



March 1990
No. 16

TKC UPDATE

INDIANA KARST CONSERVANCY, INC.

PO Box 461, Plainfield, IN 46168

Affiliated with the National Speleological Society.

The Indiana Karst Conservancy, Inc. 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 photo by Scott Fee, rumored to be in one of his secret Orange County caves.

Publishing facilities courtesy of the Central Indiana Grotto; Editor and Publisher Keith Dunlap, Assistant Angie Manon.

ANNUAL BUSINESS MEETING REMINDER

SATURDAY, MARCH 31th, 10:00 AM

INDIANAPOLIS, INDIANA

INDIANA WAR MEMORIAL

MacARTHUR HALL

The annual business meeting is specifically called to elect Officers and Directors for the Conservancy. It is also a time to reflect upon past accomplishments and plan for future projects. As always, IKC meetings are open to members and other interested persons. Discussion, comments and constructive criticism are always welcome. The meetings are informal, and everyone is encouraged to attend and participate.

Agenda: Election of Officers and Directors; Committee reports; Registry Program; Bat Projects; Earth Day Celebration; Under-Earth Day Project; HNF Management Plan; HNF Cave Management Seminar; Federal Cave Resource Protection Act; and more!

Meeting Directions: The War Memorial is located four blocks north of the circle in downtown Indianapolis. It is bound by Michigan, Pennsylvania, Vermont, and Meridian. Enter by the north doors. MacArthur Hall is in the NW corner.

EVENTS CALENDAR

- 31 MAR = IKC ANNUAL BUSINESS MEETING, Indianapolis (see above)
- 07-08 APR = MAMMOTH CAVE CLEAN-UP TRIP, contact Scott Fee
- 21 APR = EARTH DAY 1990 CELEBRATION, Indianapolis (see page 7)
- 22 APR = UNDER-EARTH DAY CLEAN-UP, Sullivan's Cave (see page 8)
- 12 MAY = HNF CAVE MANAGEMENT SEMINAR, Bedford (see page 4)
- 19-20 MAY = FIBORN KARST PRESERVE CLEAN-UP, Mich, contact Tom Rea
- ?? JUN = IKC QUARTERLY MEETING, Bloomington (tentative).
- 09-13 JUL = NSS CONVENTION, California
- 30JL-4AUG = MAMMOTH CAVE RESTORATION FIELD CAMP (see page 16)

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 informed, and to document past, report on current, and announce future IKC activities and business. Submission of articles for publication pertaining to the IKC or any other related conservation subjects are encouraged. Forward material to the *IKC Update*, PO Box 461, Plainfield, IN 46168.

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RAMBLINGS FROM THE PRESIDENT...

With this issue, the IKC marks its fifth anniversary as an organization dedicated to cave and karst conservation. Some skeptics said we would not last long, but thanks to our many loyal supporters and volunteers over the years, we have survived and prospered, gaining respect among Indiana cavers. And just as importantly, we have forged alliances with other environmental organizations and government agencies, which will allow us to effectively further our cause of cave and karst conservation.

In the past, the president has utilized this space to summarize the year's accomplishments. I had originally planned to follow that tradition. However, after compiling all the material for this *Update*, I decided that rather than dwell upon the past, it would be more beneficial and appropriate to preface some of the articles contained in this issue about activities that need your attention and support over the next several months.

First, needing our attention is the Hoosier National Forest's Draft Management Plan Proposal due to be released on April 10th. The original plan has been the center of controversy since 1985, and this proposal is the Forest Service's attempt to mitigate opposing uses of this federal land. While cavers should be interested in the overall Plan, it is vital that they ***read and comment*** on the sections of the proposed Plan pertaining to caves (excerpts of those sections are included in this issue). We were very fortunate to have a knowledgeable and dedicated cave resource specialist employed by the HNF, as well as the Hoosier Forest Committee, both intimately involved in the drafting of the cave management language. As you will see, the text is rather extensive and detailed, and is a good indication that the HNF management is serious about the proper management of this important resource. Furthermore, there is considerable potential for this cave management language to be adopted by other National Forests Management Plans, as eventually, every National Forest with caves will be required to address their management due to the passage of the Federal Cave Resource Protection Act.

Speaking of the FCRPA, the regulations for the Act were to be published in March, but as yet have not. We had planned to reprint them in this issue for your review and to give some guidance on the comment process. Because the comment period will be only sixty days long, we will cover this subject in a separate mailing as soon as possible. Input from cavers across the nation are needed to implement this Act as it was intended by its originators.

Earth Day 1990 will be happening in Indianapolis as well as across the nation. ***Please support this activity*** as a demonstration of the strength of the environmental movement and to promote conscious conservation. The IKC's Under-Earth Day will also be an event not to miss. It promises to be the largest single day cave conservation project undertaken by the IKC and regional cavers. Show your support by attending.

Finally, I would like to comment on the HNF's Cave Management Seminar being presented to cavers and cave owners. This day long class is a rare opportunity to hear some of the nation's most respected cave specialist (excluding your president). Considerable effort has gone into organizing this seminar and it should be well worth your time. ***I strongly recommend your attendance if you are serious about caving and cave conservation.***

- Keith Dunlap

*** * * SEMINAR * * *****MANAGING CAVE AND KARST RESOURCES
FOR CAVERS AND CAVE OWNERS
WITH EMPHASIS ON THE HOOSIER NATIONAL FOREST****SATURDAY MAY 12, 1990
BEDFORD, INDIANA****(PLEASE REGISTER BY MAY 1st)**

Throughout Indiana, caves are being destroyed or damaged from surface impacts and careless sport cavers with a frighteningly increasing frequency. Sinkholes, karst springs, and other karst features are being filled in, or polluted without consideration to cave environments below or neighbors miles away. Cave owners are dealing with cave management problems by simply closing or restricting caves from use altogether.

The days are gone when responsible cavers can simply put their heads in the sand and ignore the problems. It is increasingly important for cavers to become involved in cave management. But what is cave management, and how is it done? You or your organization could acquire a cave through purchase or lease; but then what? Cave management is a challenge whether on private or public land, but the principles are similar. So, if you would like to learn more about cave management, we invite you to attend this seminar.

This seminar has been developed to strengthen karst and cave management on the Hoosier National Forest, but cavers and private cave owners, and those who are interested in cave management are invited to attend. Participation is free; there is no charge for attending. Intelligent karst management must consider the cave user, land stewardship, and protection of these unique environments.

There are actually two seminars to be conducted. The first seminar will be presented to HNF employees and selected IDNR personnel on Thursday and Friday, May 10th and 11th. Greater detail will be spent on introductory material pertaining to karst, caves, and cavers; before presenting resource management and cave inventorying skills. A field trip to a cave will also be conducted. The second seminar on Saturday, May 12th, for which you are invited, will be oriented towards cavers and cave owners interested in cave management, and volunteers who plan to participate in cave resource inventorying on the Forest. Refer to the syllabus and instructor bibliography for specific details of the topics and presenters.

Participation is urged for anyone who will be involved with or desires to be informed about cave management on the Hoosier National Forest. The objectives of this workshop are as follows:

- Present instruction in speleological topics (ie., geologic, biologic, hydrologic, etc...) useful for specialists and those interested in the study of cave ecological environments and geology.
- Teach an ethic and sensitivity for cave values.
- Introduce cavers and cave owners to cave management principles.
- Explain cave management and inventory procedures that will be used on the HNF.

continued...

- Describe the HNF public involvement program for caves.
- Discuss the Federal Cave Resources Protection Act of 1988 and subsequent proposed regulations, Forest Service Manual 2353, and Memorandums of Understanding (MOU's) between the Forest Service and National Speleological Society, and the Indiana Karst Conservancy.

Attendance at this course is important for cavers who will be on an inventory team as volunteers and others who will be involved with cave management on the HNF. Other people who may benefit from this session include:

- Resource specialists who might be called upon to comment on cave management plans and prescriptions, or who may provide professional expertise in answering cave inventory questions.
- Cavers who might be interested in assisting with our cave management program.
- Private owners of caves who want to know how to properly manage them.
- State and Federal agency personnel involved in cave related issues and management of caves.

This session will be dealing with true caves and karst features in limestone. It will not be concerned with rock shelters or mine tunnels.

Please mail a card or letter, to register for this course to Wayne/Hoosier National Forest, 811 Constitution Avenue, Bedford, IN 47421, or call Larry Mullins at (812) 275-5987. Camping will be available at Blue Springs Caverns for no charge Friday and Saturday nights.

PRELIMINARY SYLLABUS

TIME	SUBJECT	PRESENTER
09:00	Registration	Ruth Balantine
09:10	Welcome and house-keeping	F. Sup./L.Mullins
09:20	Hoosier cave management foundations	Larry Mullins
09:45	Break	
10:00	Karst and cave geology in Indiana	(to be announced)
10:30	Hydrology	Tom Aley
11:30	Lunch	
12:00	Cave Life	Horton Hobbs
12:45	Cave ecosystems & potential impacts	Hobbs & Aley
13:30	Sensitive, threatened, & endangered species	(to be announced)
14:00	Archaeology & cultural resources	Ruth Brinker
14:15	Determining appropriate use levels	Tom Aley
14:30	Liability, leases, and Indiana Cave Law	Tom Rea
14:45	Cave conservation & restoration	Keith Dunlap
15:00	Break	
15:30	Cave management principles & responsibilities	Jim Nieland
16:00	HNF cave management program	Larry Mullins
16:45	Use mitigation practices	Jim Nieland
17:00	Cave gate discussions	Keith Dunlap
17:15	Federal Cave Resource Protection Act	Jim Nieland
17:30	Nature Conservancy cave management	Keith Dunlap
17:40	Indiana Karst Conservancy cave management	Keith Dunlap
17:50	Wrap-up & critique	Tom Rea

SEMINAR INSTRUCTORS

Doctor Horton H. Hobbs III - Horton is an Aquatic Ecologist and Invertebrate Zoologist. Professor Hobbs teaches and does his research at Wittenberg University located in Springfield, Ohio. He is well known among Indiana speleologists as an expert on Indiana cave ecosystems and cave life. His presentations will center on cave life and cave ecosystems.

Thomas Aley - Tom is director and consulting groundwater hydrologist at the Ozark Underground Laboratory located in Protem, Missouri. Mr. Aley is a former Forest Service employee and has done cave related work within the Hoosier National Forest in his capacity as consultant. He will discuss cave hydrology, and impacts to the cave environments.

Ruth Brinker - Ruth has recently come to the Forest Service from IDNR Department of Reclamation to serve as Hoosier Forest Archaeologist. She will be giving presentations on cultural resources and cultural resource law relative to caves.

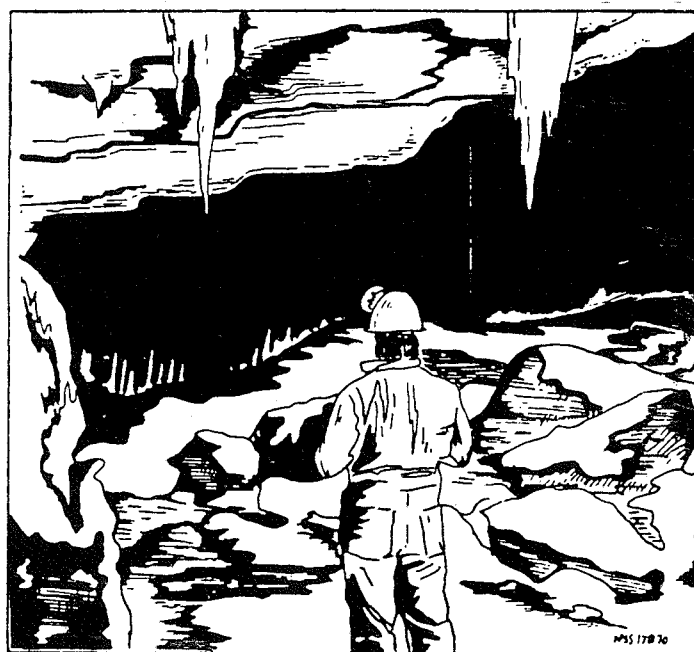
Jim Neiland - Jim is a "Master Performer" in Region 6 specializing in cave management. He works for the Forest Service Mount St. Helens National Monument. Jim will discuss cave management principles and the Federal Cave Management Protection Act.

Tom Rea - Tom is a past president of the National Speleological Society and currently serves as Executive Vice-President responsible for, among other things, cave conservation. Upon his retirement as an engineer for Indiana Bell in April, Tom will serve as consultant and team leader of caver volunteers for the inventory of Hoosier National Forest cave resources. In addition to assisting with the planning and execution of these workshops, Tom will instruct sessions on caves of Indiana, safety, and cave users.

Larry Mullins - Larry is a Recreation Forester and serves in the Hoosier National Forest Supervisor's office in the capacity of recreation specialist, and cave resource specialist. Larry has been working as planning team member for the revision of the Hoosier National Forest Management Plan. He has been instrumental in the coordination of input for development of the Hoosier Forest cave management plan. He will be discussing the Forest Cave Management Program.

Keith Dunlap - Keith works as a structural analysis engineer for General Motors in Indianapolis. He has 15 years experience as an Indiana caver. He was a founding member of the Indiana Karst Conservancy, and has served as president since 1987. He has worked on numerous conservation projects with emphasis on cave restoration and bat protection. He will be discussing cave conservation, private organizations involved in cave management, and cave gates.

The geologist and biologist instructors have yet to be confirmed.



EARTH DAY CELEBRATION AT THE CROSSROADS OF AMERICA

by John Blair, Indiana Earth Day Coordinator

(adapted from the *HEC MONITOR*)

Historians will probably find the most significant event of the eighties was the opening of the Berlin Wall as the decade came to a close last November 9th.

Unlike the eighties, the most significant event of the nineties will occur early in the decade on April 22, 1990 when millions of people take part in celebrations around the world designed to save our planet and our species from the ravages of pollution and waste. EARTH DAY 1990 must and will be the turning point that changes our ethic from consumption to conservation.

Indeed, EARTH DAY 1990 will be the beginning of a whole new era of concern about the environment and the inter-relationships of the entire ecosystem. Environmentalists across the globe will use EARTH DAY 1990 to increase their numbers ten times, twenty-five times, and even one hundred times.

We in Indiana have a special need to make EARTH DAY 1990 succeed. We rank near the bottom, or near the top, depending on your perspective, in almost every category of environmental pollution and degradation. Acid rain, toxic air pollution, water contamination, wetlands destruction, and public land acreage, all make Indiana look bad in the global community.

That is why we are asking your help in turning this problem around. On APRIL 21st, the day before EARTH DAY 1990, we are going to have a statewide, if not national "Earth Day Celebration at the Crossroads of America" in Indianapolis (*in Military Park - SW corner of West Street and New York Street*) which will attract thousands of Hoosiers to hear speakers and entertainers from across the U.S. talk about the importance of protecting our environment and suggesting actions that can be taken by individuals to keep our earth livable.

As a fellow Hoosier, your participation is needed to help assure that Indiana and its citizens become more aware of the earth and what we must do to make it sustainable for all life. There will be booths set up to educate people on ways that they can get further involved and groups from around the state are encouraged to use this opportunity to positively educate those in attendance.

Of course, EARTH DAY itself is the next day and that is when everyone will return to their respective communities to make EARTH DAY an event everywhere. We encourage each individual or group to have some sort of event, regardless of how big or small, to make EARTH DAY work in every Indiana community.

Speakers, recycle days, teach-ins, movie presentations, tree plantings, plant sales, contests and exhibitions are all appropriate. And why not come up with a new idea or two and go for it? EARTH DAY is truly for everyone.

(Editor's Note: The IKC is an EARTH DAY affiliate. We, along with the American Cave Conservation Association will be sponsoring booths at the Indianapolis event. Both booths will have educational displays to emphasize cave/karst environmental problems (groundwater pollution, threatened biological and geological resources, vandalism, etc...). If you are interested in assisting, contact Jane Miller. In addition, the IKC will be sponsoring a clean-up of Sullivan Cave on Sunday, April 22. See next article for details.)

UNDER-EARTH DAY ACTIVITY

SULLIVAN'S CAVE CLEAN-UP

SUNDAY APRIL 21st

Cavers will be celebrating Under-Earth Day at Sullivan's Cave (Lawrence Co). Our main goal is to initiate an organized restoration effort with cavers from Indiana, Illinois, Ohio, Michigan, and Kentucky. Now that a gate is in place, our clean-up activities will not be in vain. The landowners of Sullivan's have been very generous to cavers over the past thirty years, and we should continue to show our appreciation. It is hoped that the IKC members will make a commitment to participate in this project.

For those that are unfamiliar with Sullivan's Cave, it is Indiana's third longest known cave with over nine miles of passage. It is also one of the most visited wild caves in our state. While it has experienced its fair share of abuse and vandalism, it has still remained an enjoyable cave for novice and experienced cavers alike. We plan to concentrate on trash removal and graffiti removal/camouflaging. Haul bags and wire brushes will be provided to the extent possible, but please bring your own if you can. We will probably concentrate our activities in the more heavily traveled areas, but feel free to venture elsewhere in the cave. The cave can be strenuous, but still appropriate for beginners and children. ***All we ask is that everyone have a helmet and adequate light sources.***

We plan to start the clean-up at 10 am. For those that do not know the way, we will be leaving from the west side McDonalds in Bloomington at 9:15 am. Because of the potential parking limitations at the cave, we ask that everyone try to car pool.

Floor space can be provided for those attending the Earth Day celebration on Saturday, and needing a place to stay that night. Please contact Keith Dunlap if you have any questions; He may be reached during the day at 317-242-2505, or evenings at 882-5420.



THE FOREST SERVICE PLANNING PROCESS

by Larry Mullins, Cave Resource Specialist, HNF

Trying to work within the Forest Service planning process to voice your concerns can be intimidating unless you know some basic bits of information. So here's a crash course.

Organization: There are four Administrative levels. The Chiefs office is in Washington, D. C. and is known as the WO (i.e., Washington Office). The country is divided into nine Regions (RO). Region Nine includes everything North of the Mason-Dixon line and East of the Mississippi. The Wayne-Hoosier National Forest is in Region Nine. Our Regional Forester's office is in Milwaukee, Wisconsin.

The third level down is the Forest Supervisors Office (SO). In Indiana, the Forest Supervisor of the Wayne-Hoosier National Forest is Frank Voytas. The fourth level is the Ranger District (RD). On the Hoosier there are two: Leo Swettenam is at the Brownstown RO, and Julie Coleman is at the Tell City RO.

Only line officers make policy decisions. The Line officer positions are the Chief, Regional Forester, Forest Supervisor, and District Rangers. The decision makers in Indiana are Frank, Julie, and Leo. Everyone else in the Forest Service either executes project decisions or advises the decision makers as staff officers or specialists. Ranger Districts plan and execute projects on the ground. The Supervisor's office provides services and support to the Districts.

If you want to influence a decision, write the Ranger or Forest Supervisor. You can help out or participate in a program by working with a staff officer or specialist. Plans are written by the District or Forest, staff officers or specialists for signature by a line officer.

All but administrative decisions are appealable by the public to at least the next level line officer. The proposed federal projects are analyzed and described in planning documents developed in the National Environmental Planning Act process. NEPA documents are designed to display the effects, both good and bad of a decision.

Planning Process; The Forest Plan, such as the one discussed elsewhere in this newsletter, is a permissive document for the Forest. It guides decision makers in designing projects on the Forest. It sets limits and describes opportunities for projects to follow.

The next level is Opportunity Area Analysis. The forest is divided into areas of generally one to five thousand acres in size. These blocks are examined for projects that can be done to meet the desired future condition for that area. It identifies what projects may occur and on what parcels of land they will occur if they happen.

Finally, specific projects or groups of projects are analyzed or planned using an Environmental Impact Statement (EIS), Environmental Analysis (EA) or Categorical Exclusion (CE) to display the effects of doing the project. EIS's and EA's take more time and are more involved than a CE to produce. A Categorical Exclusion can be simply a few paragraphs. An EIS can be several hundred pages long. All of these documents require some degree of public involvement.

So how do you find out if a project is going to occur that might effect caves? Part of my job as Cave Resource Specialist under the agreement between the Hoosier National Forest and the Indiana Karst Conservancy is to notify your representative, Kevin Komisarcik, of upcoming projects. He, in turn, should notify the other representatives on the Hoosier Forest Committee, who should report the information to their respective

grottos. Individuals may also request that they be put on the mailing list to be notified any time projects are proposed. These requests should be directed toward each Ranger District and the Forest Supervisor.

There are three stages for public involvement in any planning process. First is the scoping stage: This will be the first time you will be notified of a proposed project. Planning processes only address issues raised by the public, concerns raised in-house by Forest Service people, and opportunities raised by anyone. This is your best shot to have your issue or opportunity considered in the planning process. It sets the course for later events.

When you write your letter with the issues you want to have considered, keep it simple and clear. The more letters received, written independently (not coached or form letters) with similar issues coming from the heart, the more weight the issue will carry. Also tell who you are and who you represent. Write each issue as one simple sentence; such as, "I am concerned that --- will damage X cave." Then follow up with a paragraph that explains why you are concerned. Keep it simple and concise. Make it as easy as possible for the reviewer to extract your exact words and insert them into the document. You want your issue to become a focus of attention as the project is being analyzed. Try to keep your letter to a maximum of one page per issue. Do not get bogged down in long convoluted dissertations that make it hard for the reviewer to figure out what the issue is. The last thing you want is for the reviewer to try to rephrase his or her interpretation of your issue because it is not clear what you really want. Timing is critical. Get your comments in on time.

Later when the plan has been written in draft you will be notified if you request it in your original letter. You will be notified when and where to go to review the draft document that is produced. Ask for a copy of the draft. Again, make your comments simple for the reviewer to insert. Wherever possible, identify the exact words you want changed and write the replacement so that it can be easily and quickly inserted. Then follow up with your reasons for the change. Always type or print neatly to make it as easy on the reviewer as possible.

As a caver, you may be consulted during the analysis process for your opinions and technical advice regarding caves.

Of course, your simple presence can also make a difference. Volunteer to help out with inventories and work projects. The better you are known as a reasonable, concerned citizen, the more you can accomplish.

The third way you can comment on the process is when a line officer makes a decision you feel you just cannot live with. Within a short defined period after a decision notice is signed you can appeal. Nobody likes appeals, as they can create costly delays in getting the work done, and they can harm your creditability if they are frivolous. But, it is your right. Details on how to file an appeal can be acquired from the line officer responsible for making the decision. If everyone has done his or her job well, this will never have to happen.

The line officer's job is tough. He or she must balance competing uses of the land against each other and make decisions that may make some publics happy while disappointing others. Make your requests reasonable. Greedy landgrabs that go far beyond what is really necessary to protect the resource in question cause inevitable frustration and hurt creditability.

You may not get everything you want every time, and you may not always know how well you were listened to, but if you are diligent and patient you will be surprised how much difference you, one individual, can make.

HOOSIER NATION FOREST LAND AND RESOURCE MANAGEMENT PLAN

by Larry Mullins, HNF Cave Resource Specialist, HNF

Starting on page 21, you will find excerpts from the soon to be released "Proposed Amendment to The Hoosier National Forest Land and Resource Management Plan." This is the draft of a revision to the 1985 Forest Plan and will be released to the public for comment about April 10. Since the *IKC Update* is only published every three months, I received permission to reprint the pages pertaining to caves for you to review now.

There are really two documents. The "Draft Environmental Impact Statement" compares the eight alternatives and displays the effects of each. Caves and karst will be treated the same in all alternatives, so you won't see a whole lot about caves in Chapter 2 of the EIS. The affected environment is described in Chapter 3. Here you will see a discussion on Lost River, Research Natural Areas/Special Interest Areas, Karst and Caves, and Endangered, Threatened, and Sensitive Species. On page 4-11 of Chapter 4 (*page 27 in the Update*) you will see a discussion which describes the effects on various environmental elements resulting from our efforts to protect unique features like caves. Altogether you only see a few pages out of several hundred in this two-inch thick document. These are the pages that discuss caves and are rather complete. However, please do not draw any conclusions about other resources since these are taken out of context and may be misleading.

You will find the excerpted "Proposed Amendment to The Hoosier National Forest Land and Resource Management Plan" document, starting on page 28, to be much longer; although, when you see the actual document it will be the thinner of the two, about an inch thick. Our excerpted document contains more pages because we talk about caves and karst in more detail here. The plan becomes our bible on how to manage all resources once it becomes final in late August. This document displays how the Forest will be managed under Alternative F, the Forest Service's preferred Alternative. Keep in mind that the forest plan is a "permissive" document; it tells us how to manage the Forest, but it does not make site specific decisions; they come later.

The most important sections are on pages 2-10 under "Caves and Other Karst Features," and in Appendix H (*pages 30, 34-40, respectively*). Here, we lay out our guiding philosophy for managing caves; this section is key. Important principles are:

- 1) All caves will be managed as significant caves.
- 2) Caves contain important environments that must be protected, and considered when projects are planned in karst areas.
- 3) To the best of our ability, cave locations will be kept confidential.
- 4) Cavers will be consulted in all decisions affecting caves or cavers.
- 5) There will be no sacrificial caves.
- 6) Recreational use of caves will neither be encouraged nor discouraged.
- 7) Cave use will not be restricted unless a real threat to valuable resources exists.
- 8) Caves will be managed as part of the general forest environment. All caves are potentially hazardous (depending on the user). Cave access will not be restricted solely for safety reasons. Risk is an inherent element of the sport and cavers will not be protected from themselves. (just like Wilderness).

- 9) Artificial classification systems will not be used. Each cave will be evaluated and managed according to specific cave resource issues and concerns.

Management Area Guidance for MA 2.8 and MA 2.9 covers areas that will be in the timber base. Interim guidance for caves is provided in the situation where a Caver Management Prescription has yet to be written.

Page 2-60 (*page 31*) lists some caves and cave areas as being reserved for study as possible Special Interest Areas.

Notice under the "Monitoring and Evaluation Program" section that monitoring activities to insure protection over time is provided for.

Appendix C, Endangered, Threatened, and Sensitive Species, talks about bats, blind fish, and protective measures relative to caves. This section is based on an agreement reached with a select group of scientists, and was prepared prior to the rest of the discussion on caves throughout the document.

In summary, you have for your review the Forest Program for cave management on the Hoosier National Forest for this planning period (10 years). I believe it is the most sensitive and thorough program for caves and cavers in any Forest level plan. Ultimately what comes of it depends on you, the caver. This program relies heavily on volunteer help from cavers both in the inventory of karst resources and development of site specific planning documents. You have a greater opportunity for input into our planning process than ever before.

HOW YOU CAN HELP

If you're interested in knowing more about the proposed Plan or the eight alternatives that have been developed, complete copies of the documents will be available at many local libraries in Indiana. If your library does not have a set, please let us know and we'll supply them copies for you to review (*editor's note - the CIG library and the IKC will both have copies of the Plan*).

The Forest Service would like to hear from you, and want to know what you like, and what you don't like about each of the alternatives, including our proposal. Please keep in mind that we're answering to a broad spectrum of interest groups and people, and that as such, we're tasked with providing for multiple uses of your National Forests.

The proposal is open for public comment for 90 days. The comment period ends approximately July 15th. Comments are welcome at any time, but only those received during the 90 day public comment period will be addressed specifically in the Final Plan Amendment.

For more information, or to let us know what you think please contact our Bedford office: Hoosier National Forest, 811 Constitution Avenue, Bedford, IN 47421.

*(editor's note: Having followed the progress of the HNF Management Plan and the development of the Plan pertaining to caves, it is obvious that caves and karst features are truly going to be addressed properly. Interested individuals should comment on anything they might have concerns or questions about. **MORE IMPORTANTLY, CAVERS NEED TO COMMENT POSITIVELY ON WHAT THEY LIKE ABOUT THE PLAN SO CHANGES ARE NOT SUBSEQUENTLY MADE DUE TO SOMEONE ELSE'S OPPOSING COMMENTS.**)*

KARST REGISTRY PROGRAM QUESTIONNAIRE RESULTS DISAPPOINTING

by Jane E. Miller

As you may recall, a questionnaire concerning the establishment of an Indiana Karst Registry Program was included in the December, 1989 issue of the *IKC Update*. The purpose of the questionnaire was to determine the membership's level of interest in establishing a statewide registry of karst features. I consider the results of the questionnaire disappointing not because of the nature of the responses received, but because of the small number of responses received. In retrospect, I think I assumed a higher level of awareness of what registry programs are than is the case and failed to provide adequate information. Before addressing the results, let me attempt to fill in the information gap.

The registry program was to be modeled on the successful Indiana Natural Areas Registry program. This program is a joint effort of the Indiana Chapter of The Nature Conservancy and the Indiana Department of Natural Resources, Division of Nature Preserves.

A registry program is fundamentally a landowner contact program which serves to educate landowners to the significance of his/her property. It commends landowners (generally through the use of a plaque or certificate) on their efforts to preserve the land. It encourages and assists the landowner in ongoing conservation and preservation activities. The program also sets the groundwork for future positive interactions between the landowners and the organization(s) sponsoring the registry program.

In the Natural Areas Registry model the ultimate outcome of such "future positive interactions" can be the granting of a conservation easement. Oversimplified, a conservation easement is a legal document in which the landowner declares that the land/feature(s) designated shall be preserved forever. A conservation easement, once granted, is binding on the heirs of the owner and/or future landowners. (A decision of whether or not to include obtaining conservation easements as part of the goals of the Indiana Karst Registry Program would not be possible until the program was well established, as this is a very complex process.)

My purpose in proposing the establishment of a Karst Registry Program by the Indiana Karst Conservancy was to initiate a comprehensive effort by the caving community to contact and educate landowners. The education process would include information about:

- state and federal legislation to protect the landowner from liability and the caves from degradation;
- the diverse values of karst and caves;
- the delicacy and complexity of the cave ecosystem;
- the connection between the sinkhole and the resurgence of a spring on their property - the effects of dumping cars, refrigerators, dead cows, and fertilizer and pesticide containers into their water supply;
- and the broader implications of groundwater contamination which threatens all life.

A well-designed and administered registry program could serve as a catalyst to involve the membership in an ongoing way in the activities of the IKC. It could also promote the growth of a broader environmental ethic on the part of both cavers and landowners.

"So," you are saying to yourself, "this registry thing sounds like a good idea. What's the problem?"

The problem is a lack of positive response to the questionnaire, a lack of enthusiasm, and insufficient evidence of a willingness to participate and contribute to making the program a success. This is not a program that three or four people can adopt as their "project" and make it happen. It will require broad participation from the membership - to identify caves and karst features to be included in the program; to inventory the cave or karst feature so we know what we are registering and why; to identify and contact landowners, and to educate them in positive and non-threatening ways about pollution, conservation, and cave management techniques (By "cave management techniques" I do not mean "cave gating". As examples I mean landowners taking responsibility for the impacts of their above ground activities on the subterranean world, educated landowners refusing access to ill-equipped "speleoboppers", construction of protective fencing, cooperative efforts of the landowner, IKC, and DNR to post seasonal closures of bat hibernacula, etc.).

RESULTS: The semi-statistical results obtained from the survey follow:

- All responses were generally favorable of the concept of establishing a registry program.
- Less than 10% of the membership responded.
- Of that number, approximately 20% of responses were received from members residing *outside* the state of Indiana.
- Only one respondent volunteered to *assist* in carrying out the program were it established. (One out-of-state respondent volunteered to make small cash donations to help defray costs.)

PRIORITIES: Members were asked to rate the comparative value of a variety of the attributes of karst which make its preservation important. The categories listed were biological, geological, mineralogical, archaeological, and hydrological. Space was provided to "write-in" additional attributes as well.

The hydrological attributes of karst was the clear #1 concern of respondents, with some comments specific to groundwater pollution. The biological attributes of karst placed second. The sample was too small to provide clear delineation between the remaining categories.

VALUE: Members were asked to address the value of a program of this type to the conservation activities of the IKC. While some comments seemed to address what the program should or shouldn't do rather than addressing its potential merits/liabilities to the organization, all comments were appreciated. They are summarized below:

- Will increase landowner awareness of the IKC.
- Worthwhile project, but should not be implemented if current projects would suffer.
- Should be a low cost program.
- Should not publicize caves.
- Should not impact access to (registered?) caves.
- Don't know how I would be able to help.

WHAT IS OUR NEXT STEP? It is the intention of the President to bring the subject up for discussion at the annual business meeting on March 31, 1990. I hope those of you with an interest in developing a karst registry program will attend and voice your opinions. If you cannot attend but have an interest, why not locate the questionnaire in your December *IKC Update* and send it to me immediately? In this way your input can be taken into consideration at the meeting. Without your assistance there can be no Indiana Karst Registry Program.

THE CONSERVATIONIST ALTERNATIVE MANAGEMENT PLAN FOR THE HOOSIER NATIONAL FOREST

Editor's note: A significant portion of this issue is devoted to the Forest Service's Proposed HNF Management Plan as it pertains to cave and karst management. That Proposal is just one of eight alternatives, from which the final plan will be selected (or from a combination of plans). The following text about cave management was excerpted from the "Conservationist Alternative". The complete proposal may be obtained from the Hoosier Environmental Council.

CAVES AND CLIFFS

The caves and related karst ecosystems of the Hoosier National Forest represent a unique and especially fragile, non-renewable resource. In addition, caves have important scientific, recreational, educational, and scenic values, and provide habitat for endangered and threatened species.

The Forest Service will recognize that all contents of caves, including speleothems, life forms, cultural, paleontological, and other deposits are significant to their value and need protection. The Ecological Classification System and Opportunity Area processes will identify, inventory, map, and classify all caves and related karst features on National Forest lands. Specific prescriptions will be developed for each cave.

The Forest Service will work with recognized cave user groups, such as the Indiana Karst Conservancy, National Speleological Society, and Indiana Cave Survey, on cave inventories, classification, mapping, and conservation.

The following guidelines will apply to the management of all caves on National Forest lands:

- 1) No camping or campfires will be permitted within 100 feet of caves, sinkholes, swallowholes, or rock shelters.
- 2) Commercial timber harvest and permanent road construction will not occur within 200 feet of any cave opening, sinkhole, swallow hole, or rock shelter.
- 3) Commercial timber harvest and permanent road construction will not occur within 500 feet of any cave opening known to contain a significant bat population. In addition, a 200-foot-wide forested corridor will be maintained from the cave entrance to stream side or woodland foraging areas.
- 4) Recreational access to caves containing summer populations of Rafinesque's big-eared bat, gray bat and/or Indiana bat will be prohibited between March 15 and October 31. Recreational access to winter hibernacula will be prohibited between August 15 and April 30.
- 5) The precise location of caves on National Forest lands will not be publicized. Cave-oriented recreationists will be encouraged to "discover" caves on their own.

All caves on National Forest system lands will be classified in one of three categories - Unrestricted, Restricted, and Closed:

- 1) **UNRESTRICTED CAVES:** These caves contain little or no known cultural resources, endangered or threatened species, or significant natural history values that could be adversely impacted by uncontrolled public use. Although these caves are not guaranteed to be safe, they are the least dangerous to recreationists unskilled in caving techniques. Unrestricted caves will not be signed nor will recreational use be limited.

- 2) **RESTRICTED CAVES:** These caves contain cultural or archaeological resources or natural history values that merit some degree of protection. Additionally, these caves may provide winter or summer habitat for federal and/or state listed endangered, threatened, or sensitive species that require seasonal protection. Recreational use of some of these caves may require advanced technical skills and could present substantial hazards to the average forest user. Restricted Caves will be signed to describe use restrictions to the forest visitor. Recreational use of Restricted Caves will require a permit from the District Ranger or Forest Supervisor.
- 3) **CLOSED CAVES:** Closed Caves have unique cultural resource or natural history values. These caves may also be critical habitat designated by the U.S. Fish and Wildlife Service for Federally-listed threatened or endangered species requiring year-round protection. These caves may be closed at the request of the Indiana Department of Natural Resources in order to protect State threatened or endangered species. Closed Caves will be signed to indicate that they are closed to recreational use.

Sandstone and limestone outcrops, glades, cliffs, rock shelters are recognized as important geological features that often provide habitat for rare and threatened ecological communities. Timber harvesting or permanent road construction will not occur within at least 100 feet of the top or base of any cliff or rock outcropping.

MAMMOTH CAVE RESTORATION FIELD CAMP

by Norm Rogers

Cave conservation and restoration is no longer an issue to be discussed in the editorials of our favorite publications. It is quickly becoming a mainstream activity among concerned cavers throughout the world.

The NSS, CRF, and ACCA in conjunction with the National Park Service invites you to join us for the Second Annual Restoration Field Camp at Mammoth Cave, July 30 through August 4, 1990. This is your opportunity to join others in this important work while enjoying the newfound friendships of those with similar interests.

Last year's camp, with help from several individual grottos, was successful in removing thousands of pounds of trash from Great Onyx Cave. Participants' efforts were rewarded with several trips through the caves of Mammoth/Flint Ridge System.

This years promises to be even better with our attentions turning to Mammoth Cave itself. Plans call for working on tourist trails along Cleveland Avenue, one of the more beautiful passages in the cave. There will also be clean-up activities in some of the pits along the trails. Tourists will see our activities which should help further the cause of conservation. And again, several award trips are being planned.

If you are wondering what to do for your summer vacation, join us at Mammoth Cave. Feel good about doing your part for cave restoration while spending a week in the longest cave in the world. For more information, contact Norm Rogers, 4324 W. Rockwell Drive, Peoria IL 61615, 309-692-6715. Please reply early as the number of participants is limited.

(editor's note: Norm included in his cover letter that participants will be staying at Maple Springs, a very nice facility with bunks and showers. Costs will be about \$40 for food and a T-shirt. He is also looking for a camp cook, who would like to see a little bit of cave, but doesn't want to get involved in a lot of strenuous work.)

CAVING PALEONTOLOGIST

by Lynn Miller

In early February I received a letter from Brian Leavell concerning a "find" in a southern Indiana pit cave. It seems his party came upon about eighteen black plastic buckets filled with cave dirt. Remembering work that Ron Richards has been doing in this cave for the last several years, I gave him a call to confirm my suspicions. Ron is a paleontologist for the Indiana State Museum and yes, the buckets were his. The ordinary looking dirt and mud in the buckets contain tiny clues to Indiana's past, but only to the trained eye of a professional like Ron. Ron has made some outstanding discoveries in Indiana caves, including the cave with the buckets in it. I am not at liberty at this point to say exactly what fossils have been found, but I think that after Ron's latest paper is published, we may be able to get him to write something for the *IKC Update*.

Meanwhile, Ron has more dirt to haul, fossils to dig, and leads to check out than he can keep up with. He could use some help. If the idea of being a part of discovering, recovering, and studying Indiana's residents of thousands of years ago appeals to you, Ron may be able to use your help. He is looking for people who are willing to follow instructions, have plenty of patience, and preferably have vertical caving experience and equipment. "Party cavers" need not apply. Of course I didn't mention pay because there is none, except for a lot of personal satisfaction and a chance to learn. If you are interested in helping, send me a post card and I will relay your name and qualifications to Ron.

Meanwhile, if in your cave explorations, you discover something that may be a fossil or the remains of some former Indiana resident, do not disturb it! Much information can be lost if the fossil is taken from its resting place. The sediment above, around and below a fossil can be as informative as the fossil itself. The best thing you can do is to take a photograph (several if possible) of it and turn it over to a qualified paleontologist like Ron. If you cannot photograph the find, take careful notes as to the exact location and description of what you see; sketches may help.

One last observation. If what you find in a cave still stinks, don't call Ron.



photos by K. L. Day

NEWS BRIEFS...

- The Spring Mill Surveying Project is still progressing nicely with scheduled trips monthly; although rainy weather has literally washed out a few weekends. Large projects are continuing in the Shawnee System and Whistling Cave, and a new effort was initiated in Hammer Cave. Other smaller caves survey and above ground activity are also being performed. If you are interested in helping on this project, contact Steve Collins: (317) 759-6124.
- The IKC/CIG joint cave restoration project for December was in Wayne's Cave. We concentrated around Camp I and the Well's areas of the cave, wire brushing and brown-washing graffiti, removing what trash there was to be found, and burying spent carbide. Participants included Chris Carpenter, Marcella Chastain, Amanda Clark, Carl Clark, Jeff Cody, Keith Dunlap, Chris Field, Brain LaGarde, Eric Schmidt, Mark Sorenson, Norm Stephens, John Vargo, and Clay Whitaker.
- Sullivan's Cave was gated in February by the CIG at the request of the land owner (see *IKC Update* # 15, page 3 for more details on the reason for the gating). The project was partially funded by the IKC, with an NSS grant still pending. Participants included Bill Aills, Kenney Carrigan, Jack Countryman, Mike Demske, Bruce Devore, Keith Dunlap, Bambi Erwin, Chris Field, Rick Geckler, Greg Grantt, Angie Manon, Tim McLain, Chris Nack, Larry Reese, Matt Reese, Tom Reynolds, Clyde Simerman, Serena Smith, Bob Vandevaner, and John Vargo. Specific details of the gate construction and installation will be covered in a future issue of the *Update*.
- Access to Sullivan's Cave may be granted to individuals by directly contacting the owner, Janet Stewart. She may be reached during reasonable hours (*please do not call before 9 am or after 9 pm*) at (812) 279-1303. **All** trips must be arranged in advance, and you must be a member of an organized caving organization (NSS, IKC, grottos...). Don't forget to take your membership card, as she will want to see it.
- The IKC has offered to construct new informative signs for Sullivan's to replace the current rusty ones. If you would be interested in volunteering for this project, please contact Keith Dunlap. All materials and equipment will be provided, all you need to furnish is a little time and patience.
- The IKC is looking for a volunteer to represent them in the Ohio Valley Region. The representative would need to attend the OVR's two meetings (at Speleofest and Karst Encounters), and report information back to the IKC membership. We are hoping to select the representative at the March meeting, so if you are interested, contact Keith Dunlap.
- The Indianapolis Zoo's annual Science for Conservation educational project has the theme this year of caves and the biology contained within them. This program will draw attention to the delicate balance that cave ecosystems must maintain, the endangered status of many of the cave dwelling animals, and the threats that are causing the problems (pollution, human disturbance, etc...). The project will entail informative articles in the Indianapolis newspapers, educational packets to be distributed to science instructors throughout central Indiana (up to 500 teachers), and five "specialists" to give lectures on related subjects (starting April 23rd). Scott Johnson (non-game biologist for the IDNR) will be one of the lecturers, as will Bert Grantges, representing Bat Conservation International. The IKC assisted Dave Fishel of the Zoo's Education Center in compiling conservation information for this project.

continued...

- Another cave educational project in the works is an educational poster to depict cave dwelling animals and their habitats. This poster, to be distributed later this year, is sponsored by the IDNR's non-game wildlife division, and is the first of an annual series. Local caver/artist, Christine Gerace, has been commissioned to do the artwork.
- The Indiana bat hibernation disturbance study will soon complete its spring sampling for this two year project (the fall sampling netted and weighed over 1400 bats -- see *Update* #15, pages 12-14 for more details). Volunteers are welcome, and may contact Keith Dunlap for more details.
- Two other bat projects are to be conducted this summer, both under the supervision of Dr. Virgil Brack, Jr.. The first is a one year study of Indiana bat habitats specifically on the Hoosier National Forest. The second is a three year Indiana bat habitat modeling project, to be conducted in various places throughout the northern half of Indiana. Virgil would be more than happy to have a list of volunteers to help. Both projects would include assisting with the setting up of nets, then collecting of bats out of the nets during the night, and identifying the species. This would be a excellent experience for our members who would like to learn more about bats. For more details, you may contact Virgil at 3-D Environmental Services, (513) 922-8199 or Keith Dunlap.
- Keith Dunlap and Angie Manon accompanied Scott Johnson (IDNR) and Monica Schwalbach (biologist for the HNF) to Sexton Cave to verify a sighting of clustering bats reported by a Bloomington caver. Unfortunately, heavy rains the previous night had sumped the entrance, so the trip was postponed to a later date. Members are reminded to report any observations of clustering bats to Keith Dunlap or Scott Johnson.
- Janet Thorne, NSS Conservation Chair, has prepared an article to be published in Bat Conservation International's quarterly publication, *BATS*. The article publicizes NSS cavers involved in bat conservation projects and dispels misconceptions that some bat specialist have about cavers disturbing hibernating bats. Several IKC members (Angie Manon, Steve Collins, and Scott Johnson) furnished photographs for the article, although only one photo was actually used. It is anticipated that the article will be reprinted in a future issue of the *Update*.
- The Hoosier National Forest has been selected as one of twelve National Forests to be a test site for emphasizing recreation, and limiting below cost timber sales. This should not greatly impact the Proposed Management Plan, but should require better economic accountability for timbering decisions. Recreational visitors to the forest (cavers included) may be required to pay a small usage fee to help generate revenue in place of timber sales.
- The proposed Southwest Highway Corridor connecting Evansville with Indianapolis is apparently not a dead issue, despite the fact that it was previously reported to be economically unjustifiable. Hopefully the continued studying of this project is just a political ploy to maintain support for our Governor who made a promise to construct this highway. Of the three routes originally proposed, the one selected is probably the least damaging to karst resources, but still would potentially have some negative impacts. The route is described as following SR 37 south to Bloomington, southwest partially along SR 45 to near Newberry (possibly incorporating sections of SR 445, 54, 58, 57, and or US 231). From Newberry, the proposed road would follow SR 57 to Petersburg, then south and west to I-64 or I-164.

- The American Cave Conservation Association published their Fall 1989 issue of *American CAVES*. The issue contains many interesting articles on cave conservation and activities of the ACCA. I encourage our member to consider joining the ACCA. Individual dues are \$25, and can be mailed to the address below.
- A recent letter appearing in the *NSS NEWS's* Caver Forum column spawned responses by two of our members (Dave Doolin and Mark Webb). Both responses provided positive national exposure to the IKC and Indiana cavers for their strong commitment to conservation activities.
- The final copies of Richard Powell's *Caves of Indiana* have been sold by the Indiana Geological Survey, and another printing will not be made. This classic book was the staple within the caving community; unfortunately, it was also misused, allowing inappropriate visitors to find locations to caves. While the actual negative impact of this book, and to a much greater degree, Doug Love's publications, can only be speculated, it is best that the book was discontinued, and we applaud this decision.
- The IKC had hoped to be distributing with this issue the reprinting from Blatchley's *Gleanings from Nature*. Unfortunately due to some technical difficulties with obtaining quality copies, the project is being postponed, as we re-typeset the approximately 100 pages. Any typist who would like to help on this project should contact Jane Miller.
- A final reminder for Indiana Tax payers filing for a refund. Don't forget to donate to the non-game fund, line 31, of the state IT-40 form. These donations support many non-game and endangered species projects including those dealing with bats.
- The IKC will be switching over to printing the *Update* on recycled paper as soon as the current stock is used. Cost is only slightly higher, and quality seems equivalent. There are other benefits to using recycled paper besides the obvious one of saving trees. Quoting from a catalog, "Producing one ton of paper from discarded waste paper uses half the energy, half the water, resulting in 74% less air pollution and 35% less water pollution, saves 17 pulp trees, reduces solid waste going to landfills, and creates five times more jobs than producing a ton of paper from virgin wood pulp."
- Hopefully you have noticed that this issue of the *Update* was for the most part typeset with a laser printer and is a little more legible, despite our duplicator printing process. This issue was also comforting for the editors, in that there was no lack of material to publish, with thanks going out to those who contributed articles. One article and two reprints were even postponed until a future issue.



AMERICAN CAVE

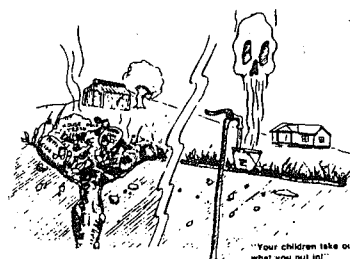
Conservation Association, Inc.

P.O. Box 409 • Horse Cave • KY 42749

502 • 786 • 1466

**Some People Even
Dump Garbage In
Sinkholes!**

**Can You Think Of
A WORSE Place
To Put Your Garbage?**



CAVE CONSERVATION NEEDS THE SUPPORT OF CAVERS!

(Editor's note: The following text is excerpted from the soon to be published Draft Environmental Impact Statement and the Proposed Amendment to the Hoosier National Forest Land and Resource Management Plan. Only the text specifically pertaining to caves and karst are presented here. Please remember that the text is out of context. Where appropriate, the section and page number have been included in the margins, so you may refer to the full EIS or Plan for further details.)

DRAFT ENVIRONMENTAL IMPACT STATEMENT

Hoosier National Forest Land and Resource Management Plan

Includes the Counties of: Brown, Crawford, Dubois, Jackson, Johnson, Lawrence, Martin, Monroe, Orange, and Perry

Responsible Agency: USDA - Forest Service
Cooperating Agency: USDI - Bureau of Land Management

Responsible Official: Floyd Marita, Regional Forester
USDA Forest Service, Eastern Region

For Further Information Contact:
Francis J. Voytas, Forest Supervisor
Wayne-Hoosier National Forest
811 Constitution Avenue
Bedford, IN 47421
(812) 275-5987

ABSTRACT

Eight alternatives for development of a Land and Resource Management Plan for the Hoosier National Forest in Indiana are described and evaluated in this Draft Environmental Impact Statement (DEIS). The alternatives respond to public issues and management concerns and evaluate different philosophies of managing the land. Each provides for a different level of goods, services, and uses.

Alternative F is the Forest Service preferred alternative. The preferred alternative has been developed into a Draft Amendment to the Hoosier Land and Resource Management Plan. This Draft, now open for public review and comment, will be finalized based on public input. It will then guide the management of the Hoosier National Forest for the next 10 years.

Public comments on this Draft Environmental Impact Statement and associated Proposed Amended Plan must be postmarked or received by the Forest Supervisor on or before:

DRAFT

AFFECTED ENVIRONMENT

Planning the best way to manage the Hoosier National Forest is like charting a path to move through time. The path we choose is influenced not only by where we want to be, but also where we are now, and what has occurred in the past. This Chapter begins with a historical perspective of past land uses in the area that is now the Hoosier National Forest. Our current situation is then the starting point for each alternative path into the future.

Chapter 3 focuses on the resources and uses most likely to be affected by management decisions. The chapter is organized by goals the Forest wants to achieve. Environmental conditions that will have only limited change are not described in detail. It is important to keep in mind that all the resources are interrelated. We cannot change the condition of one without affecting the others.

The areas discussed in Chapter 3 are:

GEOGRAPHIC LOCATION

The Hoosier National Forest is located in south-central Indiana in an unglaciated, upland area. Unlike the flat glaciated northern part of the state, the south central area is characterized by rolling hills.

The Forest is composed of three distinctly different physiographic units. They include the Norman Upland, the Mitchell Plain, and the Crawford Upland.

CLIMATE

The climate in southern Indiana is mild with short winters and hot, humid summers.

SOILS

The entire Forest is included in soil surveys conducted by the USDA Soil Conservation Service, which are, or will be published by County as parts of the National Cooperative Soil Survey (NCSS). The soil surveys, along with supplemental management interpretations developed by the Forest Service, are used in forest resource management to help determine land capabilities, management potentials and avoid or mitigate soil related problems. Forest management activities, properly planned and executed, rarely cause enough erosion to decrease site productivity or affect water quality. Some practices do cause soil compaction.

AIR

The air quality of the Hoosier National Forest is generally good. All of the counties which contain Forest property meet the State's air quality standards and are within attainment of the National Ambient Air Quality Standards. Air quality is not affected to any noticeable degree by any of the management practices on the Forest.

WATER

The Forest lies between two major watersheds, the Ohio River and the Wabash River. The major contributing rivers which flow into these two rivers are the White, Lost, Little Blue, and Patoka.

Lakes and ponds impound approximately 895 surface acres on the Forest. In addition, Lake Monroe and Patoka Lake, the two largest lakes in Indiana, are partially located on the Forest.

DRAFT

WILD AND SCENIC RIVERS

Two rivers on the Forest (the Little Blue and Lost Rivers) are being evaluated for inclusion in the Wild and Scenic River System.

RIPARIAN AREAS

National Forest land in riparian areas is a small component of the Hoosier National Forest. It exists primarily along the many miles of small streams on the Forest and within the spotty ownership along Little Salt Creek, South and Middle Forks of Salt Creek, Beaver Creek, Lost River, Sulphur Creek, Lick Creek, Patoka River, Little Blue River, Otter Creek, Bogard Creek, Stinking Fork, Turkey Fork, Oil Creek, Mitchell Creek, and Middle Fork of the Anderson River.

EXPERIMENTAL FOREST

Experimental Forests, like RNAs, are part of a network of field research stations nationwide. The Hoosier National Forest contains one experimental forest located southwest of Paoli, Indiana. It was established to conduct research on high-valued hardwood species in the central hardwoods region, a major forest association in the United States.

RESEARCH NATURAL AREAS/SPECIAL INTEREST AREAS

Research Natural Areas (RNAs) are a part of a nationwide network of ecological research areas. They are established for scientific and educational purposes. There is one such area within the Hoosier National Forest at this time: Pioneer Mothers' Memorial Forest.

Seven areas (totalling approximately 2,550 acres) have been identified by Forest Research Natural Area Review Committee as eligible for further study. Subsequent investigations will provide a basis for designation as SIA (8.2), RNA (8.1) or other management area.

Several areas have been identified that meet criteria for consideration as Special Interest Areas. These areas are currently allocated in Management Area 9.2. Each will be evaluated individually regarding the unique features they contain. Identification of new candidate SIA/RNA areas will continue to occur.

CAVES AND KARST

The Hoosier has some very special underground values that are largely hidden from view and unrecognized by most visitors to the Forest. The Forest is located on an area rich in caves and karst features.

ENDANGERED, THREATENED, AND SENSITIVE SPECIES

There are four Federal endangered species recognized by the U.S. Fish and Wildlife Service as having part of their range on the Hoosier National Forest. They are the Indiana bat, gray bat, bald eagle, and pink mucket pearly mussel. We have chosen to recognize species classified as endangered or threatened by the State as sensitive species. There are 32 species identified by the State as having the potential to occur on the Hoosier National Forest.

There are 168 plant candidate sensitive species/forest species of concern. Of these, 27 are ranked as globally rare by the Nature Conservancy and/or under review for Federal listing.

DRAFT

WILD AND SCENIC RIVERS

Two rivers on the Forest are being evaluated for inclusion in the Wild and Scenic River System. The two rivers being evaluated are the Little Blue River and the Lost River. The Little Blue River was identified in the Nationwide River Inventory done in 1982, by the National Park Service. The Lost River was identified by participants in the Amendment planning process.

The Little Blue River runs from near English, Indiana, to the Ohio River, a distance of approximately 17 air miles and 41 river miles. Thirty-three miles of the river's length is within the Hoosier National Forest boundary. Approximately one third of the river corridor is under National Forest administration. The river is recognized by the State of Indiana as eligible for the Indiana Natural Streams System.

The Little Blue is one of the most natural-appearing rivers in southern Indiana. It is easily canoeable when the water is up to moderate levels. The average width of the stream is about 50 feet. The river drops about 3 feet per mile as it goes downstream. The occasional small rapids are navigable by canoe in early spring. Though generally shallow, there are numerous 3- and 4- foot deep pools which contain bass and other warm water pan fish. With the exception of a small low dam at the old Carnes Grist Mill site, the river is free flowing.

The Little Blue River meanders through wooded, rolling hills. Some of its banks are adjacent to rock bluffs. The river banks are tree lined, though small fields can be seen along the valley through the trees. River banks are mostly mud and may extend as much as 8 feet above the river's normal level. Numerous dispersed camping spots are available on public land.

State and county roads occasionally cross or parallel the Little Blue. Interstate 64 crosses the river, and access to the river is good. The river is not polluted by urban or industrial wastes.

3-14

The part of the Lost River being included for study is from where State Road 337 crosses the river 3 miles east of Orleans to its mouth at the East Fork of the White River. This section is approximately 70 miles in length and includes the most significant geologic and scenic sections of the river. The Lost River is named for the 24-mile section between SR 337 and the Orangeville Rise where it flows underground. Within this segment there are essentially two river systems. One is a surface channel with tributaries, much of which is dry most of the time. The other lies beneath the surface in limestone caverns. The subterranean river also has a system of underground tributaries, with a watershed that includes the surface system as well as additional subsurface drainages.

Lost River is internationally known and has been studied intensively over the last 80 years as a fairly complete example of Karst topography in the middle stage of development. Water enters the system through literally thousands of sinkholes. In addition, the surface river loses water into a system of swallow holes draining portions of the surface river. Much of the surface channel is then dry except during periods of flooding. Within those sections are other features called "boil holes" where the water actually boils back to the surface when the subterranean channel is full. In some cases, it might only remain at the surface for a short distance before disappearing again down another swallow hole.

The subterranean river returns to the surface several miles down the surface stream bed through features called rises. At a point below the community of Orangeville, the underground and surface rivers merge to return the river to its normal condition as a surface river.

3-13

With the exception of about 22 miles within the dry bed portion, the entire river under study is canoeable. Frequent log jams and a slow meandering flow make for a challenging experience. The portion of the river flowing through the Forest proclamation boundary is entirely on the surface and includes 23 miles of the river's total 70 miles. The most significant portion of Lost River is thought to be the underground part which has unique geologic features. This portion came under extreme controversy in the early 70's when several dams were proposed for construction within the Lost River's drainage.

DRAFT**RESEARCH NATURAL AREAS/SPECIAL INTEREST AREAS**

Research Natural Areas (RNAs) are a part of a network of ecological research areas nationwide. They are established for scientific and educational purposes. There is one such area within the Hoosier National Forest at this time, the Pioneer Mothers' Memorial Forest.

This RNA is an 88-acre tract of virgin trees which was designated a Natural Area in 1944 by the Forest Service. The Natural Area designation preserves the area for study as an illustration of a stage of the original Forest complex. The 167-acre tract surrounding the RNA is established as a Special Interest Area.

The RNA is located in Orange County about 1.5 miles southeast of Paoli. State Highway 37 runs adjacent to the southwest corner of the area. There is also access to the area from U.S. Highway 150 on the east.

Several areas have been reviewed by a Research Natural Area Review Committee. Seven additional areas, totalling approximately 2,500 acres have been recommended. In the future, the Forest will be gathering input, establishing boundaries, preparing management plans and establishment reports to formally recommend designation of these areas.

Approximately 1,400 acres were recommended by the same group as meeting the criteria for designation as Special Interest Areas. Another 700 acres need to be evaluated by the group. These areas are currently allocated in Management Area 9.2 in all alternatives. Each will be evaluated individually regarding the features they contain.

3-14

The areas included as potential Special Interest Areas, Research Natural Areas, or other additional potential areas to review are:

Abbotts Hollow	105 acres
Bear Hollow/Goblin Rocks	275 acres
Beaver Creek	116 acres
Browning Hill	305 acres
Bull Hollow Barrens	35 acres
Carnes Mill	185 acres
Clover Lick Barrens	240 acres
Fallen Rock Hollow	380 acres
Fuzzy Hole	10 acres
<u>Gypsy Bill Allen Cave</u>	<u>85 acres</u>
Harding Flats	65 acres
Hemlock Cliffs	1570 acres
Huron Woods	90 acres
Jubin Creek	205 acres
Keysacker Hollow	290 acres
Lick Creek Settlement	275 acres
Luke Knob	40 acres
Oil Creek Cliffs	25 acres
Plaster Creek Seeps	70 acres
Pleasant Valley	40 acres
Rockhouse Hollow	170 acres
Smith Hollow	60 acres
Stinking Forks Bluffs	80 acres
Stinking Fork Creek	275 acres
Tar Springs	10 acres
<u>Tincher Hollow</u>	<u>605 acres</u>
<u>Tincher Lake</u>	<u>350 acres</u>
<u>Upper Beaver Creek</u>	<u>115 acres</u>
Virginia Saxifrage Site	55 acres
Wheatley Branch	35 acres

Each of these areas contains one or more unique features. These might include geologic formations, cultural sites, distinct ecosystems, or rare and sensitive plants. The exact boundary of these areas has not been determined; the acreages above are only estimates.

The size and significance of each area will be determined in cooperation with the Indiana Department of Natural Resources, the Forest Service, and other authorities on natural areas.

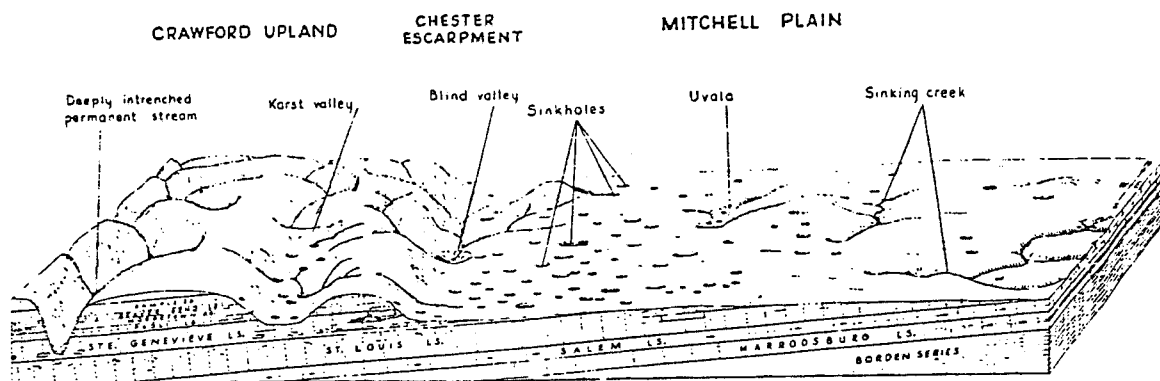
3-15

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CAVES AND KARST

The Hoosier has some very special underground values that are largely hidden from view and unrecognized by most visitors to the Forest. The Forest is located on an area rich in caves and karst features.

Karst is a term which comes from an area in Yugoslavia called the Carso Plateau where these features were first documented. Karst topography occurs only in limestone. Limestone is easily eroded by weak acids in rainwater which filter down through vegetation and soils. The acid slowly dissolves the limestone creating voids. These voids gradually enlarge as underground water moves through them. Over time the interaction of water and stone creates caves, sinkholes, rises, swallow holes, sinking streams, blind valleys, gulfs, springs, and other karst features.



3-16

Fig. 13.5 Idealized diagram of a portion of the karst area in southern Indiana. (Drawing by William J. Wayne.)

Indiana has one of the best known karst areas in the United States. Well over 100 studies have been published on karst features within the state; many of these are in the area of the Forest. The physiographic terms most commonly accepted by geologists were published in C.A. Malott's, *The Physiography of Indiana* (1922), and are used here to describe karst topography. These terms differ slightly from those used in the Natural Regions of Indiana (referenced under Geographic Location).

The karst region in southern Indiana is divided into two parallel areas called the Mitchell Plain (the eastern one third) and the Crawford Upland in the west. The Upland is technically less than 100 feet higher than the plain, so the division is not obvious to most; but underground the rock layers are significantly different. Layers of rock (limestone, shale, and sandstone) over 400 feet thick were built up by ancient seas that once covered this part of Indiana. The lowest and thickest layers are limestone up to 170 feet thick.

Over time the earth moved, and massive rock beds tilted and developed cracks and faults. The upper layers in the Mitchell Plain have been eroded away exposing the geologically older limestones. Here the karst features such as sinkholes and disappearing streams are common features of the landscape. It is here that towns such as Bloomington, Oolitic, Bedford, and Mitchell developed around the limestone quarry industry. It is also here that the majority of Indiana's 2500 caves can be found.

The Crawford Upland runs along the western edge of the Mitchell Plain. This area still has the upper strata of shale and sandstone rock over the limestone. The limestone still has caves, springs, and other karst features. The area's drainage is still subterranean, exhibiting sinking streams, dry-beds, rises, swallow holes, and other karst features. The karst features are still there, but many are hidden beneath layers of rock. The State's best caves lie at the interface between the Mitchell Plain and the Crawford Upland called the Chester Escarpment.

Cave ecosystems are unique. Cave life exists in a finite space without light. Water, air, temperature, humidity, and food are provided in a normally steady state. Major changes to this delicate environmental balance are disastrous to many of these rare and unique plant and animals. Because caves are dependant on the interaction with the surface, management above ground is important. Cave ecosystems rely on maintenance of microclimates, prevention of erosion and siltation, soil acidity, and other factors.

3-17

DRAFT**ENDANGERED, THREATENED, AND SENSITIVE SPECIES**

There are four Federal endangered wildlife species recognized by the U.S. Fish and Wildlife Service as having part of their range on the Hoosier National Forest. They are the Indiana bat, gray bat, bald eagle, and pink mucket pearly mussel.

We have chosen to also recognize species classified as endangered or threatened by the State as sensitive species. There are 32 wildlife species identified by the State as having the potential to occur on the Hoosier National Forest. They are:

Affected Environment Protect and Manage Ecosystems 3-17	<u>Southeastern Myotis</u>	Henslow's Sparrow	Bachman's Sparrow
	Evening Bat	Badger	Bobcat
	Eastern Woodrat	Great Egret	Black-crowned Night Heron
	Osprey	King Rail	Yellow-crowned Night Heron
	Common Barn-Owl	Short-eared Owl	Bewick's Wren
	Sedge Wren	Loggerhead Shrike	Golden-winged Warbler
	Eastern Mud Turtle	Copperbelly Water Snake	Kirtland's Snake
	Scarlet Snake	Crowned Snake	Western Cottonmouth
	Eastern Hellbender	Northern Red Salamander	Crawfish Frog
	<u>Northern Cavefish</u>	<u>Southern Cavefish</u>	Variegated Darter
	Spotted Darter	Bluebreast Darter	

OPPORTUNITY: TO PROTECT UNIQUE FEATURES

This opportunity provides for protection of unique features.

Part of managing public land and public resources involves recognition of areas that are unique, fragile or of cultural value. These special spots on the Hoosier National Forest include places like historic and prehistoric sites, historic or rare ecological sites, natural landmarks, springs and seeps, cliffs, rockshelters, caves, and karst areas. Some sites, because of their uncommon or outstanding physical, biological, geological or cultural characteristics, have more formal means of protection as potential special areas (9.2), Special Interest Areas (8.2) or Research Natural Areas (8.1).

4-11 Potential special areas are areas with uncommon or outstanding physical, biological, geological or cultural characteristics that have not yet been evaluated for SIA, RNA or other formal designation, i.e., historic landmark or State Natural Area.

Special-Interest Areas (SIA) include areas of national, regional, state or local significance. They possess biological, physical, geological or cultural characteristics which are uncommon and outstanding enough to deserve protection.

Only one Research Natural Area (RNA), Pioneer Mothers Memorial Forest, exists on the Forest. It has uncommon and outstanding characteristics which represent valuable opportunities for scientific research. Pioneer Mothers' Memorial Forest offers opportunities to research the relatively undisturbed vegetative communities that exist there.

4-12 Character and integrity of unique natural features will be protected wherever they occur: caves, cliffs, etc.

ENVIRONMENTAL EFFECTS**WILDLIFE**

Habitats for a variety of common forest wildlife species will benefit from protection afforded springs, seeps, cliffs, rockshelters, and caves. Animals will tend to be displaced from historic, cultural or natural landmark sites where human use will be frequent and concentrated.

RECREATION

4-13 Recreation use of caves will generally be unrestricted except where necessary to protect the resources they contain. The best protection for caves and certain other sites from recreation use impacts is maintaining confidentiality of location. This will result in some inconvenience for the public, but is consistent with the adventure and sense of discovery associated with such activities.

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Proposed Amendment to The Hoosier National Forest Land and Resource Management Plan

Eastern Region, U.S.D.A. Forest Service

March, 1990

PREFACE

This Proposed Amendment to the Hoosier National Forest Land and Resource Management Plan was developed as the best overall management direction for the Forest. We have looked at what the Forest can provide. We also asked people what they want, and don't want, the Forest to be. The soil and water, the grasses and shrubs, the fish and wildlife, and the beauty that is the Forest is an integral part of the thinking and action behind managing the National Forest.

This is our plan to manage all the Forest's resources to best meet the varying, and often conflicting, wishes of our citizens, while fulfilling our responsibilities as stewards of the land and trustees of the environment for future generations.

To accomplish this, the Proposed Amendment sets management direction for the next 10 years. This Amendment, once final, will replace all previous resource management plans. With the approval of the final plan, all subsequent activities affecting the Forest, and all permits must be in compliance with the Forest Plan. A revision of the Plan will be scheduled in ten years. It may be revised sooner if conditions or demands change significantly.

If any part of this Amendment, or its application is found to be invalid, the remainder of the information contained here, will still stand and not be affected by revising the part in error.

EXPLAINING THE PLANNING PROCESS

The National Forest planning process was initiated by the Forest and Rangeland Renewable Resources Planning Act (RPA), and amended by the National Forest Management Act (NFMA). Assessment of the environmental impacts of the plan is conducted in accordance with the National Environmental Policy Act (NEPA). Further direction for the process is contained in regulations: Title 36, CFR, Part 219 (NFMA regulations) and Title 40, CFR, Part 1500 (NEPA regulations).

Development of a Forest Plan occurs within the framework of regional and national planning. Forest Plans must blend regional and national demands with local Forest capabilities and needs.

This Proposed Plan Amendment is closely tied to the Draft Environmental Impact Statement (DEIS). The DEIS describes the range of alternatives considered and discloses their significant environmental effects. Each of the alternatives could have been selected as the Proposed Forest Plan. One of them may even become the Final, though at this time, Alternative F has been identified as the preferred alternative and subsequently developed in the Proposed Amendment document.

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ROLE OF THE FOREST

National Forests have many inherent values which contribute to the quality of life of the American people. Scenery, soil, water, air quality, cultural resources, geology, cave systems, plants, recreation opportunities, wilderness, unique natural areas, timber, minerals, and wildlife all contribute to the values that people expect to find on their National Forests. The Forest Service has the responsibility of managing the National Forest to provide a continued flow of natural resource goods and services in a combination that best meets the needs of the people now and in the future. We provide leadership in the management of forest ecosystems which encompasses the fields of forestry, ecology, recreation, wildlife and fisheries management, hydrology, soils science, botany, geology, environmental education and public participation.

In Indiana, the National Forest comprises almost half of the public forest land. As a result, the Hoosier will continue to be at the forefront of public land management issues. It is a precious and unique asset to our public. Each decision we make will demonstrate our commitment to enhancing the character of southern Indiana and acceptance of our supporting role in local communities. We will work with the public to develop a shared vision of how the Hoosier National Forest should be managed and keep them involved in deciding what we do on their National Forest.

2-1

Management Direction

Cave openings, cliff faces, springs, seeps, wetlands, barrens, glades, and dry forests are recognized as special habitats and will be managed to protect or enhance physical, historical, and ecological characteristics. (See Appendix H for additional guidance on management of cave resources.)

2-6

STREAMSIDE MANAGEMENT ZONE

All stream channels (permanent, intermittent, and ephemeral) will be protected from damage by delineating stream management zones in the following manner:

— MAJOR STREAMSIDE MANAGEMENT ZONES: Major streamside management zones are delineated by soil type. Land with alluvial and colluvial soils adjacent to stream channels with watersheds of one square mile or larger make up these major streamside zones. Types of streams in this zone are typically perennial or have seasonal flows. Management activities within these zones will emphasize water quality, riparian area values and enhancement of within stream habitats.

— MINOR STREAMSIDE MANAGEMENT ZONES: Minor streamside management zones are delineated by a combination of soil type and topography. Land with alluvial or colluvial soils or the final break in slope adjacent to stream channels with watersheds less than one square mile in size make up these minor streamside zones. Types of streams in this management zone are typically ephemeral or may have seasonal flows. Management activities within these zones will also emphasize water quality, riparian area values, and the integrity of within stream features.

Recognize riparian areas as part of streamside management zones and protect and manage them for their significant biological and ecological values. These ecosystems often include rare species and communities, and a diversity of plants and animals.

Recognize all streams (including ephemeral) that feed directly into Karst drainages as special features of the landscape. Karst drainages will be identified and appropriate protection zones will be established. (See Appendix H for additional guidance on how Karst features and caves will be managed.)

2-7

DRAFT**CAVES AND OTHER KARST FEATURES**

Caves are protected and managed in accordance with the Federal Cave Resources Protection Act of 1988, FSM 2353, Memorandums of Understanding (MOUs) between the Forest Service and the National Speleological Society, the Indiana Karst Conservancy, Inc., the Forest Cave Management Implementation Plan (see Appendix H), and individual specific cave management plans. These two levels of plans are tiered to the Forest Plan.

The water, sediment, nutrient, and temperature regimes of caves and karst features are sensitive to the activities of man. To assure these features are allowed to function naturally, a careful inventory and examination of each cave will be conducted. From this information, a management prescription and plan will be written describing considerations and criteria for protection of the existing cave resource.

Forest-wide Guidance
Protect and Manage Ecosystems

To assure these ecosystems are considered in a project layout, the Forest Service Coordinator for the MOU with the Indiana Karst Conservancy, Inc. will be notified when projects are planned in karst areas. If caves are present, specific mitigation measures are developed relative to existing prescriptions and the proposed project.

All caves will be managed as significant.

2-10

The primary objectives of the information program for caves are: to strengthen, in cooperation with interested organizations, public awareness of the values of caves; teach safety; and teach a conservation ethic without encouraging use of caves or revealing cave locations. Recreational use of caves on the Forest will neither be encouraged nor discouraged. Management action is considered where damage to karst or other resources exist and is likely to continue. Interested groups that utilize caves will be consulted in developing management actions.

No caves are singled out as well known caves for general public use unless adequate protection measures are developed to control and manage this use, and it can be clearly established that no substantial risk, harm, or vandalism of the cave will occur.

2-11

Gating of cave entrances will only be considered as a last resort on a case by case basis and where evidence demonstrates this to be the only viable option to protect a fragile resource.

LAND OWNERSHIP AND ADJUSTMENT

Forest-wide Guidance
Providing a Useable Landbase

2-19

High priority will be given to acquisition of lands, through purchase or exchange, to consolidate Forest ownership, provide access to existing National Forest land and water and protect or enhance threatened and endangered species habitat or other special areas. High priority will also be given to obtaining lands to protect significant cultural sites, acquire or retain areas with significant caves, permit protection, development, and management of wetlands, lakes and ponds or recreation facilities, and to eliminate sources of water pollution (See Appendix E).

MINERALS AND GEOLOGY/OIL AND GAS DEVELOPMENT

Forest-wide Guidance
Provide for Human and
Community Development

2-24

In karst regions, include special precautions in operating plans to avoid drilling and damaging cave and underground river areas.

2-25

No karst subsurface disturbances are allowed without special mitigating measures.

CAVES AND OTHER KARST FEATURES

Management Area Guidance
Management Area 2.8

2-32

Except where modified by an existing cave management prescription, vegetation within a 150-200 foot radius of cave entrances and infeeder drainages with slopes less than 30% will generally not be cut. These areas serve as protection areas to preserve microclimate, soil cover, aesthetics and use of caves. No surface disturbing activities will be conducted on any slopes steeper than 30% adjacent to cave entrances. Similar protection areas will be maintained around direct drainage inputs such as sinkholes and swallowholes known to open into a cave's drainage system, or any streams flowing into a known cave.

DRAFT**MANAGEMENT AREA 9.2**

This Management Area emphasizes the protection and maintenance of environmental values associated with unique ecosystems. This designation serves as a holding category until further study and recommendations on specific designation can be made.

These areas have natural characteristics which are potentially significant. They have been nominated by recognized authorities. Management is directed at protecting these lands until the areas can be studied for designation as Research Natural Areas (M.A. 8.1), Special Interest Areas (M.A. 8.2), other general forest management areas, or possible designation as State Natural Areas or National Natural Landmarks.

The primary benefits are scientific values derived from protected examples of unique ecosystems. Other benefits may include hiking, hunting, and nature study. Within the period covered by this Amendment, these areas will be evaluated with public involvement. The Plan will be amended with the decisions for each of these areas.

List of areas to be considered:

Abbotts Hollow	105 acres
Bear Hollow/Goblin Rocks	275 acres
Beaver Creek	115 acres
Browning Hill	305 acres
Bull Hollow Barrens	35 acres
Carnes Mill	185 acres
Clover Lick Barrens	240 acres
Fallen Rock Hollow	380 acres
Fuzzy Hole	10 acres
Gypsy Bill Allen Cave	85 acres
Harding Flats	65 acres
Hemlock Cliffs	1570 acres
Huron Woods	90 acres
Jubin Creek	205 acres
Lick Creek Settlement	275 acres
Luke Knob	40 acres
Magnolia Sites	370 acres
Oil Creek Cliffs	25 acres
Plaster Creek Seeps	70 acres
Pleasant Valley	40 acres
Rockhouse Hollow	170 acres
Smith Hollow	60 acres
Stinking Fork Creek	275 acres
Tar Springs	10 acres
Tincher Hollow	605 acres
Tincher Lake	350 acres
Virginia Saxifrage site	55 acres
Wheatley Branch	35 acres

Management Area Guidance
Management Area 9.2

2-60

SPECIAL INTEREST AREAS, CULTURAL RESOURCES, CAVES, AND KARST

As managers of several unique and special resources, we are expected to be model stewards of these areas, as well as tell their story. In many cases, encouraging people to visit the sites is not appropriate, but there are other ways that we can interpret their qualities and provide educational outreach programs to make people aware of the unique values of the Hoosier National Forest.

Management Situation

We have an obligation to protect, maintain, and enhance the special ecosystems of these areas. We also must continue to search out and recognize new areas and rare plant and animal communities. Only by knowing what ecosystems are present and prescribing management appropriate for them can we achieve a desirable level of biological diversity on the Forest.

3-3

DRAFT**Biological Diversity**

Response to Challenges

4-5

Recognition of certain habitats, communities, or ecosystems which require special protection is a value held by most of our publics. What constitutes a special habitat, community, or ecosystem, however, is highly variable in the eyes of the public. Cave systems, wetlands, barrens, and other special areas are commonly thought of as valuable contributors to Forest diversity, providing opportunities for research and supporting unique recreational opportunities. Public forested land in general is considered by some people to be special simply because it is in short supply.

Monitoring and Evaluation ProgramMonitoring and
Evaluation Program

5-6

Monitoring Needed/Purpose/Requirement	Effects or Resources to be Measured	Freq. of Measuring Intervals	Desired Precision, Reliability
...			
PROTECT AND MANAGE ECOSYSTEMS			
...			
Establish monitoring activities to assess changes in cave environments FSM 2356.1(9)	Various	Various	Moderate

BOAT ACCESS

Presently, there are boat access ramps at several of our developed sites. The chart below shows what we have, and possibilities to improve them or add new developments.

Appendix F
Recreation Initiatives

F - 6

SITE	PRESENT FACILITY	POSSIBLE INITIATIVES
...		
<u>Lost River</u>	No present FS developments	Canoe access points could be developed.

APPENDIX C**Endangered, Threatened and Sensitive Species**

As a Federal agency the Forest Service has defined responsibilities in supporting recovery objectives of Federally listed E&T (Endangered and Threatened) species. Populations of these species will receive individualized attention. Management activities that might affect Federally listed species would occur only with consent of the U.S. Fish and Wildlife Service.

There are four Federal endangered, threatened, proposed, or category 1 species recognized by the U.S. Fish and Wildlife Service as having part of their range on the Hoosier National Forest. They are the Indiana bat, gray bat, bald eagle and pink mucket pearly mussel. All are endangered.

Of these four only one, the Indiana bat, is likely to function as a MIS. Our capability to monitor this species effectively, however, is predictably limited. The gray bat, bald eagle and pink mucket pearly mussel are very limited in distribution in Indiana and no known populations exist on the Forest.

In Indiana the Forest Service has chosen to recognize species classified as endangered or threatened by the State as candidate sensitive species. There are 32 vertebrate species identified by the State as having the potential to occur on the Hoosier National Forest (Federal species are not repeated here). They are:

DRAFT**Management Direction****FEDERAL ENDANGERED AND THREATENED SPECIES**

Requirements and measures for activities affecting endangered, threatened, or proposed species are detailed in species recovery plans and in FSH 2609.23R. Recovery plans have been prepared for the Bald Eagle, Indiana Bat, Gray Bat, and Pink Mucket Pearly Mussel.

This section lists those mitigating measures to be incorporated in developing projects on National Forest land when populations of endangered, threatened, or species proposed for listing (USDI F&WS; 50 CFR, Part 17) are encountered. These measures are done if a determination is made through a biological evaluation that a species may be affected.

If an endangered or threatened species may be affected by a management decision, evaluation criteria will be established in consultation with the US Fish & Wildlife Service and appropriate State agencies early in the process to determine (1) what (if any) additional information is needed and (2) what mitigation measures or course of action is most appropriate for conservation of species involved. The Forest Service will be responsible for collecting additional information if needed.

C - 3

Gray Bat, Indiana Bat

A coordinated review of available intervention tactics, including "no action" will be made in consultation with the US Fish & Wildlife Service and appropriate State agencies. Effects will be evaluated at the site-specific project level. Destruction or adverse modification of critical habitat or actions likely to adversely affect the Gray bat or Indiana bat will not occur as a result of National Forest Management decisions.

Gray Bat

Restrict access to any cave found to contain gray bats and prohibit any disturbance within 100 feet of the cave entrance. Retain a forested corridor between the cave and the foraging area (stream or reservoir).

Identify potential foraging streams (defined as any stream continuously containing water through August 1) and maintain or encourage a continuous corridor of trees at least one canopy width wide (based on the canopy of a typical mature, bottomland, hardwood species) on both sides of the stream.

Establish as top priority for acquisition any cave discovered to contain gray bats that is within the Hoosier National Forest Purchase Unit.

Indiana Bat

Endangered, Threatened
and Sensitive Species

Identify potential foraging streams (defined as any stream continuously containing water through August 1) and maintain or encourage a continuous corridor of trees at least one canopy width wide (based on the canopy of a typical mature, bottomland, hardwood species) on both sides of the stream.

Potential foraging stream riparian areas (100 feet from each streambank) will be managed to provide a stand of mixed hardwoods with a substantial component of trees 16 inches dbh or greater. Retain or encourage elms, cottonwood, shellbark hickory, shagbark hickory, and oaks. Discourage stands of predominantly silver maple and/or green ash. Limited timber harvest may occur and may be necessary to perpetuate desirable tree species. Harvest areas will be small (< 5 acres) and dispersed throughout the stream corridor. To ensure the maintenance of adequate habitat, old growth stands (16+ inches dbh) should never comprise less than 70 percent of the total riparian area. Harvest of individual trees within the old-growth stands may occur; however, percent canopy closure of at least 50 percent should be maintained.

Prohibit the removal of injured, dying or dead trees with loose bark within 100 feet of all potential foraging streams.

Eliminate timber cutting in permanent stream riparian area during the Indiana bat maternity period of May 1 through October 1. Retain a forested corridor at least 100 feet wide between the cave and foraging areas (riparian woods, or closest wood area).

Restrict access to any cave found to contain wintering Indiana bats and prohibit any disturbance within 100 feet of the cave entrance.

C - 4

Within the Hoosier National Forest Purchase Unit, establish potential Indiana bat foraging streams and any cave found to harbor Indiana bats as top priority for acquisition.

DRAFT**APPENDIX H****HOOSIER NATIONAL FOREST CAVE MANAGEMENT IMPLEMENTATION PLAN**

The karst topography in Indiana is well known to those who study and explore caves. The Hoosier National Forest shares this unique cave-bearing landform. This plan presents an aggressive program for managing the almost one hundred known caves on the Forest. This management program is sensitive to the desire of the caving public to have as few restrictions on their exploration of caves on the Forest as possible, yet protect those values caves contain from harm. It is a balanced program that seeks through the cooperation and support of caver volunteers to learn about forest caves both to identify valuable resources for protection and minimize the impact of cave management on other uses of Forest lands. Cave resources are like any other; knowledge is key to good management.

SUMMARY

The cave management program emphasizes cooperation and good relations with the local caver organizations and specialists. These are at the same time our best source of information about our caves, our primary special interest group, and the majority of users of caves on the Forest. This is in keeping with direction in the Federal Cave Resources Protection Act, our service wide MOU with the National Speleological Society, and our Hoosier National Forest MOU with the Indiana Karst Conservancy.

It emphasizes confidentiality of information about the nature and location of significant caves (and caves whose significance is yet to be determined) as directed in the Federal Cave Resources Protection Act. It maximizes the public's freedom to visit any cave on the Forest without restriction (unless it becomes necessary to control access to specific caves to protect cave resources).

This program provides for intensive survey and study of caves for effective management and protection from surface impacts. This is an aggressive program that prescribes meaningful management on a site-specific basis and raises the professionalism of administration to a level commensurate with other resources.

The cave management program provides for education of the public, and within the Hoosier National Forest ranks, that caves are important, not to encourage people to go caving, but rather to instill a sense of cave values. An analogy would be the teaching of the importance of whales, but not encouraging everyone to see or kill one (taken from John Scheltens NSS News, Dec., 1988).

CAVE PROTECTION AND MANAGEMENT MEASURES

Within Indiana most popular wild caves (off Forest) have been heavily vandalized. The better known a cave gets, the greater the damage. Since as caves become better known they inevitably are vandalized and features damaged, cavers preserve knowledge of cave locations as the most effective deterrent from destruction short of gating.

Statewide, environmental damage to caves is also increasing from sources other than recreation use. As use of the land becomes more intense, damage to caves also tends to increase. Fortunately the known

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caves on Hoosier Forest are not as well known, and though they occasionally were impacted by past abuses of the land before acquisition, they are now protected on Forest lands. As stewards of federal lands, it is important to bring the caves under proactive management to insure their continued protection.

PUBLIC INFORMATION ABOUT CAVES

In communications to the public regarding caves, we will make known our responsibilities for administration and management of caves and karst. Where suitable, we will teach cave conservation and safety. Minimum but adequate information necessary to discuss potential impacts to caves will be presented in environmental documents. Cave locations will be kept confidential to the extent of our ability, both to protect the caves from harm and to preserve the trust of caver organizations who provide confidential cave location information (see Confidentiality of Cave Information under Cave Protection and Management Measures).

Information regarding private and State caves may be provided where owners are in agreement and where no damage to those caves will occur.

The lure of the unknown and challenge of discovery are important facets of the sport of spelunking. We will be careful not to promote the recreational use of caves; by contrast, the caving public will enjoy the privilege to explore caves anywhere on the Forest, except where management action must be taken to prevent destruction of karst or other cave resources (in consultation with the caver community).

SIGNING.

Small signs or registers inside caves (20' to 100') which discuss cave conservation, safety etc. are acceptable.

Use of signs with cave names or other information that would reveal cave locations will not be placed outside of caves under normal circumstances.

RECREATION OPPORTUNITY GUIDES, BROCHURES, ETC.

These may be provided. They should be generic in nature and not include maps, cave names or other information that might reveal the location of caves. An educational discussion about caves in general and karst topography along with a management unit scale map showing the karst area shaded (or otherwise indicated), safety information, laws and regulations, cave environmental conservation message, and location of names and address of local responsible cave organizations is acceptable.

These will not be handed out, or placed on racks indiscriminately, but only in response to general "how to" requests for information about caves on the forest.

NEWS AND TABLOID ARTICLES

Some of the same information as above without maps may include information about Federal Cave Protection Act and Forest Cave Management policies. Current news or other information may be included that does not unduly encourage the recreational use of caves.

PHOTOS, VIDEOS, AND SLIDES

Depending on the intended audience, these should be carefully selected to not highlight specific caves within the forest. They should not portray forest caves as subterranean wonderlands profuse with cave formations. Modest shots with speleothems, cavers (possibly some wet and muddy),

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cave life, and normal rooms and passages are acceptable. Shots of cave entrances known to be on the forest, but not well known, that could tip off cave locations may be used with discretion.

CAVING BOOKS AND PUBLICATIONS

One or two books that provide ethical and safety instruction may be made available at Natural History outlets on the Forest. Such publications should be generic in nature and not glamorize caving or reveal cave locations.

VERBAL, OVER-THE COUNTER, OR PHONE REQUESTS

Information on caving basics, ethics and safety, and locations of broad regions of karst topography may be passed along. Those desiring still more expert advice will be referred to local caving organizations. Information about caves managed for recreational use on private or State lands may be provided (with the approval of land owners). Information about a particular cave may be exchanged with individuals who demonstrate a preexisting personal knowledge of a caves location, extent and layout.

CAVE RESOURCE PROTECTION PROTECTION AND MITIGATION

Cave resources must be protected from two types of potential damage: subterranean impacts (impacts from within the cave, chiefly recreation), and surface impacts (damage from surface activities).

Subterranean Impact Mitigation

Damage from visitor traffic, vandalism, and carelessness may occur in well known caves. Trash, litter, trampling, broken speleothems, graffiti, and human body waste are the most prevalent damage. Damage to cave life such as bats, blind cave fish, and cave beetles is less apparent but may be irretrievable. Cave ecosystems and resources are often very delicate and easily destroyed. Four methods of use management are available: education, permit system, nondisclosure, and cave gating.

EDUCATION. Teaching an environmental ethic is an effective long range method that will be used on the forest in our visitors information program.

PERMIT SYSTEM. Requiring a permit to enter a particular cave has been tried successfully on a number of federally managed units.

NONDISCLOSURE OF CAVE LOCATION. Cave locations are protected under the Federal Cave Resources Protection Act. This method has the least impact on the cave and caver. It puts all caves (2,500 in Indiana) on an equal footing. It preserves the discovery potential of caves for the explorer. By dispersing use it minimizes damage to nonreplaceable resources. It makes access available to all. It does not focus attention or use on any particular cave.

By not directing or recommending visitation of any particular cave all caves become a part of the general forest environment and liability is reduced over a policy of directed access to "safe caves."

Cave location confidentiality provides effective protection for most sensitive resources as long as visitation impacts are below the tolerance levels for a particular resource. If after monitoring it is found that a cave is becoming well known and impacts are becoming unacceptable, another control measure over and above location confidentiality must be considered.

DRAFT

No caves will be singled out as well known caves for general public use unless adequate protection measures are developed to control and manage this use. This would only be done after consultation with the scientific and recreational caving community, and after it can be clearly established that no substantial risk, harm, or destruction of the cave under consideration will occur.

CAVE GATING. Gating is the overall easiest and most effective way to control human access to caves. Gates are also costly to install and maintain, may severely impact cave ecosystems, keep out all cavers indiscriminately (both the vandal and those with strong conservation ethics), and often eventually result in year round closure (due to administrative problems).

Gating should only be done as a last resort after other management options have been tried or considered, and after consultation with special interest caving groups. Evidence should demonstrate this to be the only viable option to protect an endangered resource at a particular cave. Caves usually will not be gated solely for safety reasons.

If gates are constructed, experts in cave gate technology should be recruited to design and construct gates that least impact cave ecosystems. Poorly constructed gates may restrict air flow, impede bats, restrict detritus, and alter cave temperature/humidity regimes. Even the best designs may cause bats to slow down and circle before entering. This increases vulnerability to predators that wait for emerging and returning bats.

Impacts From Surface Activities

Delicate cave ecosystems require water, air and organic matter in consistent quantities from surface sources for survival. It is easy to think of surface activities in two dimensional terms. Surface streams meander from side to side normally. In karst terrain, surface streams don't disappear underground they continue as streams in caves in a third, underground, dimension. In cave landscapes, the surface and subsurface are integrally and intimately connected. What happens on the surface affects the subsurface; similarly what happens in the subsurface may return to affect the surface.

Damage to caves from surface activities often are not apparent without a thorough understanding of caves. Seemingly minor, unrelated actions on the surface can have dramatic impacts on the caves below. Environmental knowledge of cavern systems can prevent potential causes from becoming significant effects.

Examples of potential Hazards include:

- Toxic Compounds (spills, trash dumps, drilling operations)
- Oxygen depletion of waters
- Blasting
- Road Construction (hydrocarbons from parking lots, roads)
- Timber Management (type conversions)
- Pesticides and herbicides
- Erosion
- Petroleum storage
- Oil and gas prospecting and drilling
- Blasting of wells and cisterns

Cave management includes considerations for surface land management of karst terrains. To be effective, cave management must be integrated into general land management.

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Cave Management Prescriptions, Mitigation, and Management Plans

In order to understand the relationship of caves with the surface, we must first understand the caves. We must know where they are. We must learn where all the entrances are, where the water comes from, and where it goes. In order to get this information we must do the following:

- map the cave to understand its geology, relationship with the surface, and other caves.
- learn and understand its biota and food sources.
- catalog its resources such as speleothems, speleogens.
- determine if there are archaeological or paleontological resources that need protection?
- estimate its current recreation use level and trend.

We must understand the cave well enough so we can determine the limiting factors, determine levels of maximum tolerable impact, and finally, determine the caves significant values. It is also important get the maximum return from surface lands while protecting caves. The most effective way to do this is to have the most precise and complete knowledge reasonably possible regarding the cave layout and potential areas of concern.

From this information cave values, concerns, and standards are included in management prescriptions written specifically for each cave.

Any project planned within a karst area will be examined for its potential impact to caves and karst features.

Caves on the forest will be managed for the values they contain. Protection and management actions related to caves will be in response to identified needs of specific resources and ecosystems. This is a direct, cause and effect relationship driven by identified items of concern and value.

The project area will be field checked and records will be searched for indications of the presence of caves. All identified potentially affected caves will be examined for their relationship with the proposed project. Inventoried caves with prescription files will be examined for identified values and concerns. Recommended protection measures will be reviewed in relation to potential impacts from the proposed project. Additional or compromise specific protection measures shall be developed for protection of cave resources as necessary. Specific protection measures will be prescribed.

If the project is the cave itself, a cave management plan will be developed. Cave conservation groups included in MOU agreements will be consulted during the development of any planned activities involving caves or cave management policy. Cavers will be notified of projects involving or impacting caves.

Protection zones or other mitigation measures recommended by a management prescription will be established around cave entrances, sinkholes (that take water, air or detritus from the surface into the cave system), swallow holes and along streams and drainages that carry water into cave systems. Specific criteria will include consideration for protection of the entrance microclimate, bats (and animals that depend on caves for part of their life cycle), humidity, water flow and quality, temperature, air flow, and aesthetic values associated with the cave. The cave environment will be protected from damage due to change in soil/water pH, sedimentation, organic matter, etc.

DRAFT**CAVE SIGNIFICANCE**

Exploration of caves often raises more questions than it answers. There is always the possibility of a new discovery around the next bend, under a rock, or at the bottom of a sinkhole. It is often difficult to say with certainty that all caves in an area have been found, or all potential passages have been discovered, or that a cave that is now considered insignificant will not later be found extremely significant. Karst areas always hold the potential for new discovery. For this reason, all caves on the Hoosier National Forest will be managed as significant.

CONFIDENTIALITY OF CAVE INFORMATION

"(36 CFR 290.4a) Forest Officers shall not disclose information concerning the location of a significant cave(s) unless an authorized officer determines that disclosure will further the purposes of the Act {Federal Cave Resources Protection Act of 1988 (16 U.S.C. 4300-4309, Stat. 4546)} and will not create a substantial risk or harm, theft, or destruction to a cave(s)."

A complete data base of current Indiana cave locations and basic inventory information is maintained by the Indiana Cave Survey. Under the Memorandum of Understanding between the Indiana Karst Conservancy, Inc. and the Hoosier National Forest, a complete proprietary printout listing of all caves on Forest-managed lands is provided to the Hoosier National Forest and is kept current and updated by the Survey. Applications for cave location information by Federal, State, educational, or research institutes will be referred to the Indiana Cave Survey through the Indiana Karst Conservancy, Inc.

CAVE PROGRAM ADMINISTRATION

The Memorandum of Understanding with the Indiana Karst Conservancy and other cave organizations will be maintained. The Forest will seek to foster increased cooperation and exchange of information between governmental authorities and those who use caves located on Federal lands for scientific, education and recreational purposes.

We will take charge of our responsibilities and actively manage the cave resources on the Forest in partnership with cave organizations and through individual volunteer agreements.

CAVE SURVEY PROCEDURE

Using specific agreements that protect the confidentiality and ownership, rights to detailed cave information (see section G2 of the Service wide MOU and local agreements) we will seek to learn all we can about caves on Forest lands. The cave survey procedure steps are as follows:

- (1) Acquire a complete and up-to-date inventory list of all caves and their locations on the forest.
- (2) Research Grotto libraries and all other available sources for documented information possible about individual Forest caves and cave systems.
- (3) Using volunteers, Forest Service, State, and contracted specialists, field survey each cave and search for undiscovered caves:

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Complete a cave inventory form.

Explore and map each cave.

Develop a list of questions to be answered by research.

- (4) Contact various specialists to answer questions, and encourage research projects.
- (5) Classify each cave according to its significance after consulting with the cave specialists and organizations.
- (6) Write a management prescription and include standards for management after consultation with cave specialists and organizations.
- (7) Respond to specific projects with a detailed reexamination of the cave in relation to the proposed activity, and develop specific project management guidelines for protecting cave resources.
- (8) Develop specific cave management plans.
- (9) Develop monitoring standards to track acceptable limits of change.

The program will be ongoing, and will depend heavily on volunteer cavers for accomplishment. Cave prescriptions (similar in nature to other functional prescriptions) and cave management plans will be very brief. Program cost will be minimal and depends on a portion of an existing SO substaff position, and occasional advice from various specialists. The SO resource specialist for caves will be trained in cave management and will serve as coordinator for agreements and MOU's regarding caves.

In order to properly execute our management responsibilities on the Forest regarding karst resources and raise internal awareness of the associated values, training sessions, and other consciousness-raising activities will be planned periodically. These activities will parallel similar types of actions required for threatened and endangered species and cultural resource programs.

INDIANA KARST CONSERVANCY, INC.
Statement of Receipts, Expenditures, and Changes in
Fund Balance for the Quarter Ending 12/31/89

GENERAL FUND

RECEIPTS

DUES	15.00	
DONATIONS	10.00	
INTEREST	33.16	
TOTAL RECEIPTS		58.16

EXPENDITURES

UPDATE	215.15	
POSTAGE, GENERAL	20.84	
BROCHURE PAPER	13.78	
CAPERS' DOORPRIZE	44.95	
HEC CONGRESS FEE	10	
ACCA DONATION	50.00	
TOTAL EXPENDITURES		354.72

EXCESS TO FUND BALANCE		-296.56
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FUND BALANCE 9/30/89	2279.37
FUND BALANCE 12/31/89	1982.81

BUCKNER FUND

RECEIPTS	0.00
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EXPENDITURES	0.00
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EXCESS TO FUND BALANCE	0.00
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FUND BALANCE 9/30/89	232.66
FUND BALANCE 12/31/89	232.66

HANCOCK PROPERTY

RECEIPTS	0.00
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EXPENDITURES

COON/GROTTO CLEAN	18.55	
LEASE RENEWAL	1.00	
TOTAL EXPENDITURES		19.55

EXCESS TO FUND BALANCE	-19.55
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FUND BALANCE 9/30/89	414.42
FUND BALANCE 12/31/89	394.87

TOTAL BALANCE - ALL FUNDS 12/31/89	2610.34
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INDIANA KARST CONSERVANCY, INC.
All Funds - Statement of Receipts, Expenditures, and
Changes in Fund Balance for the Year Ending 12/31/89

GENERAL FUND

RECEIPTS

DUES	970.00
DONATIONS	234.76
INTEREST	113.14

TOTAL RECEIPTS	1317.90
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EXPENDITURES

UPDATE	443.14
POSTAGE, GENERAL	68.64
OFFICE EXPENSE	38.02
DONATIONS	219.95
SHILOH LEASE	1.00
FEES, DUES	45.00
GATE MAINTENANCE	26.54

TOTAL EXPENDITURES	842.29
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EXCESS TO FUND BALANCE	475.61
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FUND BALANCE 1/ 1/89	1507.20
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FUND BALANCE 12/31/89	1982.81
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BUCKNER FUND

RECEIPTS	0.00
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EXPENDITURES

REPAIR DON. BOX	26.98
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TOTAL EXPENDITURES	26.98
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EXCESS TO FUND BALANCE	0.00
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FUND BALANCE 1/ 1/89	259.64
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FUND BALANCE 12/31/89	232.66
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HANCOCK PROPERTY

RECEIPTS	0.00
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EXPENDITURES

COON/GROTTO CLEAN	18.55
LEASE RENEWAL	1.00
SHAFT FENCE	85.58

TOTAL EXPENDITURES	105.13
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EXCESS TO FUND BALANCE	-105.13
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FUND BALANCE 1/ 1/89	500.00
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FUND BALANCE 12/31/89	394.87
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TOTAL BALANCE - ALL FUNDS 12/31/89	2610.34
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IKC QUARTERLY BUSINESS MEETING

Saturday, December 9, 1989
Bloomington, Indiana

DIRECTORS PRESENT:

Keith Dunlap
Glenn Lemasters
Jeff Cody
Jane Miller

Lynn Miller
Kenney Carrigan
Ernie Payne

DIRECTORS ABSENT:

Mike Miessen

The meeting was called to order at 7:10 p.m. Introductions were made. The following members and visitors were present: Angie Manon, Scott Johnson, Chris Carpenter, Ken Teegen, Dave Everton, Hank Huffman, Larry Mullins.

COMMITTEE REPORTS:

HOOSIER FOREST PROJECTS COMMITTEE - Draft language of the management plan has been submitted to the regional office. Some minor revisions have been made to the language, but the intent of the karst language is intact. Draft should be returned to the local office by mid-February. Final approval of the plan is not likely until August, 1990.

Three areas on the Hoosier are up for SIA (Special Interest Area) status: Tincher Lake, Tincher Hollow, and Beaver Creek. These areas total about 1100 acres. December 16, Kevin Komisarck and Larry Mullins (and interested others who contact Kevin or Larry ahead of time) will begin to study/survey these potential SIA's to support their proposed allocation as SIA's.

Federal Cave Protection Act update. The Forest Service has been contacted to comment on the regulations for this act. Larry Mullins reported that the regs have been written "conservatively", and that there is concern that few caves would be designated "significant". The public comment period on these regs will begin on January 12, 1990, and will continue for only 45 days (*ed - Because of initial agency comments, the regulations were not released. They have under gone further revisions and should be published very soon, with a 60 day comment period*). It is very important that members and grottoes voice their comments within this period.

RESEARCH AND SCIENCE COMMITTEE - Kevin Strunk was not present to report. Keith Dunlap reported that we are still seeking a graduate student to study the caves in Irving Brothers' Quarry. Action needs to be taken ASAP.

The report of the sediment study in Trap Door has been presented in second draft for review by the students' academic advisor.

EDUCATION COMMITTEE - Keith reported that Committee Chair, Noel Sloan informed him that an educational brochure has been drafted and will soon be available for board review.

KARST REGISTRY PROGRAM - The function and goals of a registry program were discussed generally (educate landowners to significant features, acknowledge and commemorate their new found awareness, and develop positive relationships for future interactions.) A questionnaire was mailed out with the December *IKC Update* requesting input from members concerning the establishment of this type of a program within the IKC. Reaction at the meeting was positive. Volunteers will be needed if this is to be a successful program.

SULLIVAN'S CAVE - Primarily due to the landowner's request for assistance in controlling access to this cave, the CIG has voted to install a gate on Sullivan's. Access will continue to be controlled solely by the owner.

The gate is projected to cost \$200. The CIG is seeking funding. An NSS grant proposal will be submitted. Keith Dunlap proposed, and Lynn Miller seconded, that the IKC fund 1/2 the balance of the cost of the gate after NSS funds have been applied (if they are received). If the grant proposal is rejected, then the IKC would fund 1/2 the cost of the gate. The motion passed.

Discussion was held which focused on the desirability of informing Mrs. Stewart of the existence of the IKC and its ability to further assist her - from the posting of signs or sponsoring clean up projects in the cave, to management through screening those seeking permission to enter the cave.

TRESPASSER'S PROSECUTION - Keith filed a complaint with the Prosecutor's office concerning the incident of trespassing in Coon's Cave this past August. A pre-trial diversion has been proposed by the Prosecutor's office. His office has yet to contact the trespassers.

BAT PROJECTS - For specific information, refer to *Update #15* (December). Scott Johnson reported on two projects which are to begin next summer (one a habitat model for the Indiana Bat, the other a study of habitat usage through the construction and placement of bat houses). The (DNR) proposed poster featuring all the species of bats which can be found in Indiana will actually become a series of educational posters with habitat themes (such as karst, wetlands, prairies, etc.) which will depict animals and the environments which they inhabit.

WAYNE'S CAVE CLEAN-UP - Sunday, December 10, 1989. Approximately 20 participants are anticipated. See Keith if you are interested.

EARTH DAY 1990 - Will be held on Sunday, April 22, 1990, and will commemorate the 20th anniversary of the original Earth Day in 1970. This peaceful, positive demonstration is considered to be the start of the modern environmental movement. Jane made a motion, seconded by Lynn, that the IKC become an Affiliate of Earth Day 1990. Passed. It was proposed that the official environmental activity of the IKC on that day be a mass clean-up of Sullivan's cave. Jane Miller is to contact all grotto liaisons to inform them about Earth Day, to encourage each grotto to become an affiliate, and either to participate in the Sullivan's clean-up or to identify a favorite cave of the grotto and schedule a clean-up on April 22, 1990.

There is a statewide event (rally) planned for the Indianapolis Circle on Saturday, April 21, 1990, in anticipation of the National Earth Day celebrations. It was suggested that the IKC fund the development of a table top display for use at a booth at this rally (a variety of other potential uses for such a display were proposed as well).

An Earth Day 1990 Committee of Jane Miller, Larry Mullins, and Scott Johnson was identified.

ACCA SOLICITATION - Discussion preceded a motion by Lynn Miller (seconded by Keith Dunlap) to donate \$50.00 to the ACCA. Passed. In conjunction with this donation, Lynn will write a letter requesting an update on the status and activities of the ACCA.

continued...

SOLICITATION OF CANDIDATES FOR 1990 ELECTIONS - There will be three director openings on the Board. As is true each year, all officer positions are up for election. Keith will poll the intentions of the current officers concerning re-election and will solicit nominations for officers and directors. Any member interested in becoming an officer or director should contact Keith (or any member of the Board) by February 1, 1990.

ANNUAL BUSINESS MEETING - Tentatively scheduled for Saturday, March 31, 1990. Details to follow.

DIRECTOR'S MEETING - Friday, February 9, 1990, 7:00 p.m., at the Miller's.

PHONE TREE - Jane Miller explained the function/purpose/value of establishing a phone tree within the IKC - to provide a rapidly accessible and broad-based network (i.e., members and grottoes) with information (concerning environmental legislation or other significant activities) which require prompt response. A statewide coordinator would call regional contacts. Each contact would either 1) have several phone tree chairpersons to call, or 2) be a chairperson and have 10 -20 phone tree participants to contact concerning the issue at hand (i.e., FCRPA regs concerning the definition of "significant").

Jane will solicit interest/participation from the membership generally as well as from the grottoes.

The meeting was adjourned at 9:20 p.m.

Submitted by Jane E. Miller, Secretary

IKC DIRECTOR'S MEETING

February 9, 1990

DIRECTORS PRESENT:

Keith Dunlap Mike Miessen
Jeff Cody Lynn Miller
Jane Miller

DIRECTORS ABSENT:

Ernie Payne
Kenny Carrigan
Glenn Lemasters

The meeting was called to order at 7:35 p.m. Visitors: Angie Manon, Tom Rea.

SULLIVAN CAVE

- 1) Gating process with the CIG is underway. Frame has been installed. Door anticipated to be installed on 2/10/90. Costs are approximately \$235. NSS grant proposal for \$100 has been submitted by the CIG. CIG/IKC costs are expected to be \$68 each (assuming grant is approved).
- 2) Keith will inquire if the landowner would like new routed signage for the cave. If she is interested will need a volunteer to make the sign. Keith will also discuss difficulties associated with charging a fee or requiring a "donation" for access to the cave.

- 3) IKC Earth Day event will be a clean-up of Sullivan. Discussion surrounded efforts to publicize and promote the event: An article in the March *IKC Update*, letters to grottos, notice in NSS News. Directors will ensure that sufficient haul bags, wire brushes and "brown wash" brushes are available.

OHIO VALLEY REGION - Don Shofstall has requested the IKC send a representative to its meetings. Identification of an interested party to serve in this capacity was deferred to the Annual Business Meeting in March.

EARTH DAY 1990 - IKC has committed to sponsoring a booth at the rally to be held in Indianapolis on April 21, 1990. Lynn has volunteered to build a table top display for use at this and other similar events. Lynn will contact the ACCA about participating with us or providing materials for use in our display. Jane will contact committee members Larry Mullins and Scott Johnson for content suggestions and/or resource materials available to them. Development of a graphic flow chart of the inter-relatedness of the sinkhole, cave, well, groundwater system was suggested.

ELECTIONS - Will be held at the Annual Business Meeting on March 31, 1990. Mike Miessen and Glenn Lemasters have one year remaining in their terms as directors. All other positions are up for election. Current officers are willing to serve another one year term. Keith is seriously in search of someone to take over the presidency next year. A tentative slate of directors was discussed. Keith will confirm the willingness of identified parties to serve. Ballots will be mailed by the end of February in accordance with the by-laws.

NATIONAL EXPOSURE FOR THE IKC - Dave Doolin, IKC member, wrote a good response to a negative letter to the Editor which appeared in the NSS News. Keith will write Dave a letter of appreciation.

KARST REGISTRY - Jane reviewed results of the membership survey and will write an article for the *Update*. The topic will also be brought up for general discussion at the March business meeting.

PALEONTOLOGY - Ron Richards, Paleontologist for the Indiana State Museum, has been working in certain Indiana caves. He could use the assistance of cavers, especially vertical cavers, in his efforts. Please contact Lynn Miller if you are willing to help.

HOOSIER NATIONAL FOREST - Minimal current activity by the HFP committee. Forest Service Plan should be published in the next month or so. The IKC will receive a complete copy of the draft plan for review. The IKC may reprint the parts pertinent to caves for distribution to cavers for their enlightenment.

Keith reported that Larry Mullins, FS cave resource specialist and IKC member, is planning a training program in late April (*ed - now scheduled for mid-May*) for Forest Service employees concerning caves and karst. This will possibly include a Saturday field trip. Larry is also looking for volunteers for summer field work on the Hoosier. Please contact Larry or the HFP committee if you are interested in assisting.

LOST RIVER - Bugs Armstrong spoke on Lost River at the last CIG meeting. Soil Conservation people seem to be pursuing the building of capture dams along the river. These dams would not allow for the natural flushing process to occur. The IKC needs to take a position on this situation. Lynn will contact Bob Klawitter concerning this project to get us educated or to provide us with facts and figures for printing in the *Update*.

FEDERAL CAVE RESOURCE PROTECTION ACT - Regulations have not been published in the Federal Register yet (anticipated publication was late January) because the regulations had to be redrafted because the proposed regs did not address the intent of the law to protect caves.

EVANSVILLE HIGHWAY PROJECT - All three proposed routes have been determined not to be economically feasible or cost justifiable. Bayh is attempting to drum up support for the "least offensive" route, which would widen existing roads. The IKC is still opposed to this activity due to adverse impacts on karst. Letters from the membership to the governor would be beneficial.

CAVES OF INDIANA - The Indiana Geological Survey will decide soon whether or not to reprint Powell's Caves of Indiana. The IKC is not in favor of reprinting this book. Much information included in it is no longer valid and too much information concerning cave locations is provided. Lynn will draft a letter to the IGS stating the IKC's position. The letter will be sent out over the President's signature. IKC members are encouraged to write individual letters to IGS on this matter.

RECYCLED PAPER - Keith proposed that the IKC switch to the use of recycled paper for the Update. The additional costs are not significant. Keith will obtain a sample ream of paper to test print quality.

DNR CAVE POSTER - A poster depicting the ecology and wildlife of caves is in the works. DNR has approached a caver/artist about doing the artwork.

DNR BAT DISTURBANCE PROJECT - Spring will mark the second phase of this ongoing project. Contact Keith if interested in assisting.

RAY'S CAVE - Scott Johnson of DNR and Les Zimmer of Nature Conservancy are still pursuing protection possibilities for this cave.

DNR/FS/IKC ALLIANCE BUILDING - Keith and Angie attempted to take Scott Johnson (DNR) and Monica Schwalbach (USFS biologist) caving. High water prevented them from entering Sexton Cave.

MARCH UPDATE - Publication deadline is March 18. Articles are needed on Earth Day, IKC Earth Day activities, the Sullivan's gate project, the HNF and FCRPA. Lynn will write an article on Ron Richards' activities.

GLEANINGS FROM NATURE - Keith proposed that Blatchley's chapter on caves from his 1897 work, *Gleanings From Nature*, be the next reprint by the IKC. The Board agreed that this would be a worthwhile project and that the IKC is willing to pay to have the work duplicated for distribution to the membership.

PRINTING PRESS - The printing press owned by the CIG and used jointly by the IKC and CIG is in need of maintenance. The Board is willing to share the maintenance costs with the CIG.

The meeting adjourned at 9:30 p.m.

Respectfully submitted,

Jane E. Miller, Secretary



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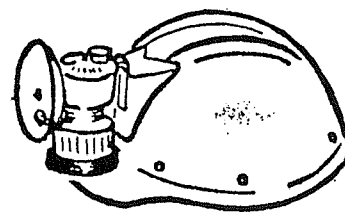
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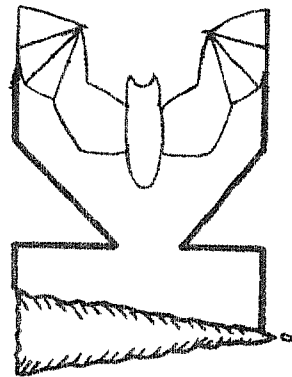
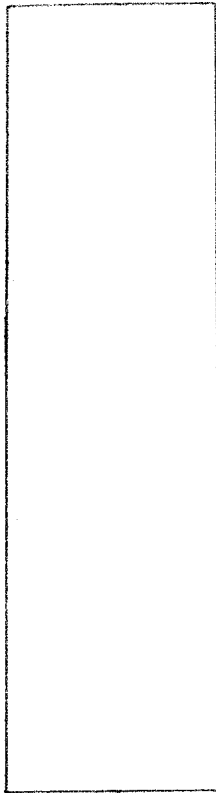
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