of 1800 hardwood (see page 7). The main advantage of being enrolled in the program is that it significantly reduces the property taxes assessed on the land, to just a few dollars per year.
- ❑ A symposium related to the Indiana bat is being held in Lexington on March 29/30. The focus of the symposium is to present previously unpublished information on the species which may be useful in helping the bat recover from potential extinction. Scott Johnson is presenting a paper on various management activities carried out within Indiana, many of them involving the IKC. For more information on the symposium, contact Keith Dunlap.
- ❑ October 16 through 19 will be the biennial National Cave and Karst Management Symposium, to be held in Tucson, AZ. As in the past, the NCKMS has attracted a large number of federal, state, and private cave managers who are responsible for making decisions which affect the preservation, protection, and access to caves throughout the United States. There will be a number of sessions on cave/karst management topics. The whole symposium is designed to orchestrate information-sharing about management techniques, to present current best practices for protecting caves and cavers, and to discuss changes that promise to improve future education and caving techniques. Interaction among fellow symposium



participants is perhaps the greatest reason to attend. For more information, contact Jerry Trout (520-670-4552/jtrout@fs.fed.us) or visit the symposium's website at www.caves.org/nckms01.

- ❑ Scott Johnson recently reported that his efforts to radio-track several bobcats has shown that one of them occasionally visits the Sullivan Property. The far ranging male spends most of his time in Crane, but also makes cross-county jaunts looking for food and females.
- ❑ In January and February, Keith Dunlap and Dr Virgil Brack conducted the biennial Indiana bat (*Myotis sodalis*) survey for the IDNR. The two, accompanied at times by IKC members Steve Collins, Bambi Dunlap, Scott Johnson, and Tom Sollman, visited 25 Indiana caves, counting bats to assess the status of these endangered bats. They have systematically collected population information for the past twenty years, tracking various trends and management practices at specific caves. Preliminary observations are that some caves had noticeable population drops, but other increased such that the aggregate has not changed significantly from the past several years. A complete summary will be published in a later issue of the *IKC Update*.
- ❑ One of the difficulties with counting bats in some of the caves is estimating cluster sizes when the clusters are located high on the ceiling (such as in Wyandotte). Several years ago, Bob Currie of the US Fish and Wildlife Service suggested using two laser pointers mounted together such that they have parallel beams, so that the beams could be used to estimate distances, thus be used to approximate cluster areas. Using inexpensive laser pointers, Keith Dunlap in 1998 designed an adjustable mounting block and Steve Collins machined the block out of nylon. The first generation "laser caliper" worked, but the laser pointers used really needed adjustments in two planes. Shortly after the 1999 bat census, Dunlap designed an improved version of the laser caliper using more expensive laser levels. Collins again fabricated the device, but this time building three of them (investing about 40 manhours in machining alone). One was sold to the USFWS and the second went to the IDNR. A third one is available for sale. Any net proceeds from this initiative will go to the IKC.
- ❑ In 1999, the US Fish and Wildlife Service sponsored the writing and publishing of *Bats of the United States* (authored by Michael Harvey, Scott Altenbach, and Troy Best). The IKC request 250 copies of this new publication for distribution to our members and to use as part of our educational program. All members should have received a copy of this booklet with their newsletter.
- ❑ In early December, the Indiana Department of Transportation announced it's latest effort in expanding I-69 from Indianapolis to Evansville by releasing fourteen potential routes. Several of the routes would cut across the karst belt, potentially impacting caves, karst features, and their associated eco-systems. InDOT will narrow the potential routes down to three or four based on preliminary environmental assessments and costs. These will then be studied further to select the best route and develop its financial justification. Unfortunately, rather than keeping this process completely objective, political influence often bias the decision-makers. From an environmental standpoint, the US 41/I-70 upgrade route is preferred.
- ❑ Kriste Lindberg and Bob Vandeventer have been working on upgrading our membership brochure. We revised our original brochure several years ago, but it still lacked a professional image. The new brochure includes more photos, a more modern layout, and is in full color. Samples of the new brochure will be at the March meeting for final critiquing before being printed.
- ❑ We would like to thank Larry Reece for donating a table top slide projection system to the IKC. This will allow us to compose a continuously-running slide show for such events as Earth Day Indiana and other booth-type conferences.



- ❑ A number of members have made donations to the IKC's general fund and the Cave Acquisition restricted fund with their annual renewals. These donations are greatly appreciated and allow the IKC to initiate a number of projects beyond the basic services to our members and baseline expenses such as insurance, property management expenses, and our publications. A complete list of donors will be included in the June *IKC Update*.
- ❑ And while on the subject of donations, in early March we added a "donation button" on the home page of the IKC's website which will allow members and others to make *secure* credit card donations. The processing is done through Helping.org, a non-profit organization funded by the AOL-Time Warner Foundation, which then forwards the donation to the IKC. Unfortunately they do not currently support scheduled donations for repeated/periodic/sustaining donations. However, unlike most other organizations which are accepting credit card donations, **100%** of your donation goes to the IKC.
- ❑ Each March, the IKC recognizes its ten-year anniversary members. This year we'd like to thank the following long-term supporters: Charles Tubbs, Nancy Tubbs, Jim Adams, Jonathan Knott, Daniel Lucas, Dave Anderson, Larry Reece, Ray Sheldon, Tom Sollman, and Steve McKenzie. In 1991 we also changed our bylaws to accept organizational members so we gained the Central Indiana Grotto, the Harrison-Crawford Grotto, the Northern Indiana Grotto, and the Evansville Metro Grotto to our roster. We now have 74 members with ten or more years of IKC affiliation.
- ❑ Five new members have joined the IKC in the past quarter. Welcome Ralph Sawyer (373), Horton Hobbs III (374), Andrew Peacock (375), Shavon Peacock (376), and Erik Liebhaber (377). The IKC membership now stands at 182.

UNDER EARTH DAY XII - APRIL 7th

by Keith Dunlap

The Indiana Karst Conservancy will once again be sponsoring a workday at the Sullivan Cave property (Lawrence County) to celebrate Earth Day. This year's date is Saturday, **April 7th**, starting at 10 AM.

While there is still work to be done in the cave, the focus on this year's activities will be above-ground. The main task to be accomplished is the planting of 1800 hardwood trees in the three-acre ridgetop field. This is part of our long-term reforestation effort started in 1999. We also have to mulch a round all the new trees plus the other 450 trees planted previously. Mulching is required to assure the weeds do not out compete the seedlings. Other tasks needing attention are digging a drainage ditch along the new driveway, posting Classified Forest signs along the property boundaries, and working on the trail to the ridgetop field. We will have plenty of tools, but if you have a spade and other tools that might be useful, bring them along.

Also be sure to bring a good pair of gloves.

While our attention will be the above ground activities, the cave will be open for visiting or restoration work. For those planning to go into the cave, please have the appropriate caving equipment including a helmet with chin strap, proper footwear, and adequate light sources. A liability waiver must also be signed, children under twelve must be accompanied by a parent, and trips may be limited by the number of leaders available.

Limited, primitive camping is also available to IKC members and their guests. If we do not get our main tasks (trees planted and mulched) accomplished on Saturday, some of us will be there on Sunday to finish up.

Those needing more information or directions to the property may contact Keith Dunlap at 317-882-5420 / Keith.Dunlap@juno.com or Bob Vandeventer 317-888-4501 / vandeventerb@tce.com.

2001 ABANDONED MINE BAT GATES PROJECT MAY 12/13 and JUNE 23/24

Yes, we are doing it again! The Indiana DNR is interested in the IKC gating five more abandoned mine entrances that are used by bats. Previously most of these mine openings were closed by bulldozing, but the IDNR wants to be more pro-bat, preserving the habitats the bats have adapted to over the past century. During the last two years, the IKC has constructed twelve bat gates in Parke, Greene, and Pike counties. The IDNR has been very pleased with the results and requested that the IKC submit a bid for five more gates this year. The work contract is in the final stages of being approved which would have IKC members manage the project and perform the actual work. In exchange, the IDNR would cover all the costs of the materials and supplies, some volunteer out of pocket expenses, *plus* appropriately compensate the IKC for our efforts (i.e., this should be viewed as a fund raiser to support other IKC projects). This is a win-win-win situation, especially for the bats who are now living in these mines.

The work this year will again be conducted over two weekends, May 12/13 and June 23/24 (these dates are still tentative and may change). There are three mine entrances to be gated west of Montezuma in Vermillion County, one gate to be constructed near Nyesville (Parke County), and one gate to be constructed near Coxsville (also Parke County). The work should be a little less challenging than in the past, but we still need a



Mark Stacy at the entrance to the old mine near Nyesville. There was significant airflow the day we were there indicating an extensive system beyond.

lot of volunteers to complete this project, especially the Montezuma site where the material will have to be carried several hundred yards and up a steep embankment. No specific skills are required, just a willingness to help however you can.

If you are interested and can help, please contact Keith Dunlap at 317-882-5420, Keith.Dunlap@juno.com. Specific details (schedules, directions, etc) will be provided as the time gets closer. Camping will be provided for those that can stay for the weekend. Lunch will also be provided on each of the workdays.



These are two of the three portals at the Montezuma worksite which will be gated this spring by the IKC. Both coal and clay were mined from here, now the mines are used extensively by hibernating bats during the winter.

EDUCATION AND OUTREACH COMMITTEE REPORT

by Kriste Lindberg

As I mentioned in my "Ramblings from the President.." column, our education and outreach efforts have really been taking off. We've been so busy that I'm "retiring" as President of the IKC to focus on the newly formed Education and Outreach Committee, which I will be chairing. Those that have offered to help include Bambi Dunlap, Don Ingle, Bill Tozer, Bob Vandeventer, and Kathy Welling. Some of our recent highlights include:

NSS Conservation Team -- A few weeks ago, I received a call from Jim Werker and Val Hildreth-Werker, NSS Conservation Division Co-Chairs, inquiring if I would join a 10-person panel they are forming across the country to do just as we have been doing, educating persons on cave and karst conservation. Not only have local persons taken note on what we've been doing, but we've been receiving national attention, as well! I, of course, said I would join. The networking will be beneficial to us all to gather a broad, national perspective on what works and what doesn't. For more information on this and other NSS Conservation and Management Section offerings, see their new website, www.caves.org/committee/-conservation.

Journey Into Amazing Caves -- We will be busy over the next few months educating the public on cave and karst conservation in conjunction with this IMAX film and the Indianapolis Children's Museum, where the feature is being shown. It runs March 16 through July 12. Bambi Dunlap, Bob Vandeventer, and I met with the museum the first week of March to finalize details. We will be putting our new display, karst/-groundwater model, and materials to work there, primarily on Saturdays. Several other IKC members have offered to help. If you would like to do so, too, please contact Bambi Dunlap, who is coordinating our efforts. For more information on the film, visit their website at, www.amazingcaves.com and the NSS Conservation and Management Section site mentioned above.

Indiana DNR -- Julie Kleeman, Volunteer and Education Coordinator at Spring Mill State Park, and I have been busy working

with a team of educators around the area to update the park's education efforts. The main topic has been to spruce up the booklets that the teachers use when they come to visit. We are including information from Project Underground as well as some activities which we are developing that will be specific to the park itself. All is going well and the booklets should be done soon. The park also plans to host a Project Underground facilitator workshop soon! I am also doing another seasonal naturalist training session at Leonard Springs Nature Park for Jeff Cummings, the Naturalist at Spring Mill State Park. Also, Todd Webb, Property Manager at Wyandotte Cave, has asked me to come and do an in-service training session for them this spring. Finally, the IKC has been invited to participate at the annual meeting for the IDNR's Division of Water at Spring Mill State Park in May.

Roundtables -- Several agencies in Indiana have been getting together recently to discuss environmental education efforts within the state. Two roundtables have been held and a third is in the works. Additionally, one will be held mid-March to discuss efforts within the IDNR's state park system. I will be attending and will keep you posted on progress.

Bradford Woods -- Educators from Indiana University's outdoor education facility, Bradford Woods, and I have meeting to discuss cave and karst education collaborations. For starters, I've been coaching their Coordinator of Environmental Education, Jim Rogers, on Project Underground for an upcoming conference this month that they are hosting and will be showing them a slide show on Leonard Springs Nature Park, following it up with a trip to the park to reinforce all that they have learned. More on this and other partnerships with them in upcoming *IKC Updates*.

Other collaborations -- We continue to work with other cave and karst education collaborations with the following: Historic Hoosier Hills, Cave Lake in Ohio, Hoosier National Forest, City of Bloomington, Indiana Youth Environment Summit (I-YES).

CONFINED FEEDING RULE SOON TO BE FINALIZED

by Bruce Bowman

For several years now, the Indiana Department of Environmental Management (IDEM) has been holding hearings and developing regulations for manure management for confined animal feeding operations. Known to some as the “hog-lot rule,” the regulations also apply to operations that maintain significant numbers of other kinds of livestock in areas that are less than 50% vegetated. These requirements were prompted not only by new federal (EPA) regulations, but also through the grassroots efforts of a number of environmental organizations, particularly the Hoosier Environmental Council.

Because of the potential for coliform contamination of groundwater, locating such operations or applying manure to agricultural land in karst terrain is of particular concern. Initially, the IKC was very active in monitoring this situation. We provided written, public input in December of 1998 and again in October 1999. Keith Dunlap and Bruce Bowman also met with the deputy commissioner of IDEM in February of 1999 to express our concerns. Unfortunately, the issue mostly escaped from our radar screen; as the IKC’s leadership shifted our focus to land acquisition, management, and education initiatives.

Now IDEM has reached a point where the rule is very close to its final form (the final adoption hearing is scheduled for March 14). Recognizing the scope of the new rule (and the difficulty in deciphering all the legal language), they have published a draft guidance document to assist operators in maintaining compliance with the rule. These documents, with much other relevant and useful information, can be obtained from the IDEM website at: www.state.in.us/idem/olq/special_topics/confined_feeding.

A review of the new rule shows that significant new restrictions are being put in place. The rule does recognize the special difficulties associated with manure management and karst. However, it falls short of meeting our expectations on a number of significant points:

- The setbacks used for application of manure near sinkholes are measured from a surface opening or the lowest point. However, many sinkholes have dimensions

that exceed the setbacks, thereby allowing application directly within the sinkhole. The IKC asked for setbacks to be measured from the rim of the sinkhole.

- Similarly, the rule allows the application setback from a sinkhole or well to be reduced to 10 feet if a “gradient barrier” exists. The IKC objected to this in our public input.
- Despite our recommendation, there remains no requirement that emergency spill response plans include drainage information (dye-tracing) of open sinkholes down-grade from the manure storage structure.
- At least two of the karst-related design provisions are based on “approval of the commissioner” (meaning IDEM). Although the need for flexibility in this regard is understandable, there should still be some basic requirements laid down. The current text leaves the intent too open for interpretation, and application refusals subject to appeal.

In fact, there aren’t many points in the new rule where the IKC’s public input has been directly incorporated into the final language. A quick look at a topographic map in karst can explain some of this. For example, using the IKC’s setbacks, a substantial amount of land could be taken out of agricultural production, or at least exempted from manure application. While this may be exactly what we want to happen, other interests such as Farm Bureau probably weighed into this discussion. For what it’s worth, there have been a few changes from earlier drafts that indicate the IKC’s input has been given some consideration.

When all is taken into account, the new rule is an improvement. At this time, very little legal language is in place to protect groundwater from animal waste. The IKC will continue to monitor this situation and bring known violations to the attention of IDEM. It will be interesting to see how well the new rule is enforced; and whether similar, karst-specific requirements can also be put in place for management of human waste (e.g., septic systems).

Going to bat for bats: Every other year researchers venture into caves to tally the endangered creatures as they hibernate.

By George McLaren

WYANDOTTE CAVE, Ind. -- When biologists are having trouble telling Indiana bats apart from their bat cousins, they focus on one feature: Toe hairs.

Some people might get the wilies just thinking about how close you have to get to see a bat's toe hairs. It doesn't bother federal biologist Lori Pruitt, though.

Pruitt joined a dozen other researchers inside Wyandotte Cave recently to count how many of the endangered species are hibernating there this winter. Standing half a mile into the dark cavern, she was asked whether she was bothered being in such a spooky place.

"Oh, I like it," she said.

What's not to like? If you like bats, that is.

Picture thousands of tiny, sleeping bats clustered in small groups or crowded into massive clumps. Some hang from towering domes, while others dangle from low ledges -- low enough to whack someone in the forehead if he's not looking for bats clinging to the limestone by their bat toes -- *their hairy bat toes*.

Indiana bats are darling, in a bat sort of way: tiny brown bodies, little fingers and a cute pink nose.

"It's like a soft, furry, cuddly kitten," said Steve Collins, a former Hoosier who was helping count bats. "If someone put a bat in your hands and your eyes were closed, you'd think it was a kitten."

When awake, the bats squeak, eat scads of harmful insects and avoid daylight and people.

They do not suck blood or get ensnared in your hair, and they rarely carry rabies.

These are not villains. In fact, they are usually victims, biologists say.

These bats weren't recognized as a distinct species until 1928, when researchers in Wyandotte Cave identified them (and gained them the name Indiana bat).

Researchers believe they once numbered more than 1 million. Now, the population is down to 350,000 and falling. Indiana,

along with Kentucky and Missouri, has a significant population.

That's why researchers walk, climb and slither into southern Indiana caves to count hibernating bats every other year.

Pruitt, an endangered species biologist for the US Fish and Wildlife Service, and Collins, a veteran caver, were among those who walked into Wyandotte recently to size up the population.

Indiana bats tend to hibernate in tight clusters, about 300 bats to the square foot. They are the only bat to cram so tightly, which helps with identification when they are hanging 50 feet overhead. The bats are also distinctive by their hanging posture and coloration.

Wyandotte Cave, located on a hillside about three miles north of the Ohio River, is one of the few spots where Indiana bats have increased in recent years.

In 1981, 2,152 Indiana bats were counted in Wyandotte. By 1999, the number had jumped to 26,854. This year's count isn't done yet, but preliminary tallies show another increase.

Researchers aren't sure why, but they know why bats like it in Wyandotte: consistent temperatures and cavernous rooms with a downward flow of cool air.

"People think about bats going to a cave because it's warm. They actually go in because it's cold," said Virgil Brack Jr., an environmental scientist who studied bats in earning his PhD from Purdue University. He leads the Indiana bat counts under a \$7,000 contract with the state Department of Natural Resources.

Flowing air allows bats to find the exact temperature and humidity they need to keep comfortable while slowing their bodies down for hibernation.

When their main food source, soft-bodied insects, is gone in October, the warm-blooded bats head into the cave to sleep off the winter, living off stored body fat.

"They go into hypothermia, and their heart rate drops to less than 10 times a minute," Brack said.

Every couple of weeks or so, the bats may arouse briefly, then re-

turn to deep sleep. In March or April, they leave the cave. Males usually stay nearby, but pregnant females may fly hundreds of miles away to summer maternity colonies, sleeping during the day under loose bark or in hollow trees.

At the end of the season, the bats regroup in their familiar hibernation caves.



The tendency to hibernate in large numbers -- 97 percent of the population hibernates in just seven caves -- makes it easy on the researchers.

"Very seldom with wildlife can you get an exact number in the population," said Scott Johnson, a biologist with the state natural resources agency.


But there's a downside. Hibernation leaves them vulnerable, and an assault on bats clustered in such large groups could be catastrophic to the dwindling population.

In the past, humans have attacked the bats with guns, clubs or fire.

Wyandotte's population is now protected by a steel gate with only guided tours allowed inside. Some areas are completely off limits.

Other caves in Indiana are similarly protected; Johnson won't even reveal where they are.

But populations have declined despite increased precautions. Biologists are looking at other

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INDIANA CAVE SYMPOSIUM 2001

by Keith Dunlap

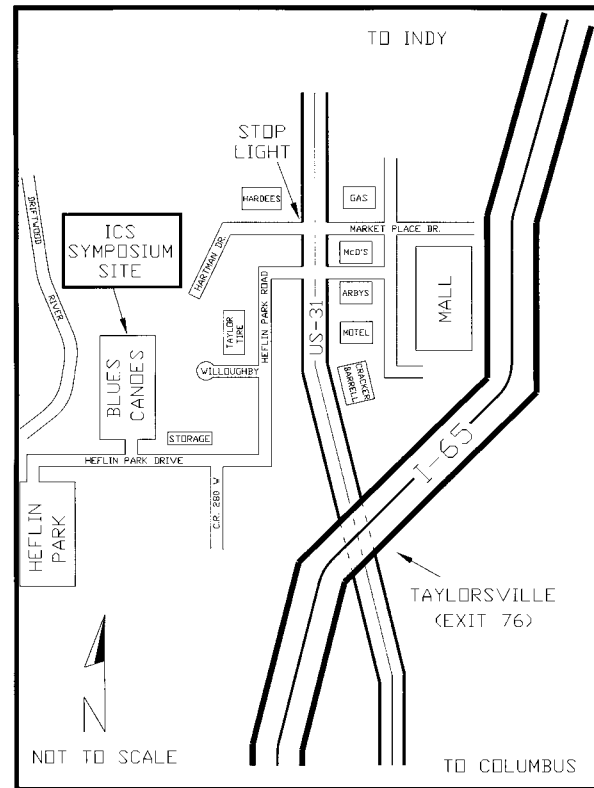
The ninth annual Indiana Cave Symposium will be held on Saturday, April 21 at the Blue's Canoe Livery in Taylorsville, Indiana (see map). A hot-dog/hamburger roast will begin at 5:00 PM EST in the shelter house and talks will begin promptly at 7:00 PM local time (6:00 Indy time). Please bring a covered dish and/or dessert to the cookout to share. The hot-dogs/burgers, sandwich fixings, soft drinks, paper and plastic ware, and ice will be provided. Camping (w/ hot showers) will be available at the adjacent campground for \$5/person. This year the Indiana Karst Conservancy and Indiana Cave Survey are co-sponsoring the event.

The purpose of the event is to assemble the active caving groups to share and discuss their projects, and for cavers and cave researchers to network. Presently, speakers for the symposium are being solicited from caving groups within Indiana and neighboring states. The emphasis will be on exploration, surveying, science, and conservation projects. It is preferred that the talks be on activities within Indiana. Talks will be from 5 to 30 minutes in length. A slide projector, computer projector, and an overhead projector will be available. This will be an excellent way of showing off your grotto's recent projects.

At this time, there are seven confirmed presentations. These include the Discovery and Exploration of the Lost River Cave System (Tony Cunningham, Mark Deebel, and Dave Tibbets), the Versailles State Park Karst Study Project (Ray Sheldon), Recent Indiana Karst Conservancy Projects (Kriste Lindberg), Biological Inventory Studies on the Hoosier National Forest and Big Oak National Wildlife Refuge (Dr Jerry Lewis),

Indiana Bat Winter Population Census Results and Trends (Keith Dunlap), the Bats and the Bees (Bill Greenwald), and the IKC's Karst Groundwater Model and Display Demonstration (Kriste Lindberg).

Additional presentations are being considered and it is hoped every active caving group in the state will make a presentation. For more information, or to schedule a talk, contact Bruce Trotter at (812) 379-1348 or e-mail BATrotter@iquest.net. Also visit the ICS's website (www.caves.org/survey/ics) for the latest information.



continued from page 11...

causes, including diminished habitat and possible poisoning caused by ingesting bugs sprayed with insecticides.

Pruitt recognizes that it can be hard to garner public sympathy for some endangered species, whether Indiana bats or river mussels. Why should someone care about a species that hides in caves and swoops around in the dark, scaring the guano out of people?

"Neither one is on a cute and fuzzy list," Pruitt acknowledged.

But she suggests people look beyond the bats because whatever is hurting them is probably hurting other species as well.

"If you start losing species, it's kind of a warning -- something's wrong," she said.

Besides, she said, Indiana bats "are a fascinating species in and of themselves."

All the way down to their hairy

little bat toes.

George McLaren covers outdoor recreation and nature for The Star. He can be reached at (317) 444-6232 or at george.mclaren@starnews.com

Reprinted with permission from the February 23, 2001 *Indianapolis Star*.

NATURAL RESOURCE MANAGEMENT PLAN FOR SPRING MILL STATE PARK

by Kriste Lindberg

A little over a year ago, Jeff Cummings, the Naturalist at Spring Mill State Park, asked if Tom Rea and I would like to join a committee that was being formed to draft guidelines for managing the park's natural resources. Others on the committee include various representatives from various IDNR divisions, including fisheries, forestry, and nature preserves, as well as those from agencies such as the Indiana Geological Survey. Together, we have come up with a plan in just over a year -- not a bad time frame, considering the immensity of the work. The committee made suggestions on how best to manage the park's cave and karst resources, lake, nature preserves, erosion and sediment concerns, wildlife, and vegetation. The plan is in its final stages of completion and should be ready for review within a month or two.

While working on the plan, our attention was called to an interesting article printed in a French biospeleology journal, *Biospeologica*, back in 1928 on the park's Donaldson Cave. A high school class in Mitchell kindly translated it as follows:

Donnelson's Cave

This cave, although named Donnelson Cave, was previously described by W.S. Blatchley. It opens on the grounds of a farm belonging to Indiana University.

In a wooded valley flows a stream that runs a few hundred meters, to the point where it exits the cave at the foot of a cliff. The stream runs into two passages that are difficult to access, by which one can enter at the foot of a strong waterfall, which can be heard from the entrance. Only a few hundred meters from the entrance on the left bank, the dry section of the cavern begins.

By means of an easily climbed projection, one reaches a passage about 20 meters long which gives access to a vast room. This chamber stretches primarily to the right and is occupied by a large lake whose shores are formed by the clay ground on which stones rest. In complete darkness the remains of a cement basin are found, which are similar to other ruins existing in the ravine in front of the cave entrance.

The lake measures approximately 25 meters in length, about 8 meters in width, and, at the most, one meter in depth. It extends into the darkness. The foundation is composed of clay and stone.

From the beginning, one's attention is drawn to the submerged spongy mass that surrounds the lake. The mass forms a type of sidewalk spreading 20 to 30 cm. Under the surface of the water, those width and depth are about equal. It is formed by a tight, fiber-like substance, which at a glance, is of the same brownish color, sometimes seen in mushrooms in the cave.

The lake does not have a direct flow toward the underground torrent. On the other hand, the most remote part is sustained by a small stream coming out of a narrow, stalagmite-formed trench inside, too narrow and too low to be climbed for more than approximately 20 meters.

It is remarkable that the lake, which now seems immense, did not exist in 1896 when W.S. Blatchley visited the cave. At the time the stream flowing out of the fissure disappeared into the ground near the entrance of the large room.

The total length of the accessible passages barely surpasses 100 meters.

The temperature of the air at the entrance of the cave is 17 degrees C (62.6 degrees F), and the temperature of the water in the lake is 16 degrees C (60.8 degrees F). This elevated temperature is certainly explained by the fact that the ceiling must be relatively thin. Furthermore, the fissures here are the source of air currents through the cave.

There is no guano. The numerous visitors bring organic debris, a vital source of important nourishment, into the cave.

W.S. Blatchley points out blind fish in this cave which have not yet been seen. However, according to C. H. Eigenmann, they are abundant here. Also yet to be seen are the Asellide pill bugs that he indicates are in the cave. There are two kind of *Cambarus*, one is colorless and blind, while the other is pigmented and can see. Both types used to live in the lake and underground streams.

Plankton and other small crustaceans have been collected in fine-mesh fishing nets, which filter to the side of the lake and also by washing the spongy masses that cover the shores.

Cave beetles would cling to the undersides of small rocks on the damp banks of a stream flowing into the last fissure. Since then, they have not been found in the cave.

Finally, on the layers of clay occupying the dry sections of the large room, little mole crickets and springtails used to jump.

For more information on this article and the management plan, contact Jeff Cummings, at (812) 849-4129.

LEONARD SPRINGS NATURE PARK UPDATE

by Kriste Lindberg

Things are moving right along at this little karst nature park.

LSNP offers endless opportunity for cave, karst, and water resource conservation education. As a matter of fact, that is what the parks theme is all about. To quote the Interpretive Plan, "The focus of Leonard Springs Nature Park is on natural and cultural resources. Education and protection, rather than active recreation is emphasized. As such, it is important to educate the public in a way that protects the resource. Leonard Springs contains fragile sites. Caves are easily damaged and steep slopes with thin soils are easily eroded."

More and more educators and agencies are coming to us to schedule tours and classroom presentations. Coming up, I will be doing a collaboration with Indiana University's outdoor education facility, Bradford Woods, during a conference they will be hosting from March 15 - 18 as well as hosting several other tours and workdays. They have already inquired about future opportunities with us.

Also, the city of Bloomington, in conjunction with Monroe County's Karst Farm Park, will be hosting EarthFest in May. As part of this event, tours will be given at Leonard Springs.

Another initiative being undertaken is the drafting of a Memorandum of Under-

standing between the city and the Bloomington Indiana Grotto and the IU Spelunking Club. The MOU will be to perform routine maintenance of the site and caves and lead trips to Shirley Springs Cave for scout and other interested groups.

Some maintenance highlights of late include the areas native plant experts, EcoLogic. They have been busy reseeding open areas in order to encourage natives to grow. Most seeds for this project were collected on site. They include a variety of grasses, sedges, and wildflowers such as bottlebrush, broomsedge, and asters.

Also, in order to help people find their way around the park on their own, we will be putting up attractive yet unobtrusive limestone trail markers and split rail fencing. This should help keep down the formation of opportunistic "user trails" and, hence, reduce erosion. Visitors so far have been mindful of our need to maintain a healthy park but we have found that the trail is difficult to follow during certain times of the year, mainly when the leaves have just fallen and just after snowfall.

We are learning and transferring our knowledge to those that come to visit us. In addition, working with this site is helping us manage our other sites. It is creating a win/win situation for us all, but it is especially a winning situation for the karst.



Sam Frushour admires ice formations in Shirley Springs Shelter Cave.

PROGRESS REPORT: BIOLOGICAL INVENTORY OF HNF CAVES

by Dr Julian Lewis

In July 2000, I started a bioinventory of the caves of the Hoosier National Forest. My goal was to find out as much as possible about the animals living in the 100+ known HNF caves. During other projects in Indiana caves, discovering species new to science and other rarities has become the bread and butter of my work. I had every reason to believe the HNF would be no different.

My approach has in many respects remained the same over the thirty years that I have been doing cave bioinventories. As strange as this may sound, in some ways the worst way to find cave animals is to look for them. Although the time-honored method of collecting cave invertebrates (i.e., bugs) is to enter a cave and search it by turning over rocks and sticks, what this frequently reveals is bugs running as fast as they can in the opposite direction from the biologist. People introduce heat, light, vibration, odor, and who knows what else to the cave envi-

ronment when entering caves. These are cues to the inhabitants of caves that more often than not seem to signal them to hide.

I have found that one of the most effective ways of collecting invertebrates is to place four-ounce jars with a little alcohol preservative in mudbanks. I bait these pitfall traps with the most obnoxious thing I can come up with, usually rotting limburger cheese. I have experimented with rotting beef liver and human fecal material, but find that even I have my limits as to what I'm willing to withstand in the name of science. Not to mention it's hard to get people to work with me when baiting pitfall traps with human feces. Let's not go there.

Other ways of squeezing bugs out of the cave environment is to take leaf litter and put it in a Berlese funnel. This is just a funnel with a light over it, and a vial of alcohol underneath. Placing the leaves in the funnel, the heat and light drives the bugs downward into the awaiting preservative. The Karaman-Chappuis technique is a fancy name for scooping out a shovel full of stream gravel into a bucket, swishing it around, then pouring the supernatant water through a fine plankton net.

So far in fifteen days of field work, the halfway point of the project, we have made sixty-nine visits sampling forty caves and nine springs. Animals of great interest have been found in each of the four HNF sub-units:

Deam Wilderness Area

A small area of karst exists along the south side of Monroe Reservoir in the Deam Wilderness Area. The well known Patton Cave is found in this area, along with a couple of pits and some other tiny caves that defy finding them. Typical of karst "islands", an endemic cave fauna exists in the Deam Wilderness including a new species of beetle (*Pseudanophthalmus* sp.), a probably new pseudoscorpion (*Apochthonius* sp.) and three troglobitic springtail insects.

Bedford Area

In the forest sub-unit south of Bedford we have concentrated on three areas:

Tincher Karst Area -- This "special area" has indeed proved to be special. The rare



Fuzzy Hole cave in the Tincher Valley Special Area is one of the more interesting caves on the Hoosier National Forest.

Indiana cave pseudoscorpion (*Apochthonius indianensis*), previously known from only three caves, has turned up in an additional four caves. In HNF Swallowhole it might almost be considered common! These tail-less scorpions seem to love the leaf litter found on the bottom of pits so common in the Tincher area, which makes them easy targets of the Berlese funnel. The spiders have also held exciting surprises at Tincher. Besides the Subterranean sheet-web spider (*Phanetta subterranean*), which is about as rare as mudbanks in Binkley (i.e., you can't miss them), the Cavernicolous sheet-web (*Porhomma cavernicola*) spider has also been found in several caves. But the real surprise at Tincher has been another sheet-web spider: *Oreophantes*. This spider is either a glacial relict known otherwise only from



Ronnie Burns coming over the lip at HNF Swallowhole in the Tincher Valley Special Area.

Canada and New England, or a new troglobite endemic to Indiana. The specimens are on their way to a sheet-web spider specialist in Canada. Almost simultaneously with finding this spider in the Tincher caves, I found it in Grays Cave during my work on a cave bioinventory project at the Jefferson Proving Ground.

Gypsy Bill Allen Area -- This karst valley in eastern Martin County is also somewhat of a karst island, and not surprisingly, has also yielded another new species of cave beetle (*Pseudanophthalmus sp.*). This is the first such beetle discovered in Martin County. When Ronnie Burns and I visited Gypsy Bill Allen on September 23 and October 8, 2000 to place and retrieve pitfalls, there were a few Indiana bats present in the cave. Over a hundred were apparently confirmed recently during the biennial Indiana bat survey.

Wesley Chapel Gulf -- The first cave visited for the HNF was Elrod Cave, after a training session at the HNF office in Bedford. Several IKC members accompanied us into the cave and were able to see the ultra-rare Indiana cave copepod in rimstone pools. We were able to collect three of these crustaceans (*Rheocyclops indiana*), previously known from a single specimen that we had collected in Ladder Cave. The discovery of this rare subterranean animal pushed the Lost River System "over the top" into the category of achieving the position of "global biodiversity hotspot". Cave or groundwater systems with twenty or more obligate subterranean species are being called "hotspots" and share the stage with places such as the Mammoth Cave System of central Kentucky. In Indiana, we have established the Binkley-Blowing Hole and Wyandotte Cave systems as "hotspots", and Marengo Cave is almost there (with eighteen species).

Paoli Area

In this area work has concentrated on the Little Africa region south of Chambersburg and Springs Valley. Both of these areas seem to have similar cave faunas. The Marengo Cave beetle (*Pseudanophthalmus striticollis*) is fairly common in the caves of this area, but pitfall trapping usually also turns up the rarer Young's cave beetle (*Pseudanophthalmus youngi*). I have found that carrying a bucket into these caves proves worthwhile. The Karaman-Chappuis technique has demonstrated that in addition to the obvious amphipods swimming around on the surface of the cave gravels, the blind Packard's groundwater amphipod (*Crangonyx packardi*) is pretty much ubiquitous in the caves of the area if you look in the right spot -- down in the gravels. We have now pushed the list of troglobites in Dillon Cave up to eleven species, with a total of fourteen known from the Little Africa caves visited so far. A series of pitfalls were flooded out in Springs Spring Cave, but I expect that this cave's fauna will surpass that of Dillon if we succeed in retrieving a set of unflooded pitfalls later in the year.

Little Blue River Area

Only one trip, to the caves at Mesmore, has been made to this area so far. However, the presence of the endemic Salisa's cave

HNF/IKC KARST INVENTORY PROJECT UPDATE

by Kriste Lindberg

Winter is a great time to catch up on ridgewalking. As a matter of fact, we've been out into the field at least twice each month for the several months. There is so much ground to cover and there are so many caves to survey!

January found us ridgewalking just south of the town of Huron after a freshly-fallen snow. The springs and assorted other karst features were easy to spot as steam blew from them. One of the new caves we found, Contact Cave, was also surveyed. We plan to go back and work on more of our recent discoveries within the next few months.

In addition, Kelle Reynolds (the HNF's karst specialist), Teena Ligman (the HNF's education coordinator), and I have been working on cave and karst education collaborations involving interpreting Wesley Chapel Gulf. More on this as it progresses.

Dr Jerry Lewis has been busy with his biota study, too. I won't go into detail here as he submitted a separate article starting on page 15.

Also, a few HNF/IKC Karst Project T-Shirts are still available. Hurry and volun-

teer some time so you can receive one, too. 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.



Jeff Frazier emerging from a newly-found hole in the ground on the Hoosier National Forest.

Keith Dunlap
32 Troon Ct
Greenwood, IN 46143

Dear Keith,

Thanks so much for allowing the Scout Troop of Troop 64 to cave Sullivan on Saturday. Your patience, assistance, and advice are well appreciated. The Scouts should be bragging in school about their attainment, after much hard work and backtracking, of the the Mountain Room. We all returned very satisfied and discussing goals for next time.

We appreciate very much the opportunity given to the Scouts by you, Bob Vandeventer, and the IKC -- we hope you will allow us to return to Sullivan Cave sometime in the near future!

Sincerely,

Ralph Sawyer

1569 Upper Spring Bay Road
Metamora, IL 61548
January 21, 2001

INDIANA KARST CONSERVANCY TREASURY REPORT

Income/Expense Statement From October 1, 2000 to December 31, 2000

INCOME:

Dues Apportionment and Residuals	641.25	
Donations	50.00	
Acquisition Fund	55.00	
IPALCO Golden Eagle grant	2500.00	
IGS publications	204.00	
Aluminum can recycling	43.10	
Interest	206.71	
	206.71	\$3,700.06

EXPENSES:

IKC Update (printing, production, mailing)	244.55	
Membership (postage, meeting notices, etc)	11.71	
Conservation/Management/Education	707.11	
Education (groundwater model & display)	1124.26	
Insurance	437.00	
Business (bank fees, PO box rental, etc)	76.00	
Transfer to restricted funds	55.00	
	55.00	(\$2,655.63)

NET OPERATING EXCESS (DEFICIT) THIS PERIOD: \$1,044.43

Balance Sheet December 31, 2000

ASSETS:

Cash in Checking Account	3572.39	
Cash in Savings Account	17072.14	
Sullivan Property	72000.00	
Orangeville Rise Property	7000.00	
Indian Creek Conservation Easement (valued at \$1/acre)	13.16	
	13.16	\$99,657.69

LIABILITIES & OPERATING EXCESS:

Hancock Property Maintenance Fund	100.22	
Indiana DNR Nongame Fund	120.00	
Land Acquisition Restricted Fund	1680.00	
Deferred Dues Restrctied Fund	1293.75	
Hat Fund (excluding 21 hats in inventory)	242.16	

Previous Operating Excess	16163.97	
Net Excess (Deficit) This Period	1044.43	
	1044.43	
Current Operating Excess	17208.40	
Real estate liquidity	79013.16	
	79013.16	

Total Liabilities & Operating Excess \$99,657.69

IKC WINTER QUARTERLY MEETING MINUTES

Saturday, December 2, 2000

Southport, Indiana

BOARD MEMBERS PRESENT:

Kriste Lindberg (President)
 Bruce Bowman (Secretary)
 Keith Dunlap (Treasurer)
 Bruce Devore (by proxy)
 Bambi Dunlap
 Don Ingle
 Steve Lockwood
 Nick Noe
 Tom Rea
 Bob Sergesketter
 Tom Sollman
 Bill Tozer
 Bob Vandeventer
 Richard Vernier

BOARD MEMBERS ABSENT:

James Adams

The meeting was called to order at 10:30 AM at the home of Nick and Carita Noe in Southport. President Lindberg presiding. Introductions were made. Kathy Welling was accepted as proxy for Bruce Devore. The fall meeting minutes were approved as published in the *IKC Update*.

K Dunlap gave the Treasurer's report. As of December 1, the IKC has \$21,202.63 (total of the general and restricted funds), \$79,013.16 in real property assets, and 176 paid members.

Land acquisition and management updates were provided. At Sullivan, the grant money was received from IPALCO for tree planting and other management activities. A total of 1900 trees have been ordered, and we will receive all the tree species we requested, at the cost of about \$450. This will be the primary activity at Under-Earth Day, tentatively scheduled for April 7-8. In addition, the invasive (and non-native) vinca at the property will be chemically treated on December 10. Tom Rea volunteered to donate materials. Vandeventer noted that requests for trips to the cave have increased, with no problems to report. All locks have recently been changed because they had become difficult to open. Documentation of historical writings in the cave remains to be done.

At Orangeville Rise, a sign has recently been erected that is less obtrusive and reflects the change in ownership. A workday needs to be scheduled to address the erosion issue. Quotes

for a re-survey also need to be obtained so new boundary markers can be set. These activities needs to be coordinated with the DNR Division of Nature Preserves.

The lock at Shiloh Cave still hasn't been replaced. The landowner needs to provide a new one, but doesn't feel it is an urgent situation. Sollman is planning a biota count in the next couple of weeks and will address the gate issue at that time.

The house at Boone Cave has been sold. Cavers should not park near the house or cross private property. Several people have already been run off. Since the situation has settled we should re-contact The Nature Conservancy and renew our offer to assist in cave management.

A property has become available along Lost River. The landowner has offered to donate six acres that contain ~600 ft of dry-bed and a ford. The landowner would retain a life estate so he can continue to live there. While this is a generous offer, there remain some management and liability issues. K Dunlap will discuss additional options with the landowner. The IKC is pursuing similar opportunities for two other Lost River properties, and a bat hibernaculum in Harrison County.

Several recent activities were discussed; including the Ohio Valley Region conservation project, Hoosier Forest Projects Committee activities, the Environmental Education Association of Indiana conference, the Bat Conservation and Mining conference, and the 2000 Hoosier Environmental Council Congress. Reports on these topics have been published in the *IKC Update*.

There was interest in having the IKC partner with the Monroe County Parks Department in management activities at Leonard Springs Nature Park, now that development and clean-up are largely complete. An MOU would be necessary to define roles and responsibilities. Lindberg to discuss a framework with Mr. Cotter on 12/6.

The Hoosier National Forest has created or revamped the boundaries of 24 special areas and published a decision notice. There is a 45-day appeals period. The IKC is generally

pleased with the new boundaries and will not be making an appeal. The HNF has budgeted some money for hydrology work on the forest and was interested in having the IKC do some dye-tracing. The general feeling was that the IKC doesn't have the expertise necessary to serve as a primary contractor. Two more public input sessions for the overall management plan of the HNF are planned within the next six days. The karst section of the management plan is not proposed for revision, but changes to logging, off-road vehicles and similar policies could impact karst.

There are several opportunities for education and outreach. The new karst groundwater model has arrived and has already been put to good use. We've also purchased a new display board for presentations. Finally, IKC members are again encouraged to help at the Children's Museum when they begin their presentation of *Journey into Amazing Caves*. This IMAX film was produced with the help of the NSS, and showings will begin on March 16 in Indianapolis. Lindberg established an ad hoc committee to mobilize help at the museum. Vandeventer, Lindberg, B Dunlap and Tozer will serve on this committee.

The IKC will have some other opportunities to gate abandoned mines in 2001. K Dunlap will coordinate with Mark Stacy at the DNR Division of Reclamation. He will be evaluating sites on Wednesday 12/13. One site is a known bat hibernaculum, but getting materials to this site will be a challenge. The work will probably be scheduled for late spring.

Earth Day Indiana will be the 28th of April at the American Legion Mall (north of the War Memorial). We did not participate in this event last year. Bowman was railroaded into manning the booth this year. The Indiana Cave Symposium is also coming up. The date will be set at the ICS meeting on 12/11. The fund from the 1992 NSS Convention honorarium has run out. Bowman moved to fund half the cost of the food at the symposium. Welling seconded. K Dunlap offered the amendment to limit the cost to \$50. Bowman accepted the amendment. Motion passed 14-0.

There is a plan to erect a large "bat condo" in

Pike County. The IKC was asked if they would be willing to help with this. No additional details were available. No motion.

Lindberg suggested establishing an Outreach and Education Committee and is soliciting volunteers to serve in this capacity. Activities along these lines are increasing and a team to provide more timely guidance is needed. Welling moved to establish a standing committee to serve this purpose. Ingle seconded. Motion passed 14-0. Committee members will be Welling, Tozer, Ingle, B Dunlap, and Vandeventer, with Lindberg as chair. Vandeventer will investigate insurance options for our educational materials (fire/theft).

K Dunlap noted that there are ways to set up sustaining donations through credit card deductions. There are ways to do this over the web that are free. The donor would click on a link that takes him to a form where the transaction takes place. There are some legal concerns about interstate soliciting via a third-party internet service provider, state-by-state fund-raising regulations, and how to comply. The "free sites" also do not allow periodic donations - the donation is one-time only. No motion. K Dunlap will continue to investigate this.

Vandeventer reported that the IKC office has become more organized and all photos have been scanned as JPEGs to CDs. Bowman also has a box of old office records that need to go in the library.

Members are reminded that elections are coming up. The February meeting is mainly used to select a preliminary list of candidates for officer and director elections. The Annual Business meeting was set for March 24th at 10 AM. Location to be determined, but will be somewhere in Greenwood. The next board meeting will occur on February 17 at 7:30 at the Lindberg condo.

Thanks to the Noes for their hospitality in hosting the meeting. Meeting adjourned at 1:28 PM.

Respectfully submitted,
Bruce Bowman, IKC Secretary

DON'T FORGET TO RENEW YOUR DUES

IKC SPRING DIRECTOR'S MEETING MINUTES

Saturday, February 17, 2001

Bloomington, Indiana

BOARD MEMBERS PRESENT:

Kriste Lindberg (President)
 Bruce Bowman (Secretary)
 Keith Dunlap (Treasurer)
 James Adams
 Bruce Devore (by proxy)
 Bambi Dunlap
 Don Ingle
 Steve Lockwood
 Nick Noe
 Tom Rea
 Bob Sergesketter
 Tom Sollman
 Bill Tozer
 Bob Vandeventer
 Richard Vernier

BOARD MEMBERS ABSENT:

none

The meeting was called to order at 7:42 PM at the condo of Kriste Lindberg in Bloomington. President Lindberg presiding. Kathy Welling was accepted as a proxy for Bruce Devore.

The Treasurer reported assets of \$99,988.02, of which \$20,975.86 are in various liquid accounts and \$79,013.16 in real estate. The IKC currently has 181 paid members.

The attendees discussed potential candidates for the upcoming elections. Six openings will be available for the executive board, plus all officer positions will be open. Options were discussed and several candidates identified. Additional candidates will be solicited, and all members are encouraged to run for a position. Ballots will be sent before Feb 22nd, along with membership renewal notices. There is a need to energize the membership and get more people active in the organization.

K Dunlap provided an update on the Sullivan property. Many trips are occurring. The vinca treatment in December was ineffective. Other measures need to be taken. The entire property has now been enrolled into the Classified Forest program, which will provide significant tax relief. The CF signs to be posted around the perimeter of the property were passed around. Vandeventer reported that owning this property is definitely giving a positive impression of the IKC.

Lockwood reported on the Orangeville Rise.

Little progress has been made on getting the survey performed, but we will soon obtain a quote. Some trash was removed near the road, and a bicycle was found. The guardrail has been slightly damaged by a collision.

Cave patrons are currently required to give an annual report of visitation levels and cave conditions to the board at the annual business meeting. There is no such requirement for property stewards. Ingle moved that property stewards also be required to give an annual report. Vandeventer seconded. Motion passed 14-0-1.

K & B Dunlap gave an update on some progress with karst property acquisition opportunities.

Lindberg updated the group on issues regarding education and public outreach. She has joined the Cave and Karst Conservation Team of the NSS, providing the IKC will additional perspectives to draw upon. B Dunlap noted that the Children's Museum has expressed new interest in having cavers help interpret the IMAX film and provide display items. The IKC/CIG have been offered 15 tickets to the Indy media premier of the movie (March 15). Several volunteers. We can also table on weekends if desired. There are other outreach projects coming up at Bradford Woods, Wyandotte Woods, Earth Day Indiana, Hoosier Hills, Cave Lake (OH), ACKMA (Australia), Indiana Youth Environmental Summit, and EarthFest. Adams moved that the IKC pay the \$30 registration fee for Earth Day Indiana from the general fund. K Dunlap seconded. Motion passed 15-0. Someone is needed to work on May 1 for the Hoosier Hills and Youth Environmental Summit events. Topic to be carried forward to the Annual Business Meeting.

In addition to the above, manpower is needed for other partnerships and networking opportunities (City of Bloomington, Soil & Water Conservation districts, etc). Contact Lindberg for details.

The Indiana Cave Symposium is coming up on April 21. This is jointly sponsored by the IKC and the Indiana Cave Survey. It will be held in Taylorsville at Blues Canoes. Under-Earth Day will be April 7. We will be planting and mulching 1800 trees on that date. Strips will

be mowed to facilitate planting/spacing of the trees on March 25th. A substantial amount of mulch will be hauled to the site from Bloomington on April 1st. Significant manpower is needed for all of these tasks, see K Dunlap to help. The existing trees are doing well, but some work needs to be done to reduce erosion on the new driveway.

The IKC will be gating five more coal mines in Parke and Vermillion counties this summer. K Dunlap passed out the bid that will be sent to the DNR. Less effort than last year will be necessary. Proposed dates are May 12/13 and June 9/10 [*editor's note: the June date was later changed to June 23/24*].

Trails Day at Leonard Springs Nature Park is June 16. An MOU with the Bloomington Parks and Recreation Dept is being pursued.

No workers showed up today for the HNF workday, but progress is being made. The Patton Cave management plan is in draft form, along with Rose. Need to respond to comments. Two maps of HNF caves have recently been completed. Sections of Daniel Boone NF are being overrun with ATVs. Welling will follow up. The current ban of ATVs on the HNF needs to remain. Indiana bats have been discovered in Gypsy Bill Allen Cave.

K Dunlap had some proposals for the web page. Previous concerns about receiving donations from out-of-state through a third party seem to have been overblown. So the potential remains to accept funds for membership and donations via the web. K Dunlap moved to add credit card donation and/or membership renewal forms to the IKC web site. Welling seconded. Motion passed 14-0-1. A generic email address would also be useful for communication via the NSS server (e.g.: for business

cards) or as a link on the web page. Current cost is \$10/year. The email address would remain the same despite changes in an individual's email address and/or changes in IKC organizational structure. Adams moved that an email address be pursued (ikc@caves.org). Welling seconded. Motion passed 13-0-2.

Vandevanter commented on insurance for small items currently being stored at his home. IKC property stored in a personal residence is already covered by his homeowner's insurance under a single deductible. The IKC will not pursue additional insurance.

K Dunlap noted that the biennial bat count for 2001 has been completed. Overall, Indiana bat populations appear to be down. Rays Cave, the largest hibernaculum last time, was significantly down. IKC-managed Coon cave was stable, while populations in Grotto cave have increased. Several "laser calipers" for bat counting have been designed, fabricated and sold to the DNR and US Fish and Wildlife Service. Net proceeds will go to the IKC general fund.

Thanks to Larry Reece for donating a continuous slide projector to the IKC. This will be useful for tabling events.

Meeting adjourned at 10:23. Thanks to Kriste Lindberg for her hospitality in hosting the meeting.

Respectfully submitted,
Bruce Bowman, IKC Secretary

[Post-meeting note: Erik Liebhaber joined the IKC immediately after the meeting, bringing membership to 182 and putting IKC assets over the \$100,000 mark for the first time.]

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millipede in the Mesmore Caves and Heron Cave suggest that there are other surprises waiting to be found in the caves along the Little Blue River drainage. The caves of this area are going to be one of the focal points of the bioinventory this spring.

Acknowledgements: Many people have contributed to this survey in the form of the usual mixture of cold feet, blood, and sweat.

My nearly constant companion for this project has been Ronnie Burns, without whom this degree of success could not have been achieved. I also want to thank Liz Burns, Keith Dunlap, Hank Huffman, Kriste Lindberg, Steve Lockwood, Salisa Rafail, and Tom Sollman for helping on numerous trips. Kelle Reynolds (HNF) has made the project happen with her support from the national forest.

ANNUAL BUSINESS MEETING

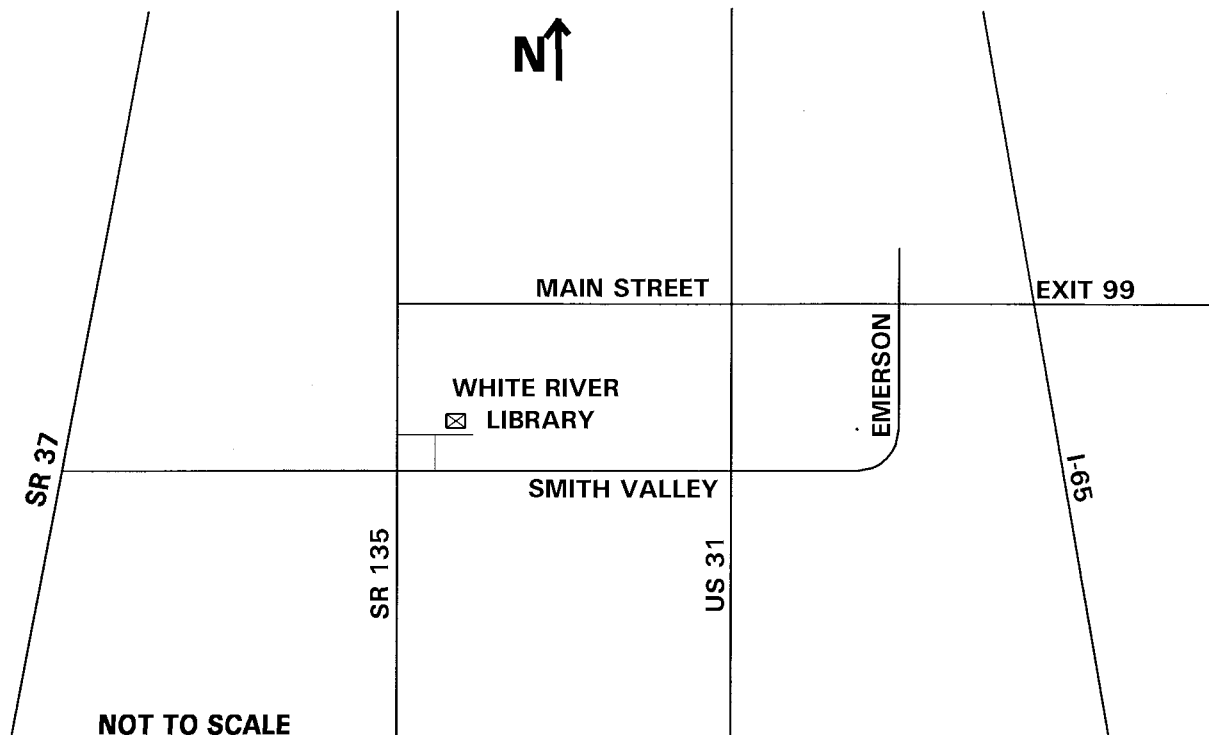
SATURDAY, MARCH 24th, 10 AM

GREENWOOD, INDIANA

WHITE RIVER LIBRARY

DIRECTIONS: The White River Library (1664 Library Blvd, 317-885-1330) is located one block north and one and one-half blocks east of the intersection of SR 135 and Smith Valley Road. Enter the library's front (south) entrance and the Community Meeting Room is immediately on the left before going through the second set of glass doors.

NOTE: This is a new location for this meeting and is **not** at the Greenwood Community Center.



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.

