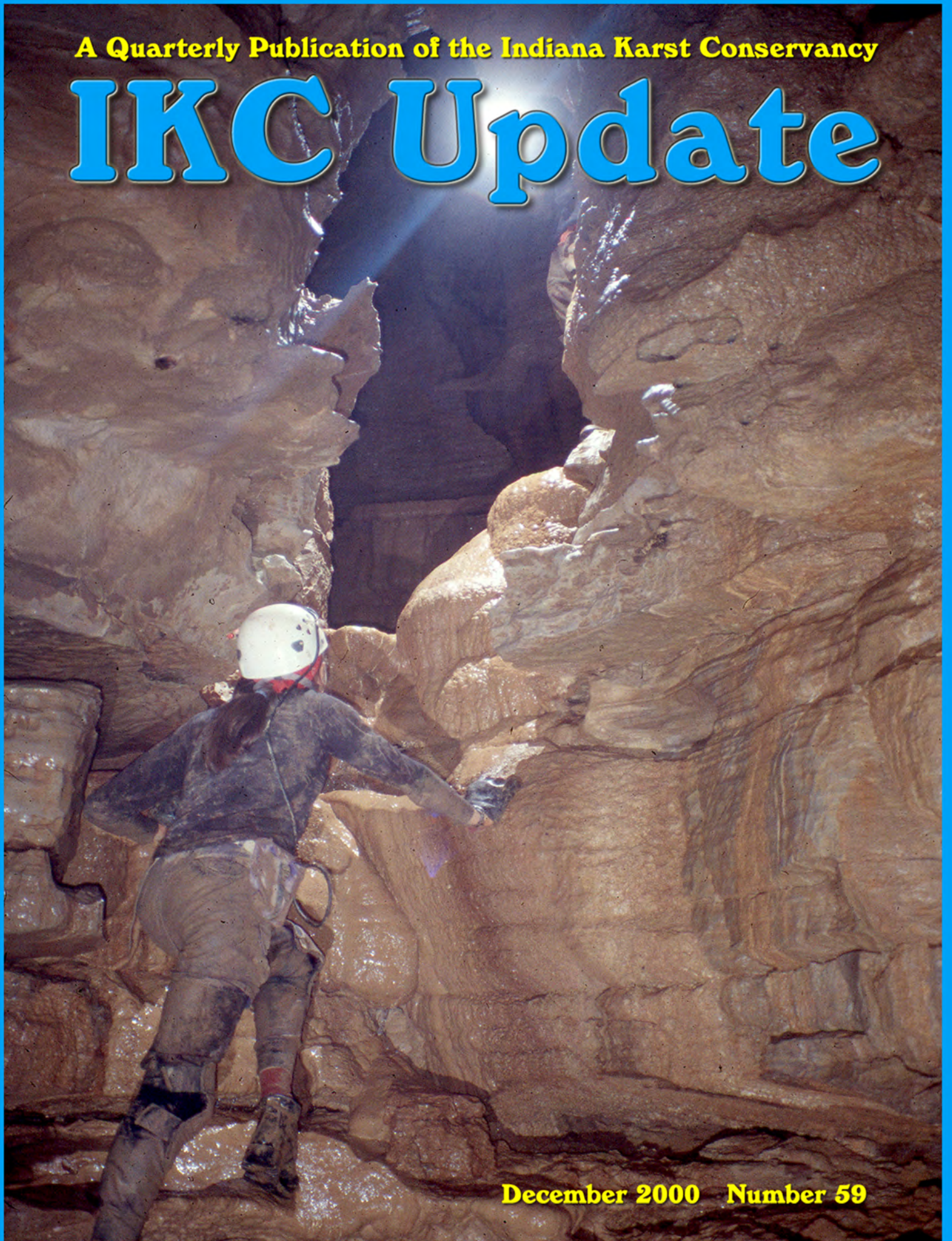


**A Quarterly Publication of the Indiana Karst Conservancy**

# **IKC Update**



**December 2000 Number 59**

# 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.

## EXECUTIVE BOARD

### President

Kriste Lindberg (2001)  
 (812) 339-7210  
 Lindberg@kiva.net

### Secretary

Bruce Bowman (2001)  
 (317) 539-2753  
 Bowman\_Bruce\_E@lilly.com

### Treasurer

Keith Dunlap (2001)  
 (317) 882-5420  
 Keith.Dunlap@juno.com

### Directors

James Adams (2002)  
 (317) 882-3724  
 JKAdams@aol.com

Bruce Devore (2001)  
 (219) 639-7249  
 BRDevore@aol.com

Bambi Dunlap (2001)  
 (317) 882-5420  
 Bambi.Deer@juno.com

Don Ingle  
 (812) 299-0378  
 myotis@indy.net

Steve Lockwood (2002)  
 (812) 849-5766  
 SDL@kiva.net

Nick Noe (2001)  
 (317) 782-3442  
 NickNoe@classic.msn.com

Tom Rea (2002)  
 (765) 653-4423  
 TRea@caves.org

Bob Sergesketter (2002)  
 (812) 482-5517

Tom Sollman (2001)  
 (812) 753-4953  
 Sollman@juno.com

Bill Tozer (2002)  
 (765) 778-3259  
 WTozer@aol.com

Bob Vandeventer (2002)  
 (317) 888-4501  
 VandeventerB@tce.com

Richard Vernier (2001)  
 (812) 385-5058  
 rsav@ieec.org

## COMMITTEES/CHAIRPERSON

### Membership

Bruce Bowman  
 (see E-Board list)

### Land Acquisition

Hank Huffman  
 (812) 876-9645  
 HankandEllen@worldnet.att.net

### Web Technologies

Bruce Bowman  
 (see E-Board list)

### Publications

Keith Dunlap  
 (see E-Board list)

### Hoosier National Forest

Steve Lockwood  
 (see E-board list)

### Rescue Coordinator

Anmar Mirza  
 (812) 339-1506  
 AMirza@indiana.edu

### Indian Creek CE

Richard Newton  
 (812) 365-2495  
 cedarman@netpointe.com

### Sullivan Property

Keith Dunlap  
 (see E-Board list)

### Orangeville Rise Property

Steve Lockwood  
 (see E-board list)

## MANAGED CAVES/PATRONS

### Coon Cave

Keith Dunlap  
 (see E-Board list)

### Grotto Cave

Keith Dunlap  
 (see E-Board list)

### Shaft Cave

Jeff Cody  
 (317) 888-9898

### Shiloh Cave

James Adams  
 (see E-Board list)

### Suicide Cave

Ronnie Burns  
 (812) 883-7400  
 RBurns@blueriver.net

### Sullivan Cave

Bob Vandeventer  
 (see E-Board list)

### Wayne's Cave

Tom Willett  
 (812) 332-8004  
 TWillett@earthlink.net

## GROTTO/LIAISONS

### Bloomington Indiana Grotto

Anmar Mirza  
 (812) 339-1506

### Bloomington Indiana Grotto

Kriste Lindberg  
 (see E-Board list)

### Central Indiana Grotto

Keith Dunlap  
 (see E-Board list)

### Dayton Underground Grotto

Mike Hood  
 (513) 252-2978

### Eastern Indiana Grotto

Brian Leavell  
 (765) 552-7619

### Evansville Metro Grotto

Ernie Payne  
 (812) 477-7043

### Greater Cincinnati Grotto

Eric Weaver  
 (513) 369-0738

### Harrison-Crawford Grotto

Dave Black  
 (812) 951-3886

### Louisville Grotto

Richard Newton  
 (812) 365-2495

### Mid-Hoosier Grotto

Jeff Cody  
 (317) 888-9898

### Northern Indiana Grotto

Bruce Silvers  
 (219) 471-9908

### St Joseph Valley Grotto

Bill Kulwicki  
 (219) 784-2115

### Stygian Grotto

Richard Orr  
 (314) 521-0355

### Sub-Urban Chicago Grotto

Gary Gibula  
 (603) 393-6746

### Western Indiana Grotto

Don Ingle  
 (812) 466-5015

### Windy City Grotto

Steve Petruniak  
 (414) 279-3601

Cover: Ali DuBois peering into Heaven. Photo  
 by Aaron Atz (see more details on page 5).

Newsletter staff: Keith & Bambi Dunlap



# QUARTERLY MEETING REMINDER

**SATURDAY, DECEMBER 2nd, 10:00 PM**

**SOUTHPORT, INDIANA**

**Home of Nick & Carita Noe, 1195 Priority Place**

The quarterly meetings are for the elected Board to conduct official business and for our members and other interested persons to have an open forum to talk about cave and karst conservation and related topics. Past, present, and future IKC projects are discussed to solicit comments and input from our members and the caving community as a whole. The meetings are informal, and everyone is encouraged to attend and participate. The IKC Board *wants* your input.

Preliminary Agenda Items: Brief recaps of last quarter's activities; Property Managers/Patrons reports; Land Acquisition Committee activities; HNF inventorying project; Adopt-a-trail proposal; Educational Committee formation; Display board and ground water model demonstration; and more....

Meeting directions: The Priority Place is accessed off of Stop 10 near the intersection of Stop 10 and Shelby in Southport. It's probably best found by locating the southside Galyans, then proceeding north on Shelby to Stop 10. Turn east and proceed to Priority Place (first side street). Apartment 1195 is located in the southwest corner of the complex.

## ACTIVITIES CALENDAR

- 02 DEC = IKC WINTER QUARTERLY MEETING (see above)
- 16 DEC = HNF MEETING & INVENTORY WORKDAY, Bedford (contact Steve Lockwood)
- 20 JAN = HNF KARST INVENTORY WORKDAY, Mitchell (contact Steve Lockwood)
- 17 FEB = HNF MEETING & INVENTORY WORKDAY, Bedford (contact Steve Lockwood)
- ?? FEB = IKC EXECUTIVE BOARD MEETING (date and location TBD)
- ?? MAR = IKC ANNUAL BUSINESS MEETING (date and location TBD)
- 31 MAR = LOST RIVER TOUR, Orleans (contact Bob Armstrong, see page 4)
- 07/08 APR = UNDER-EARTH DAY, Sullivan Property (date tentative)
- ?? APR = INDIANA CAVE SYMPOSIUM (date and location TBD)

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...

Things are really coming together for us. Over the last couple of years, we've seen a great deal of growth in many ways -- from membership to land acquisition to educational outreach. The future looks even better.

The IKC is a strong organization comprised of many good individuals who have their hearts in the right place when it comes to cave and karst conservation. We have been highly successful working with agencies, individuals, and landowners when it comes to taking care of our environment. However, there is still much to be done, especially in the way of cave/karst abuse prevention.

We need to continue getting the word out on how to best protect our cave and karst resources. Many folks are catching on, but there are also those that need to know. One of our responsibilities is to keep the conservation of these resources fresh in the minds of present and future decision-makers, including those already working in the field, whether they be political, agency, developer, realtor, teacher, or other, as well as those who will be.

Through the work we have already done with these folks, we've found that they are not "evil" people who want to do harm to the karst, but rather mostly just ignorant of better ways to approach a task, such as disposing of waste, developing a subdivision, or placing a road. We are helping them with these alternatives, as well. Such as, planting conservation buffers around sinkholes or

along streams. Core 4, a group of agencies working together to promote better soil, cleaner water, greater profits, and a brighter future, is helping us with that. If you would like to learn more about them, visit their website at <http://www.ctic.purdue.edu/ctic/ctic.html>

One of the steps I have endeavored upon recently has been to strengthen our educational/outreach mission (after all we are a 501c3 based upon education justification). This effort has gone very well. Recently, we have even acquired some new tools in order to be able to do it -- a new folding display to place on tables at outreach events along with photos, information on us, and handouts; as well as the karst/groundwater model we received a grant for from the NSS Conservation Committee. These items were recently introduced, together, at the Environmental Education Association of Indiana's yearly conference in Syracuse on November 11-13. As you can imagine, they were well-received (see article on page 7). I have also been invited to attend a state environmental roundtable discussion at the IDNR's Natural Resources Education Center at Fort Benjamin on November 20. We are reaching many.

Since things are going so well in this department, we will be considering the formation of an Education/Outreach Committee. We will be discussing this at the December 2 meeting. We hope to see you there!

*Kriste Lindberg*

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## NEWS BRIEFS...

- ❑ At the September IKC quarterly meeting, Don Ingle of the Western Indiana Grotto was elected by the Board to fill the vacated Director's position. Don will serve until the next election in March. Also at the September meeting, Richard "Fig" Newton was appointed to be the steward to oversee the Indian Creek conservation easement. Congratulations to both.
- ❑ Bob Armstrong of the Lost River Conservation Association recently announced the dates for next year's Lost River tours. Mark your calendars for March 31st, June 2nd, and September 29th. No one knows the Lost River like Bob, and no one has more stories. More information will be in the March *IKC Update*.
- ❑ As part of our stewardship programs, each cave patron is obligated to submit an annual usage report to the Board. Ronnie Burn's report on Suicide Cave documents 4 trips to that cave in 1999, for a total of 25 participants. There were no problems encountered during any of the trips.



- ❑ A post-gate observations by Mark Stacy (Indiana DNR) reports that bats are now using the mine in Turkey Run state park. This is good news as the previous fencing over the entrance excluded the bats from using this habitat. Mark plans to conduct post-gate investigations at all the other sites to see how successful our efforts have been. He also indicated he has a new list of mine sites needing gates, some which will be “real challenges”. Also, photos and an article describing the past two year’s efforts have been posted to the web. You can follow a link from the IKC’s website ([www.caves.org/conservation/ikc](http://www.caves.org/conservation/ikc)).
- ❑ In November, Keith Dunlap, Mark Stacy, as well as two others from the Indiana DNR division of mine reclamation attended a three-day conference on mines and bats in St Louis. The conference was sponsored by the Office of Surface Mining and Bat Conservation International and was attended by approximately 150 interested persons from federal and state agencies, environmental and mining organizations, and mining companies. The conference’s primary purposes were to exchange ideas and technologies related to mines and bats, as well as to present the current status of programs nationally. Approximately 32,000 abandoned mines have been closed in the last twenty years. Of those, less than 2,000 have been closed using bat-friendly techniques. Time, money, and knowledge are the main deficiencies in why more bat-friendly closures are not being used. It is estimated that there are still over 300,000 abandoned mines left to be closed, most in the western states where hard rock ore mining is prevalent. In most respects, Indiana seems to be ahead of the pack in being pro-bat and recognizing the importance of abandoned mines as being potential habitats.
- ❑ A coalition of Indiana environmental organizations this past year worked together to draft the “Conservationist’s Alternative” for consideration by the Hoosier National Forest as part of their revision process to adopt a new Management Plan. The IKC participated in the coalition and officially signed onto the vision letter presented to the Forest Supervisor in late September. Key points to the alternative are the prohibition of commercial logging, the continued ban of off-road-vehicles, the designation of up to four more wilderness areas, and the development of segregated trails for hikers, bikers, and horses. The alternatives stresses biological diversity, wildlife habitat, and watershed protection, rather than commercial exploitation and inappropriate recreational use.
- ❑ A major piece of national legislation, the Conservation and Reinvestment Act (CARA), nearly made it through the gauntlet on Capital Hill. This would have funded wildlife and other conservation initiatives to the tune of \$350 million over the next 15 years with the money coming from off-shore petroleum fees. Strong support in the House allowed the Act to pass by a 3:1 margin and until the final days in the Senate, it looked to be a “sure thing” with formal support from 63 of the 100 Senators. However, the leaders of the Senate blocked the bill from being heard. As a token offering, a compromise rider (known as CARA-lite) was added to the Interior Appropriation Act, which *could* provide up to \$50 million per year for the next seven years, but it is unlikely that appropriations beyond the first year will actually occur. Regardless of the future, next year the Indiana DNR will receive a small portion of the \$50 million which may be available for land acquisitions, educational programs, and endangered species protection.
- ❑ In late September, four men were charged by a grand jury of violating the Federal Archaeological Resource Protection Act for illegally excavating artifacts from Decker Cave in Mark Twin National Forest. If found guilty, each could be sentenced to two years in prison plus a \$20,000 fine. It is unsure why the men were not also charged with violations of the Federal Cave Resource Protection Act.
- ❑ This issue’s cover photo was provided by Aaron Atz. The caver in the photo is Ali DuBois looking up into the room called Heaven in Ted’s Dig (Harrison County). Assisting Aaron was Andrew DuBois holding the exposed flash. Aaron admits the flash into the lens was accidental, but the effect is interesting nevertheless. Other details: The photo was taken on 6/4/2000 using Kodak Elite-chrome 200 film shot with s Pentax WR90 camera. Additional backlighting was added by Aaron using a electronic strobe triggered by a Firefly slave unit. The cover layout was done by Jim Adams.



- ❑ After a year of collecting “cans for karst”, the IKC cashed in 143 pounds of aluminum, netting \$43. Members contributing this year include Keith/Bambi Dunlap, Jim/Kim Adams, Tom Rea, Bob Armstrong, plus cans from Cave Capers. Anyone wishing to save aluminum cans for the IKC can do so and eventually get them to Keith Dunlap. Please crush and bag the cans.
- ❑ While it is still a few months away, members should start thinking about the next IKC Executive Board elections. The IKC is governed by a fifteen-person board, nine which are elected each year. If you are interested in running for an officer (3) or director (6) position or would like more information on the responsibilities of each position, please contact Kriste Lindberg. The ballots must be finalized by early February so they can be distributed 30 days prior to the election in March (the specific date of the meeting is to be determined).
- ❑ Three new members have joined the IKC in the past quarter. Welcome Andrew DuBois (370), Alison DuBois (371), and Bill Ackerman (372). The IKC membership now stands at 174.

## IKC RECEIVES IPALCO GOLDEN EAGLE GRANT

by Keith Dunlap

For the second time in three years, the IKC has received a significant donation from the IPALCO Golden Eagle Environmental grant program. In 1998, the IKC received a \$7,000 donation to assist with the acquisition of the Sullivan property. This year, the IKC received a \$2,500 grant to fund our reforestation project on the same property.

The IKC started its reforestation project in 1998 with about 50 trees. Last year we planted another 400 trees at a cost of around \$250. With anticipation of planting over 1400 trees in 2001, Keith Dunlap applied for a \$1000 IPALCO grant, plus a USDA Stewardship Incentive Program (SIP) 50% cost share grant.

In early September we were notified that we had been approved for the SIP grant. Later that same week, we found out that IPALCO had decided to award us \$2,500 instead of the \$1,000 requested. The additional funds are unrestricted, but will likely fund Sullivan-related projects over the next several years. These include the kiosk construction, anticipated driveway maintenance, and an increase in the number of trees from 1400 to 1800 (increasing the planting density from 400 trees/acre to 520 trees/acre).

The primary expenses related to the trees include the cost of the seedlings (\$450) and the cost of mulching for two years (\$900). The species to be planted include six types of oaks, two types of hickories, black cherry, persimmon, yellow poplar, and white ash. The tentative planting dates are April 7/8 as

part of Under-Earth Day.

Upon completion of our reforestation project, the Sullivan property will be enrolled in the Classified Forest program to reduce our property taxes.

IPALCO awarded 13 other grants this year. Since 1994, they have awarded 85 environmental grants to Indiana organizations, dispersing over \$425,000. For more information on the Golden Eagle program, follow the link at [www.caves.org/conservancy/ikc](http://www.caves.org/conservancy/ikc).



Our second Golden Eagle award in three years.

## EEAI ANNUAL CONFERENCE

by Kriste Lindberg

The theme of this year's Environmental Education Association of Indiana conference (November 11-13, 2000), held at the Oakwood Inn and Conference Center in Syracuse, was "Taking a New Path". It was attended by educators and agencies from around the state. As it was held in the northern part, there were mostly representatives from those areas, rather than the karst areas. However, the theme of the conference was most appropriate as I introduced the attendees to the need to start thinking more in terms of cave and karst conservation.

The main gist of the conference was for educators to think and act in terms of integrating environmental education with the various disciplines. There are many interrelationships between them. One can incorporate not only earth science sciences like geology, biology, and the like but also math, physics, and the social sciences as well. It should not stop there. Integrating these can also be fun. They can be packaged in projects that the students feel ownership of, such as monitoring a natural area. Studies have shown that students not only have fun with these projects but learn more from them in the way of more advanced critical thinking skills. On top of that, they tend to achieve more too, as they receive a sense of accomplishment. Overall, it teaches them to be better stewards of the land.

We even took some "field experience" trips to a couple of local sites -- Merry Lea Environmental Learning Center ran in part by Goshen College, and an evening candlelight tour of Gene Stratton-Porter's former home, the Limberlost Swamp, on the shores of Sylvan Lake.

I even won a useful doorprize, Biodiversity Basics, An Educator's Guide to Exploring the Web of Life. It is the World Wildlife Fund's Windows on the Wild (WOW!) Program and includes an Educator's Guide, Student Book, copy of WOW! - A Biodiversity Primer, and full-color poster map of the Global 200 Eco-regions - the richest, rarest, and most threatened natural areas on the planet. They were donated compliments of Acorn Naturalists ([www.acornnaturalists.com](http://www.acornnaturalists.com)). There's even some information we can use as far as water quality is concerned.

There were sessions on all sorts of topics, from teaching environmental education through stories, to incorporating it into curriculum through state academic standards. I

attended as many as I could, including Indiana NatureMapping (recording details on wildlife in a database), An Incorporating Environmental Education into the Indiana Academic Standards 2000 for Science (self-explanatory), Excellence in EE - Environmental Education Guidelines (integrating subjects), and Core 4 Conservation: Helping Agriculture Protect Natural Resources (a collection of agencies working on helping farmers and others improve soil and water quality, and provide wildlife habitat while increasing profits). It was hard to make decisions as many of them were concurrent! However, all were beneficial for cave/karst conservation purposes.

Speaking of which, I was quite pleased that at least 20 educators showed up for my presentation on Project Underground (PU). Basically, I introduced them to the IKC, showed them a little slideshow on the need for cave/karst education which incorporated both slides from PU as well as some from the IKC, led them through one of the PU activities by the name of Moving Rocks (deals with sedimentary rock layers and cave formation), and handed out copies of the activity as well as handouts on website sources of education and the PU brochure while preparing to demonstrate the karst/groundwater model. They loved it! It was a high-energy presentation that left them eager to help us "get the word out" on the need for more cave/karst conservation education. Many good contacts were made amongst both agencies personnel and teachers, in general.



Kriste demonstrating our new groundwater model.

## LEONARD SPRINGS NATURE PARK UPDATE

by Kriste Lindberg

*In nature's infinite book of secrecy,  
A little I can read.*

- William Shakespeare

This quote graces the welcome sign at LSNP, and is rather fitting. We are constantly learning as we continue to explore and interpret this special little park.

Lately, we have been working with various schools and individuals to continue the study of the park as well as come up with better ways of managing it.

Those we are working with include Harmony School and their Hoosier RiverWatch monitoring of Shirley Spring East, the IDNR and NRCS on controlling erosion and runoff, EcoLogic on restoring native plant species, Project Underground on cave/karst conservation education issues, IU and the SPEA Department with setting up curriculum and field trips for students, and of course the Ohio Valley Region and their Conservation Project 2000 (see related article starting on page 11).

The OVR came out on November 4 to help us clean up the hillside along the road, the caves, and the grounds. All together, 26 tires, 3760 pounds of construction and other debris, and 1950 pounds of general trash were removed this time around. This brings us up to close to 100 tires and over seven tons of trash that have been removed from the property since cleanups began last year! The Monroe County Solid Waste Management

District was there to help with a winch truck, a huge dumpster, trash bags, gloves, orange vests and cones, and haul off, and the City of Bloomington supplied the food and munchies. We thank all for their help and involvement. We could not have done it without all the dedicated agencies and individuals who worked together so well that day.

Some interesting old bottles and pottery were found that day and we are working with the Monroe County Historical Society on their identification.

On November 15, I took a group of college students from IU's Recreation and Parks Administration Department into Shirley Springs Cave and around the park as part of one of their classes on natural history, taught by Hilltop Nature Center's Director, Leah Garlotte. They had a great time learning about cave/karst conservation and water resources in general. It was a relief to hear them comment on how good a local wild cave can look, especially compared to Buckner! They were enthused and eager to help get the word out as to why and how to take care of these cave resources.

Educators and others are consistently commenting on what a good place the park is to take students as it offers so much in a workable space that is compatible with tight time schedules.

We are continuing to work on the above and more and will continue to report on what we have learned.


## THE 2000 HEC CONGRESS AND ANNUAL MEETING

by Nick Noe

It was again my pleasure to represent the IKC at the Hoosier Environmental Council (HEC) Congress and annual business meeting held November 11-12 at the HEC Indianapolis office in the old Centrum building. Since the IKC is a supporting non-profit member of the HEC, we are invited to participate in the Congress and vote on the annual Action Plans of both the HEC and HECAF (the latter being the lobbying and non-tax-exempt arm of the HEC).

This year's theme of the HEC Congress

was Global Warming and Climate Change. This is normally an environmental topic that is not often a focus of our karst conservation efforts; but based on what I learned at the Congress, we might want to rethink our priorities. While we normally associate the consequences of global warming with sea level rise and weather disruptions, there is a larger, farther-reaching consequence to the caves, which may not have been given the

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## ORANGEVILLE RISE WORKDAY

by Keith Dunlap

For our September 23rd pre-meeting work project, twenty-one volunteers met at our Orangeville Rise property to tackle a few chores. First we picked up a little trash, but on the whole, the property has remained pretty clean since our last workday there about a year ago.

The main task of the day however, was to remove the old Nature Conservancy sign that has stood guard over the nature preserve for the past twenty-five years, and to install *our* new routed sign. The old sign boards were mounted on two old telephone poles which were extracted with a chain and mechanical jack. Several boards from the old sign were salvaged by Tom Sollman who will add them to his ever-growing personal cave/karst museum. The rest of the boards and poles were cut-up and hauled away.

Once the old sign was gone, the new sign (routed by the DNR, then painted by Keith and Bambi Dunlap last spring) was assem-

bled. One of the old post holes was “re-cycled” and it’s mate was dug 36 inches deep. The sign was then dropped into place and leveled to everyone’s satisfaction (there’s level, and then there’s what *appears* level because of surrounding references). Dirt was tamped in around the posts and the task was done. With so many people, it barely took an hour to finish up.

With three hours until the meeting, Bob Armstrong volunteered to take us all on an abbreviated Lost River tour, first stopping at Wesley Chapel Gulf, then proceeding to Stein Swallow-hole.

Workday participants included Ken Alwin, Bob Armstrong, Dan Bohling, Bruce Bowman, Bruce Devore, Bambi Dunlap, Keith Dunlap, Val Frazee, Don Ingle, Kriste Lindberg, Steve Lockwood, Carita Noe, Nick Noe, Tom Rea, Jim Richards, Tom Sollman, Bob Vandeventer, Dick Vernier, Sue Vernier, and Jamie Winner.




IKC members replacing the sign at the Orangeville Rise. Our new sign is about half the size of the previous sign.

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consideration it deserves. In the last 200 years of “civilization” the industrial revolution combined with the clearing of old growth forests for agriculture has nearly doubled the concentrations of carbon dioxide in our atmosphere. This contributes to what is commonly known as the “greenhouse effect”. This “greenhouse effect” causes higher average global temperatures, which, in turn, cause increased oceanic evaporation that falls back to earth as torrential rain. As we all know, carbon dioxide dissolved in water

is weak carbonic acid, which is what makes and enlarges limestone caves. Should humanity survive this manmade sauna, mankind may be remembered more for an accelerated phase of cavern development than for anything else. While most enlargement may take place in phreatic zones, renewed vadose down-cutting of cave and surface streams could also have a profound effect on how the landscape will look in the next geologic age. So our ecological responsibility goes beyond taking only pictures, killing only time, and

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## HNF/IKC KARST INVENTORY PROJECT UPDATE

by Kriste Lindberg

Things are moving right along with the HNF/IKC Karst Project.

We are up to 116 known caves on forest property, the breakdown (bad pun sort of intended) is as follows:

Caves w/ management plans written	1
Caves ready for management plans	24
Caves needing "Values" team info	14
Caves needing "Advance" team info	40
Caves needing more info for packages	37
Total number of caves	116

That's a lot of caves and as you can see, we still have a lot of work ahead of us. We need folks to help us with doing the Advance Team work (locating the caves and doing the initial surface work) and Values Team (inventorying the caves for their archaeological, biological, geological, hydrological, paleontological, and yes, recreational values) work. We'll even train - there is a video of the last training session with experts in their fields such as Dr Pat Munson on archaeology, Dr Julian "Jerry" Lewis on biology, Sam Frushour on geology, John Bassett on hydrology, and Ron Richards on paleontology. This is good "stuff" all cavers should be exposed to and will help you see caves as com-

prehensive systems of inter-dependent subjects and appreciate them more as such.

We have also been busy with a wide variety of other projects too, including Dr Lewis' biota study of certain caves on the forest and nearby properties, writing grants to cover expenses for an interpretive plan at Wesley Chapel Gulf, investigating the kaolinite mine sites in Lawrence County for possible closures or gatings, and considering the possibility of having an extensive dye-traces done on key areas on the Hoosier. Of course, we are still working on "old business", like writing individual management plans for each cave and remaining involved the overall Forest management plan revision.

Let us know if you would like to help with any or all of the above. We meet on the third Saturday of each month to do fieldwork and every other month we also have a meeting at the HNF Headquarters in Bedford.

Finally, as mentioned last time, as an incentive, volunteers can "earn" one of the new IKC/HNF "Partners in Karst Conservation" t-shirts. These are really nice shirts, so volunteer, have fun, and do something constructive and rewarding while protecting the caves on the Hoosier.

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leaving only footprints. We may be unknowingly contributing to the shape of caves in the far future simply by behaving as if we were never part of the planet and by continuing to add to the buildup of carbonic gases in our atmosphere. If you would like to learn more on this topic, I seriously recommend anything written by Ross Gelbspan, who was our videotaped luncheon speaker.


The HEC and HECAF business meetings on Sunday focused on their Action Plans for 2001. HECAF will be lobbying the Indiana State Legislature on the following issues: a) the state budget for support of the Indiana Heritage Trust (\$25M), clean manufacturing (\$2.3M), farmland preservation (\$ 10M), soil and water conservation (\$20M), brownfields redevelopment (\$25M) and non-game and endangered species funding (\$0.5M); b) land use and urban sprawl to promote smart

growth initiatives; c) utility deregulation and incentives for renewable energy; d) water protection and waste treatment; e) pesticides and children's health; f) reservation of botanical and biological heritage; and g) campaign finance reform.

In addition to their lobbying efforts, HECAF will also continue their environmental field and phone canvasses of Indiana communities for fund-raising and educational purposes.

The HEC effort for 2001 will focus on the following areas: a) organizational development; b) strengthening the HEC Legal Defense Fund; c) environmental education; d) campaign finance reform; e) conserving open space and revitalization of cities; f) protection of rivers and water supplies; and g) climate change and energy use.

I picked up a copy of the 1999-2000 HEC

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## 7th ANNUAL OVR CONSERVATION PROJECT

text and photos by John LeMar Cole

The seventh annual conservation project of the Ohio Valley Region was a success by anyone's standard. None of the projects in the past has been so well coordinated or carried out, and for that we can all thank Kriste Lindberg, president of the Indiana Karst Conservancy. Kriste did not leave one stone unturned as concerns the project's organization and execution, and we all owe her a round of applause for a job well done. Furthermore, in large part due to her tireless efforts and the hard work preceding the project by members of the IKC and the Eastern Indiana Grotto, it was the easiest project to date.

Leonard Springs Nature Park, owned and managed by the Bloomington Parks Department, is a model of cooperative stewardship. The IKC and EIG, assisted by others, have labored intensively to retrieve this remarkable landscape from a neglected dumping ground to its pristine appearance of over a century ago. They have further improved its scenic offerings by the addition of interpretive signage detailing the history and features of the 85-acre park, as well as installing unobtrusive steel walkways and viewing platforms that protect delicate karst features and plant life from excessive trampling while making these places of repose accessible to the many. The park is home to a diverse flora and fauna, the thrumming of woodpeckers and the fluting of water fowl providing soul-refreshing orchestration to the lush surroundings. The relaxing murmur of its spring waters cascading over fern-swaddled limestone terraces, the placid beau-

ty of the shimmering wetlands cradled below, should guarantee its place as an Indiana natural treasure for many generations to come. I am proud to have contributed even a small measure toward its conservation and longevity.

As anticipated, the project's primary goal was to remove the remaining refuse littering its precipitous slopes, made even more treacherous by a startlingly slick leaf cover concealing ankle-snapping potholes perforating the plunge. Nevertheless, with comic, ant-like persistence, a mud-filled television, cash register, concrete-lined safe, oil barrel, mattress springs, numerous tires, and the usual assortment of cans, bottles, and trash were hauled up the hill and deposited along the roadside, to be flung into the bed of the provided pick-up truck, and thence to the dumpster located at the entrance of the park.

We were on the lookout for milk jugs that posed a bit of a bio-hazard and fortunately only a few of these were recovered, most having been removed by a previous sweep of the hillside. When we had initially spied these innocent-looking containers during the site evaluation trip in March, it was assumed that they contained used motor oil. But upon further investigation (and we pity the discoverer!), it was determined that they in fact contained raw human waste, a most unwholesome revelation. How and why these jugs were so employed remain the province of unsavory conjecture. Needless to say, these were handled with due caution, double-wrapped in plastic bags, and gingerly placed in the back of the truck for appropriate disposal.

Leonard Springs Nature Park embraces three actual caves, the largest of which, Shirley Spring Cave, opens upon a rather voluminous breakdown room, following a short hands-and-knees scramble. Previous clean-up efforts have removed nearly all of the trash and tires from the cave, but for good measure a small task force scouted the interior for remaining garbage, returning with a modest bounty. The graffiti that remains on its walls is considered historical at this juncture, so there was no scrubbing to be done. However, in a follow-up project, I would like to address what seems to be the



Kriste Lindberg started out the day by instructing all the volunteers on the tasks to be accomplished and how the various debris are to be sorted.

most imminent danger to any feature in the park, and that being the cattle field directly above Shirley Spring's sinkhole entrance.

All topographical evidence indicates that there is surface drainage directly into the sinkhole from several areas of the field, though this would prove a genuine hazard only in the event of heavy rains or snow melt run-off. The park boundary separating the cow pasture from the cave is a mere twenty feet or so above the sinkhole, and rather deep erosion contours suggest this could present a periodic problem. I also strongly suspect that there is subterranean drainage from the field, percolating through the surface soils and following runnels into the cave proper. The impact that this is currently having upon the cave environment would require considerable investigation to determine. In the meantime, as concerns the surface drainage, I would support a future project addressing this potential threat to the cave's ecosystem, working in conjunction with local civil engineers to design and construct a sluice system that would conduct surface effluvia away from the sinkhole. Of course, anything that would be installed would need to be unobtrusive, environmentally friendly, and be performed in cooperation with the adjacent landowner, who happily has a history of being supportive of the park. Kriste and I, along with assistance from the IDNR and NRCS, will hopefully be able to put together a plan to mitigate this problem in the long term.

After scouring the roadside slopes for refuse and perhaps filling a third of the roll-off dumpster, lunch was served *al fresco*, compliments of the City of Bloomington. Sandwiches, soft drinks and merriment were plentiful as we reviewed the accomplishments of the day thus far. While chowing down we were entertained by the high-stepping strut of an emu (of all the unlikely creatures!), as it paced the fence line of the adjacent farm with the grim demeanor of a prison guard. It paused for only a moment from its compulsive parade as I captured it in snapshots, surveying us tourists with a dinosaur's cold-blooded gaze, looking as if it could split me like a piqata with its murderously well-equipped toes-and that it would gladly do so, were it not for the electric fence separating us (for which I was more than grateful). Having been knocked unconscious by an ostrich as a boy, I know these big birds mean business. Out of

respect more than admiration, I dubbed it Project Mascot and, with a shudder of childhood reflection, left it in peace.

Our hunger pangs sated, small groups of us marched the trails, looking for whatever trash we could uncover. However, the various previous projects spearheaded by IKC and EIG have done such a fine job of trash collection before us that it took considerable ferreting to find stuff to drop in our sacks. Leaving the trails, we bushwhacked the



Just some of the trash found on the hill sides needing the attention on the clean-up crew.

marshy fen and vine-choked bracken, scuffling up an occasional pop can, limy with age. With our nearly empty bags and orange safety vests, we looked like trick-or-treaters returning from a very stingy neighborhood. Thanks to our predecessors, Leonard Springs is a very clean park.

Nevertheless, in the final tally, our efforts had removed 26 tires, 3,760 pounds of construction debris, and 1,950 pounds of trash; over three tons in all! Although this represents a tenth of what we pulled from the sinkhole at Freeland's Cave in 1998-99, it was still an impressive haul for a single afternoon.

We called it a day sometime between three and four, the earliest any OVR project has ever been drawn to a close. Kriste seemed quite content with our productivity and none of us regretted the early recess. While the irrepressibly energetic students of Wittenberg University checked out the polychromatic horror known as Buckner, we elder folk enjoyed dinner in Bloomington. It was a very pleasant adieu to a very pleasant day. Even the weather had been extraordinarily accommodating (especially for those of us who remember the snowstorm that abruptly ended the Sinks of Indian Creek pro-

ject, three years prior), providing ideal daytime temperatures for manual labor.

Nightfall found us gathered 'round a modest campfire, sharing silliness and fending off the chilly air. I'm not sure how low the mercury dipped that evening, but an unopened beverage left to the elements had frozen solid by morning. Our campsite accommodations had been excellent, adjacent to clean, stocked restrooms and steamy hot showers, which felt particularly wonderful contrasted with the wintry night. Sunday we were up and at 'em with the chickens, folding up our tents upon the frosty grass, animated by the cold, but in high spirits all. Once the sun had climbed above the trees, the unseasonal chill gave way to yet another beautiful day. Then we were on the road again, one more project successfully behind us, one more site better off for our endeavors.

Although Kriste Lindberg was unquestionably the mastermind behind this project, several others deserve specific mention. Foremost, I want to thank Brian Leavell, chairman of the Eastern Indiana Grotto and vice-chairman of the Region, for bringing Leonard Springs to the attention of the OVR. Besides being a loyal participant in OVR projects since the beginning, Brian coordinated EIG conservation efforts that contributed to the park's current cleanliness and hence to the ease of the 2000 OVR project.

Copious kudos to the Monroe County Solid Waste Management District, and especially Andy Kohalmi, the Adopt-A-Road Program Coordinator, for providing the dumpster, pick-up truck, garbage bags, safety vests, road cones, and gloves for the project. The donation of these supplies, services, and expertise provided the backbone to the project, without which our practical needs would have been prohibitively expensive.

Many thanks to the City of Bloomington, who provided our greatly appreciated food and beverages, refreshing us for the long haul and helping to unify our camaraderie. A caverly thank-you as well to the Monroe County Fairgrounds Board, and most notably its representatives Kenny Treadway and Thelma Naylor, who opened the fairgrounds to us, gratis and out-of-season, and who saw to it that we had paper supplies, hot water, and even firewood!

I want to applaud the members of WUSS, whose consistent support through the years has provided an invaluable workforce; this

year alone they comprised better than a third of the 24 volunteers present. A special thanks to Matthew Hazelton, their current president, for rallying together their enthusiastic participation. I also want to extend a hearty welcome and thank-you to Donald Ingle of Western Indiana Grotto and Brent Grist of Northern Indiana Grotto for representing their organizations in this "maiden voyage" with the OVR. Welcome aboard!

A heartfelt hug of appreciation to the individuals listed below, who collectively represent the following veteran organizations, whose assistance in OVR projects present and past has provided the keystone of the Region's remarkable success: Central Ohio Grotto, Eastern Indiana Grotto, Indiana Karst Conservancy, Dayton Underground, Blue Grass Grotto, Central Indiana Grotto, and Bloomington Indiana Grotto. Participants included Kristen Baughman, Bill Baus, Ryan Bell, Nicole Breyette, Lara Cerri, John LaMar Cole, Don Conover, Keith Dunlap, Brice Edwards, Jared Frazier, Jeff Frazier, Jennifer Gilliam, Brent Grist, Matthew Hazelton, Christopher Hennig, Travis Holden,



Still more trash found in the woods, shuttled in a pickup to dispose of in the large dumpster.

Don Ingle, Brian Leavell, Kriste Lindberg, Chris Parks, Kevin Toepke, Steve Weldon, Kathy Welling, and A Wells.

I'd like to express my personal gratitude to Kathy Welling, Don Conover, and Kevin Toepke who, along with Brian Leavell, have always been there for me. Thank you, guys, from the bottom my heart!

And finally, I want to congratulate members of the Indiana Karst Conservancy for remaining one of the most powerful and effective cave conservation organizations in the nation, a model for us all to follow...if we can only keep up with you!

## WHEN IT'S BAT HIBERNATION SEASON - PLEASE KEEP OUT

by Jackie Belwood, Cincinnati Nature Center

It's that time of year again then the days are getting shorter, temperatures are dropping, and members of many bat species are in the final stages of an annual return to the caves and abandoned mines in which they will spend the winter. In response to predictable food shortages caused by the onset of the first frost, this is the season when about half our bat species seek out the relative safety of a sheltered over-wintering roost where they will be protected from extreme temperatures and other hazards. The rest of our bats migrate south to the Gulf States, Mexico, or the Caribbean where they will remain more or less active all winter.

The bats that enter caves will soon enter into hibernation, a long-term lethargic state that resembles very deep sleep. During hibernation, bats conserve energy by reducing their metabolic rates (all their normal body functions) to the lowest levels possible to sustain life. For example, a Little Brown bat with a resting heart rate of about 100 to 200 beats per minute, and a flying heart rate of about 1000, can reduce its heartbeat to about 5 per minute during hibernation. This is accomplished by lowering the body's temperature to near freezing, a feat that is facilitated by the choice of an over-wintering site (called a hibernaculum) that is itself just slightly warmer than freezing. Bats are unusual for mammals in that their body temperatures can be raised or lowered as a function of ambient, or surrounding, air temperatures. In other words, the colder a roost, the colder the bats in it are likely to be. (Conversely, this is why female bats choose particularly warm roosts in summer to sustain warm body temperatures and hasten the development of their young.) During hibernation, bats are more or less helpless as they hang torpid, and as such are extremely vulnerable to disturbance and vandalism. Depending on latitude, bats can stay in a state of hibernation for weeks or months at a time. In Ohio, Indiana, Kentucky, and West Virginia this period lasts from about late October to early April and typical hibernation sites include caves, abandoned mines, and cracks and crevices in large rock outcrops. To a much lesser extent attics and

tree cavities are also used as bat hibernacula.

During hibernation, bats survive on fat reserves they accumulate in late summer or early fall, in the weeks after they have arrived at an over-wintering site but before they enter hibernation. Prior to entering hibernation, a bat increases its summer body mass by as much as 25 to 40% to survive winter. Studies have shown that mortality rates can be particularly high for juvenile bats over-wintering for the first time, suggesting that they may not be as efficient as adults in accumulating fat reserves for their first winter. Relatively constant temperatures and high humidity are requisite conditions for most hibernacula. These sites are usually species specific in terms of their temperature and humidity and reflect optimal environmental conditions that allow resident bats to optimize their restricted fat reserves. With this in mind, it should not be surprising that some hibernation sites, particularly those of cave- and mine-dwelling species, are used year after year by the same bats. Further, in some species such as Indiana bats, only a handful of caves in any geographic area provide the bats with the over-wintering conditions they need. Consequently, the bat populations they house can be enormous, numbering in the hundreds of thousands.

Hibernating bats arouse spontaneously only a few times during winter usually to urinate, fly briefly, or drink. It takes 30 to 60 minutes for a hibernating bat to arouse and raise its temperature to about 40 C (104 F) in the cool environment of a hibernaculum. In doing this, the bat uses enough fat to sustain itself in undisturbed hibernation for 10 to 30 days, or more.

Consequently, it only has enough stored energy to arouse a few fixed number of times every winter. Repeated arousal, and the energy used in this process, is the single most important factor that causes winter mortality in bats. If they arouse too often, bats will deplete their energy stores and freeze to death. Given the energetic costs of hibernation, it is not surprising that bats choose hibernation sites that allow them to optimize



their stored fat reserves. If a hibernation site becomes too warm or cool, bats will move. If hibernacula are not humid enough, they will have to arouse periodically to drink to avoid dehydration. Clustering in some species is believed to reduce water loss in some hibernating bats and the need to arouse.

Recent studies have shown that bats arouse every time they are disturbed during hibernation. Disturbance factors include loud noises, lights, touch, and the minor fluctuations in temperature associated with the presence of people, even if they are just passing through a hibernation site. In controlled experiments in an abandoned mine in Quebec, repeated visits over a period of months, by one or two people who scanned hibernating bats with a flashlight, resulted in a marked increase in arousal and flight activity.

This began within 30 minutes of a visit and peaked 1.0 to 7.5 hours after the visit. This means that the effects of disturbance were not visible at the time of the actual disturbance, but took place several hours later.

Declines in the size of cave-dwelling bat populations, including members of several endangered species (Indiana bats) has been attributed to repeated disturbances at overwintering sites. With this in mind, the protection of hibernacula should be a high priority in regard to bat conservation efforts

in Ohio and elsewhere. Human disturbance, including seemingly harmless visits by well-meaning recreational cavers who do their best to cause the least impact to cave environments, should be kept to an absolute minimum.

If necessary, bat-friendly gates should be installed at cave and mine sites used by over-wintering bats to prevent seasonal disturbances.

#### Selected References

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[*Editor's note: Reprinted from the 11/2000 Central Ohio Grotto Squeaks newsletter.*]

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Annual Report and will have it available at the next IKC meeting for anyone who is interested in a more detailed explanation of HEC activities.

Our luncheon speaker was Tim Palmer, an author on several books pertaining to conservation of America's rivers. Following the luncheon, financial reports were given for both HEC and HECAF. Both organizations have shown steady, but unremarkable improvements in their financial positions. I will have the balance sheets and 2001 budget sheets available for review at the IKC meeting. After financial reports were given, elections were held for both the HEC and HECAF boards. It should be noted here that both Bill Miller and Alice Schloss are retiring from their positions of President and Secretary of HEC, respectively, following five successive terms of office and noteworthy accomp-

lishments for HEC. They were given extended and standing applause for jobs well done.

The HEC Board elections were for nine vacancies, which were filled by the following individuals by acclimation: Jim Kennington, Paula Willoquet, Don Mottley, Jean Melchior, Jack Miller (and new HEC president), Jean Neagu, Doug Trolson, and Dixie Wagner.

The HECAF Board Elections were for three vacancies, which were filled by the following individuals by acclimation: Bill Eads (vice president), Bonnie Eads (Treasurer), Nicholas Noe (Secretary). Jack Miller will also serve as president of the HECAF Board.

Following elections the meeting was adjourned. Member organizations should expect a position briefing prior to the start of the next legislative session. HECAF is going to try to set up an environmental lobbying day at the start of the next session. Date and time will be announced in the coming month.

## INDIANA KARST CONSERVANCY TREASURY REPORT

### Income/Expense Statement From July 1, 2000 to September 30, 2000

**INCOME:**

Dues Apportionment and Residuals	655.00	
Donations	260.00	
Acquisition Fund	10.00	
NSS Conservation Grant	500.00	
Conservation expense credit	21.72	
Interest	150.29	
Transfer from restricted funds	<u>132.00</u>	
		\$1,729.01

**EXPENSES:**

IKC Update (printing, production, mailing)	143.49	
Membership (postage, meeting notices, etc)	150.01	
Conservation/Management/Education	357.50	
Hoosier Environmental Council dues/donation	100.00	
The Nature Conservancy donation	1000.00	
Business (bank fees, postage, etc)	12.00	
Transfer to restricted funds	<u>10.00</u>	
		(\$1,773.00)

**NET OPERATING EXCESS (DEFICIT) THIS PERIOD:** (\$43.99)

### Balance Sheet September 30, 2000

**ASSETS:**

Cash in Checking Account	4140.92	
Cash in Savings Account	15925.43	
Sullivan Property	72000.00	
Orangeville Rise Property	7000.00	
Indian Creek Conservation Easement (valued at \$1/acre)	<u>13.16</u>	
		<u><u>\$99,079.51</u></u>

**LIABILITIES & OPERATING EXCESS:**

Hancock Property Maintenance Fund	100.22
Indiana DNR Nongame Fund	120.00
Land Acquisition Restricted Fund	1625.00
Deferred Dues Restrctied Fund	1815.00
Hat Fund (excluding 21 hats in inventory)	242.16

Previous Operating Excess	16207.96
Net Excess (Deficit) This Period	<u>(43.99)</u>
Current Operating Excess	16163.97
Real estate liquidity	<u>79013.16</u>

**Total Liabilities & Operating Excess** \$99,079.51



## IKC FALL DIRECTOR'S MEETING MINUTES

Saturday, September 23, 2000

Mitchell, Indiana

### BOARD MEMBERS PRESENT:

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

### BOARD MEMBERS ABSENT:

none

The meeting was called to order at 5:20 PM at the home of Steve Lockwood in Mitchell. President Lindberg presiding. Introductions were made. John Benton was accepted as a proxy for Bob Sergesketter. The summer meeting minutes were approved as published in the *IKC Update*.

An opening on the directorship has occurred due to resignation. Nominations included Don Ingle and Kathy Welling. The candidates briefly introduced themselves, after which Don won an election among the board members. Don will serve until the general election at the next Annual Business Meeting.

K Dunlap gave the Treasurer's report. As of 9/20, the IKC has \$20,141.54 (total of the general and restricted funds), and 169 paid members (approximately 15 did not renew). Liability insurance is due in October. Tozer moved to renew, Bowman second. Passed 15-0. Fifteen hats were sold at Cave Capers, about 2 dozen left. There was some discussion whether money to pay for these hats should come from the general fund or the restricted hat/cave acquisition fund. The board clarified that money for hat purchase comes from the acquisition fund. Dunlap also reported receipt of a \$500 conservation grant from the NSS. This will be used to purchase a model to demonstrate circulation of groundwater in karst.

Next order of business was to name a steward for the Sinks of Indian Creek. Bowman gave a

brief run-down of the responsibilities associated with this position. Bill Schultze expressed interest, as did Dick Newton. Each candidate offered their qualifications to the board. The board selected Dick Newton by anonymous ballot.

K Dunlap and Vandeventer offered an update on the Sullivan property. Vandeventer noted that things are going well with cave trips. Rose-Hulman Alpha Tau Omega fraternity wants to do another cleanup trip. Some concerns were expressed about damage to historic signatures. A good way to delineate these areas is needed; cleanups should be restricted to areas in and beyond the Mountain Room until such time that we can work out an appropriate management approach. Tozer and Vandeventer will begin documentation and make a proposal to the board. K Dunlap noted that the trees at the property are doing well. Funding the planting of the remaining 3.5 acres has been investigated, primarily the USDA stewardship incentive program. We are approved for assistance by the SIP program (50% cost share), but need higher planting density (8x10 or 9x9). Dunlap also applied for an IPALCO Golden Eagle grant of \$1000, but received \$2500. The extra \$1500 is unrestricted and several options were discussed. Dunlap moved to proceed with planting of 2000 trees in 2001. Tozer seconded. Motion passed 15-0.

The board noted that we still have not received an annual report for Suicide Cave. Our agreement with the landowner requires a report. Newton and Benton were asked to follow up.

Adams noted that Shiloh Cave has some new graffiti. Four weeks later, the lock was found to be missing at the spring entrance during a CIG trip. Bowman noted the graffiti should not be too difficult to remove. Sollman will supply photo documentation to Adams. The sinkhole gate has also been modified by the landowner, the hasp having been cut off with a torch and replaced with a log chain and padlock. This entrance remains secure, but a new lock needs to be placed on the spring entrance as soon as possible.

Lindberg noted that Shirley Spring Cave and Leonard Springs Nature Park activities are doing well with trail building and other activi-



ties. She suggested that IU Spelunking Club could have periodic trips to the cave to accommodate those who make inquiries to Bloomington Parks and Recreation. There was also a suggestion to gate the cave or adopt the trail in the park. No motion. People with ideas and free time are encouraged to offer suggestions.

Boone Cave has been purchased by The Nature Conservancy. Acreage with the house are offered for sale. There is currently no trail from the Greens Bluff parking lot to the cave.

There is a white substance that appears to be lime dust washing through Pless Cave. Jim Richards noted that water quality coming from the spring is poor (septic), but the situation has improved because the dammed marshland purifies the water before it enters White River. There is an opportunity to work with the landowner to address the lime dust and improve the aesthetics of the wetland. Non-point septic waste enforcement continues to be an increasing problem in the state.

Lockwood reported 116 caves on the HNF. Julian Lewis is doing a bio-inventory of most of these caves. Recent field workday efforts have related to this activity. HNF Project T-shirts need to be redone. The Wesley Chapel Gulf management plan completion should occur this fall. A streamlined process for approval of significant cave nominations should also occur soon. The management plan for the entire forest is being revisited. A coalition of environmental organizations is putting together a proposal for property management. Making this proposal will obligate the HNF to consider this alternative and put together a rationale for selecting or not selecting various aspects. The IKC has been asked to sign onto this proposal (e.g., no commercial timbering, no ATVs, etc.). Caving policies are not under active discussion or likely to be changed. K Dunlap moved that the IKC join the coalition in support of the conservation alternative. Vernier seconded. Approved 7-2-6.

Lindberg and Rea have been working on a team to rewrite a management plan for natural resources at Spring Mill State Park. A draft is available for review and Rea is requesting feedback from interested parties. Recommendations are due in November.

The next agenda item discussed outreach and educational opportunities. Adams has tracked down a new display model that packs into a bag, consisting of three panels 22" wide and 42" high. Carita Noe and Bill Baus volun-

teered to seek a less expensive alternative. B Dunlap moved that we authorize Lindberg to use up to \$700 of the general fund to acquire a display. Adams seconded. K Dunlap expressed concerns that others need to examine the display for suitability before purchase. Adams, Vandeventer, Lindberg and Noe agreed to serve in this capacity. Motion passed 12-1-2.

Vandeventer and Lindberg are working to design a new IKC brochure. No word on reprinting the sinkhole flyer. Some people are going to attend the Bat Conservation and Mining Conference. The Children's Museum "IMAX" theater is presenting a movie on caving. IKC members are encouraged to participate for interpretive purposes.

Vandeventer has archived all the *IKC Updates*. There was nothing to report on drafting of the rescue plans for IKC-managed caves.

Next meeting: Saturday, December 2 at 10 AM at the home of Nick and Carita Noe in Greenwood.

Meeting adjourned at 7:54 PM.

Respectfully submitted by Bruce Bowman, IKC Secretary.

*Post-meeting note:* Winners of the Y2K dessert contest were as follows: 1st place - "Big Ol' Raisin Oatmeal Cookie" contributed by Bob Vandeventer; 2nd place - "World's Best Carrot Cake" prepared by Bambi Dunlap; and 3rd place - "Key Lime Pie" contributed by Tom Sollman.

**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.

