

the
month's
gumbo

March 1995

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Bat Graphics by Bart Rapp



Kansas City Area Grotto Minutes February 8, 1995

The meeting was called to order by President Richard Cindric at 7:05 pm in the M.A.G. Hall with 25 cavers in attendance.

Trip Reports:

- ◆ Ridgewalking in Arkansas on January 11 by Eric Fehlauer, Richard Keith and Richard Cindric.
- ◆ Arkansas ridgewalking in Thomas Creek and trip to Neal S Amos Cave on February 4 by Jerry and Richard Cindric.
- ◆ Assisted with pouring foundation for two gates at Twin Cave in Disney, Oklahoma; Ron Lather, Peddie Heinze and Wayne Burnett.
- ◆ Photo trip to Onyx Mountain Caverns for MCKC; Kate Johnson
- ◆ Trip to Feakes Peak, 15 inches of snow on ground (no caving); Randy Bruegger, Tom Howell, Brett Jarrett.

Treasurers Report: \$463.17 current balance with two checks outstanding.
1995 Dues are due.

Old Business:

- ◆ There was a discussion about the possibility of KCAG sponsoring a NCRC training weekend in Missouri. Dave Foran will investigate and report next meeting.
- ◆ A notion was made and unanimously passed to purchase a global positioning system (GPS) receiver. The cost will be \$300. A carrying case will be purchased for the GPS. There was much discussion about the rules for borrowing the GPS:
 - a) It will be kept by the Equipment Chairman, Richard Crabb.

- b) Only members can check it out.
- c) \$20 cash deposit required at the time of checkout.
- d) Whoever loses it or damages it beyond repair will be expected to pay the full purchase price for a new one.
- e) These rules for borrowing will be reviewed in about four months.

Program: Bob Younger presented slides from the collection of Andy Kramer.

Coming Events

Mid-March—Scout trip to Meramec State Park led by David Foran.

March 23-24—Ozark Cavefish Conference II, Springfield Conservation Nature Center, Springfield, Missouri. Contact: Springfield CNC, 417/882-4237. (Kate Johnson is going if you'd like a ride.)

March 31-April 4—Scout trip led by Mike McKinney and Bob Younger. KCAG wannabes and members invited.

May 5-7—Spring MVOR, Oregon County, Missouri. Contact: Jim Sherrell, 2833 Olive, St. Louis, MO 63103. 314/535-9070 (day); 618/588-4505 (night).

May 13—MSS quarterly meeting in Rolla at 10:00 a.m. Contact KCAG Director Kate Johnson for details. 816/233-5494.

May 25-29—Speleofest '95, Camp Carlson, Fort Knox, Kentucky. Contact: Glenn Driskill, 334 Martin Rd., Rineyville, KY 40162, 502/862-4054.

July 17-21—NSS Convention, Blacksburg, Virginia. Contact Carol Tideman, 7600 Pindell School Rd, Fulton, MD 20759, 410/792-0742.

March 1995

The Month's Guano published regularly on second Wednesday. **Submit articles** to editor at least 10 days prior to publication date—On disk use RTF, ASCII, or Word for Mac. Guano subscription rate for nonmembers: \$6 annually.

President: Richard Cindric, 913-262-2006
Vice President: Bob Younger, 913-768-4524
Secretary/Treasurer: Randy Bruegger, 913-829-3943
Editor: Kate L. Johnson, 1705 Safari Dr., St. Joseph, MO 64506
 816-233-5494; Fax same number by appointment.

Kansas City Area Grotto is affiliated with the National Speleological Society, The Missouri Speleological Survey, and a Founding Member of Missouri Caves & Karst Conservancy.

Meetings held every second Wednesday at 7 p.m. (**alternate site in May**), M.A.G. Hall behind Midwest Research Institute, Volker Blvd, Kansas City, Missouri.
 Annual dues: \$10 for full members (3 caving trips with KCAG and nomination and vote of membership required).

Letter to the Editor:

Dear Editor:

The Oklahoma Nature Conservancy, in cooperation with TROG has been constructing and installing internal grids and gates to protect sensitive caves used by endangered species.

It has recently come to my attention that several members of your grotto, **Ron Lather, Peddie Heinze and Wayne Burnett** have also been participating in these projects.

I would like to thank your organization and these members for their participation in this important work. Through our cooperative efforts unique and rare species of bats, cavefish, cave crayfish may be preserved for future generations to enjoy.

Without the assistance of organizations and people like these, it would be difficult for The Nature Conservancy to achieve its mission of protecting and enhancing biological diversity. Their contributions of valuable time and effort is greatly appreciated.

I look forward to working with your organization again in the future.

Sincerely,
Barry Carpenter, Land Steward
The Nature Conservancy
Oklahoma Chapter

LAST ISSUE OF THIS MONTH'S GUANO FOR SOME

Check your mailing label for the status of your subscription. M-95 = paid 1995 member. Paid subscriptions have 1/95 (or earlier). Exc = exchange copy. Complimentary copies are sent to cave owners, MSS, NSS, MCKC, and MVOR representatives.

Subscriptions are free with membership (three trips with KCAG, nomination and vote of members required). Others can send \$6.00 to Randy Bruegger, 2452 Mesquite Terr, Olathe, KS 66061

MSS Report - January 1995

Cave Files Report by Jerry Vineyard: The personal cave files of Don Myers covering 35 to 40 years has been donated to MSS. Don was with the Tom Sawyer Grotto. Includes four large boxes, rolls of topo maps, raw data, unfiled reports, complete collection of MSS publications, a complete irreplaceable map of LaBomb Cave including quarry over it. New count of caves is not available due to computer malfunction. The last count from the fall is 5,364. Many new cave maps, photos, and reports have come in. A new cave map catalog is available with listings for 2217 maps of 2243 caves (more than one cave on some maps).

The Missouri Archeological Society Quarterly for October-December 1994 has a fascinating logo on the front cover. It features a fragment of deer bone from Jacob Cavern, McDonald County, on which there is a remarkable drawing of a supposed mastodon. It is similar to European cave art. With only six strokes of what must have been an instrument made from chert, the artist drew a mastodon. Unfortunately there are no details about the context in which the bone fragment was found, or whether any other art was found with it.

Research projects include mapping in Berome Moore, research by sump; LEG mapped Perry Co. cave to 8,000 feet, 1,500 feet of crawlways to go; sediments in Ozark Caverns; LOG is working in Maries County; OHG has monthly mapping trips; MVG working in Oregon Co.; Scott House, CRF—cooperating with three government agencies: Forest Service bio-survey on 11 Point River, Irish Wilderness; MDC Powder Mill Creek Cave mapping (longer than Devil's Icebox). It's a grueling 16-18 hour trip, wetsuits. The Nature Conservancy has 80,000 acres in Pioneer Forest, Shannon and Reynolds Co. and private land and wants the caves mapped and surveyed.

Many requests for mapping. If you are interested in helping, contact Scott House, 2159 Lonedell Rd., Arnold, MO 63010. (314) 287-4356. *Will train!!*

Continued on page 8

LOOKIN' FOR CAVES W-TECH STYLE

By Randy Buregger NSS 3174

GPS Reseach Committee: Tom Howell, Brett Jarrett, Randy Bruegger

Mission: On January 20th use GPS at Digger's to find cave locations on the river.

Equipment Needed:

- Ground Positioning System
- Brett's truck to get to Digger's.
- Food supply

Friday night the roads were fast and clear all the way to the city of Lebanon. Five miles west of Lebanon the 20 or so inches of snow they got finely started to slow Brett down—we were only going 75 to 80 on the slick spots.

At the top of the hill on the access road down to Digger's drive, all we saw was one set of tracks in the deep snow. We found out later those tracks were from Mickey's horse, Terra, on their one and only trip to the mail box.

Brett's comment as we started down the hill was "like hell I'm walking! We got this far and this truck will make it all the way to Digger's."

Near the bottom of the hill at the right hand turn up into Digger's drive, Brett made his run at the drive. At about 10 feet past that point, we added three more sets of foot prints in the snow on the way to the house. The truck was stuck!!

We packed all of our gear from the truck to the house looking like a band of gypsies. We neared the house not knowing what to say but "Hi, Dad, I'm home." We found Doug and Mickey with two wood fires going and all warm and snug.

On Saturday we were up early near the crack of 9:00ish. We then spent the day walking the river and working with the new GPS to get a feel of how it operates. We marked several locations including a small pit near Digger's place.

We stopped at the house under construction to see what progress had been made. What a sight to see! This will truly be one of the wonders of the world.

After a supper of steak and baked potatoes, we

looked at one of Digger's slide shows. Then we tried to burn down the barn by stoking up the sauna as hot as we could.

Not long after the sauna we crashed in the barn. Up even earlier the next morning about 8:00ish, we started packing our gear down the hill to the truck.

Doug and Mick went with us to watch, then helped to push that damn truck up the hill. We made the first little rise with Mick driving and all the boys pushing. Brett got in to drive as the next rise in the hill was much steeper than the last. Some how with me providing the proper weight distribution face-down in the back of the truck with my hard hat on and screaming "Oh Shit!", we made it to the top.

We gave Doug and Mick a ride to the mail box and left them to walk back to the house through the woods. Brett then provided Tom and myself a worry-free trip home to K.C.

What is GPS?

From the Forestry Catalog

The Global Position System is a constellation of satellites which orbit earth twice a day, transmitting precise time and position (latitude, longitude, and altitude) information. With a GPS receiver, users can determine their location anywhere on earth.

The basis of GPS technology is precise time and position information. Using atomic clocks (accurate to within 1 second/300,000 years) and location data, each satellite continuously broadcasts the time and its positions. A GPS receiver receives these signals, listening to three or more satellites at once, to determine the user's position on earth.

By measuring the time interval between the transmission and the reception of a satellite signal, the GPS receiver calculates the distance between the user and each satellite. Using the distance measurements in an algorithm computation, the GPS receiver gives an accurate position fix.

AND THE CAVE GODS SMILED

By Richard Cindric NSS 22600

Richard Keith, Eric Fehlauer and I went ridgewalking in Arkansas the weekend of January 14, 1995. Actually, it was our intention to ridgewalk but the cave gods had other plans for us.

The first interesting thing that happened was when Eric and I saw elk grazing in the Steel Creek campground on Saturday. I had seen a few elk since they were transplanted to the Buffalo River area about a decade ago, but that didn't prepare me for the sight of this herd—22 of them!

I'm vague on elk anthropology, but I believe we saw a harem of cows under the supervision of a lone bull. That is, all the elk but one were antlerless, but that one had a tremendous rack. Soon after we stopped the car about 50 feet from the herd with the bull trailing the others. It was a great and unexpected experience. I hope Eric's photos turn out well.

Steel Creek was where we agreed to meet the other Richard. He was still asleep in his VW when we got there at 7:30 am. Before we woke him, Eric and I wondered what Richard would dream about if he heard elk licking road salt off his Bug.

After greetings and elk discussions, we left for Beckham Creek to locate some houses I had seen three years earlier. When Richard Pyles and I ridgewalked then, we found two houses not shown on the topo' as we walked back to the truck. We had talked to a woman who was outside, and our plan this past weekend was to request permission to finish walking the north side of the creek.

I got us on the right road to the houses, but I also got us stuck. There had been 5 inches of rain before we arrived: The steep, seldom-used road we took was drivable when it had gravel, but when it turned to clay, we knew we were in trouble. Rather than continue, we turned around and found out we weren't going anywhere.

We were vertically equipped so we pulled out the ropes and did a vertical rescue of Eric's Corolla. We rigged a 2:1 mechanical advantage using pulleys. Eric drove while Richard and Richard

provided the manual power. The 2:1 wasn't enough, so we re-rigged for a 4:1 and that worked quite well. We were making progress and were moving the ropes to the next tree when a neighbor from a house we hadn't seen came along and offered assistance.

I believe Richard Keith described Mark Bokum as an angel and we all expected him to fly back to get his 4-wheeler. Why? Not only did he pull us out, but he

- was happy to see us,
- wanted to show us caves and springs,
- spent the day with us,
- fed us hot chocolate
- invited us back.

I'd classify getting stuck then being found by Mark as the second interesting event of the week.

A third item of interest was the first cave Mark took us to. At the sinkhole entrance, we rigged a rope because the 40-foot depth looked like a questionable free climb, but it turned out to be safe. Eric and I checked it out.

The cave was a series of pitches that ultimately led to roughly 120 feet of total depth. We saw a little more horizontal passage than vertical, and we also saw several leads that we didn't take the time to check because we didn't want to leave Mark, his family and Richard on the surface for too long. The room where we turned around was about 40 feet by 20 feet with a height of about 30 feet. There was no apparent way to continue, but there was a slight breeze.

Eric and I both agreed it was worth mapping, and we later requested of Mark that he allow us to come back to do that when the weather warmed. Mark was game, and we'll bring a helmet and lights for him when we return.

We walked to the houses that we had tried to drive to only to learn that they were both empty and were on the market. Mark showed us a pit just a few feet from the east house. We could see the bottom was about 40 feet down and the entrance

was very unstable. Since a year ago when Mark descended the pit, the entrance had about doubled in size. He said it went only a short horizontal distance before choking off. We'll take his word for it, for now.

After hot chocolate in the Bokun's geodesic dome house, Mark and his sons took us to the base of the creek to show us some springs. Because of the heavy rains, the springs were very active and won't offer any opportunity for exploration until a dry spell. We then went to the other side of the creek and went through a small (but interesting) cave that Richard Pyles and I had mapped when we were there last. We had called it Walking Stick Cave because of the millions of those critters (literally, there so many they were falling out of trees) that were in the woods that day.

Saturday night was to be spent at the Carver Campground on the Buffalo River, but a warm dinner and freezing temperatures convinced us to get a cheap motel in Jasper. On Sunday morning we drove to Five Ash Pit. Dropping Five Ash was my birthday present to myself: My 40th was the previous Wednesday.

I had been in there once before and had very much enjoyed it. The 150-foot depth come in several pitches, and all of these do require a rope. At the bottom is a portal that leads to a dome room of about 70 feet in height. We were very slow getting in and out, and I was FILO (First In, Last Out) so I had lots of time to take pictures.

The area around Five Ash is thick with sink-holes, one of which is roughly 400 feet across and 50 feet deep. We spent our remaining hours poking around, looking without success for new caves. Actually, Eric did locate a hole in a sink that he dug his way into. After about 20 minutes, it was obvious that an adult male would be unable to enter it, and it didn't look promising anyway.

The drive back to KC was a record setter—five hours! The Corolla was a rocket when Eric was at the throttle.

In summary, the weekend started out surprising, turned miserable but ended quite well. This third ridgewalk of the winter season yielded yet another warm weather mapping project. We'll continue looking for a big cave—one that will provide cartographic security.

ARKANSAS TRESPASSING ALERT ON THE INTERNET

Date: Wed, 22 Feb 1995
From: RHONEB@aol.com
To: CAVERS-DIGEST. 5053
Unknown.ALABAMA.CF.CS.YALE.EDU.user

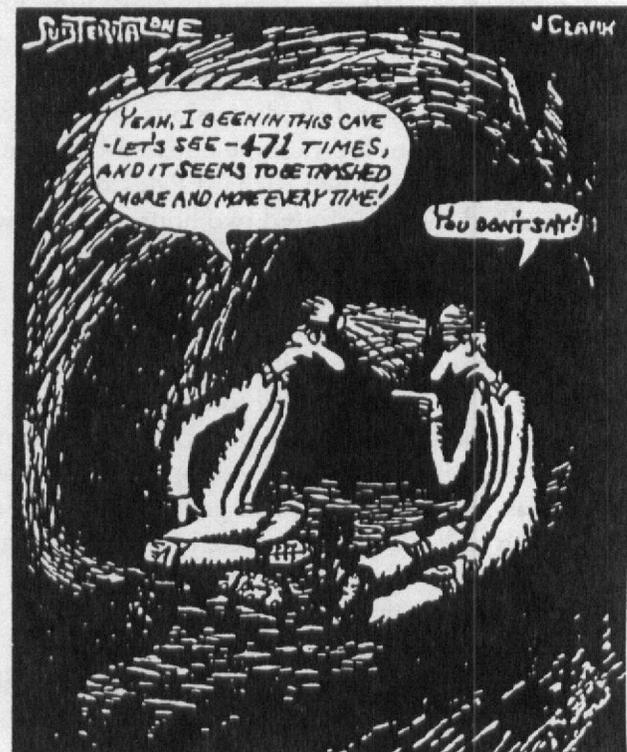
Subject: ARKANSAS LEGISLATIVE ALERT

At least two very bad bills are now in the state legislature.

SB 282 would outlaw liability releases.

HB 1702 would make it illegal to be on any private property outside city limits without written permission; no purple paint required. This could shut down all serious caving.

Get off your backsides and contact your senator, representative, and governor, now — This stuff can move really fast.



Rocky Mountain Caving

Mushroom Cave, Catalyst of Concern

Management policy change proposed to protect bats

By Dan Drees • Park Naturalist • Meramec State Park

In 1966, Congress authorized construction of the Meramec Dam for flood control and recreational purposes. Land acquisition began in 1968. Many Midwestern cavers were greatly disappointed when the U.S. Army Corps of Engineers, who were to build the dam, annexed Mushroom Cave from Meramec State Park. The Corps of Engineers needed the land around and directly above Mushroom Cave to build a road to a visitor's center they planned to construct. It would overlook the construction site of the dam just east of Mushroom Cave in the Meramec River valley.

Cavers were very disappointed (yes, even enraged) when the Corps completely closed Mushroom Cave to visitation. To keep people out, the Corps built gates of half-inch rebar over all three entrances to the cave.

The Corps closed Mushroom Cave because they were concerned that blasting during construction of the roadbed would weaken the cave's ceiling and make it too unstable for people to be inside at one spot. Where the road was to pass over the cave there was only 20 feet of thickness between the surface and the cave ceiling and only half of this thickness was solid rock.

For decades, Mushroom Cave has been one of the more popular caves in the Meramec State Park area. It has a long history of use by local residents and people from St. Louis who use Meramec State Park and the Meramec River for recreational activities. As a consequence, the Corps found it nearly impossible to keep gates secure on the cave.

Opposition to the dam, and the lake it would create, quickly arose and they soon became very

controversial topics. The opposition became so widespread and vocal that by 1978 Missouri's congressional delegation, led by Senator Tom Eagleton, called for a local referendum. On August 8, 1978, 64 percent of the voters in East-Central Missouri, said "no" to the Meramec Dam. Had the dam been built, the impoundment, at flood pool, would have covered 23,000 acres, including 63 miles of popular floatable waterways and most of Onondaga and 100 other caves.

After congressional deauthorization of the project, the Corps transferred ownership of Mushroom Cave back to Meramec State Park in 1982. As senior naturalist at the park, I inherited the responsibility of determining how to manage the cave.

When I made my assessment of the cave, I could not see any indication of an unstable ceiling. Despite the disgusting presence of a lot of spray-painted names and initials, I was impressed by the quantity and quality of the cave's speleothems. And I was also impressed by the quantity and diversity of the cave fauna, especially the number of hibernating bats. By simply walking through the main passage, I saw more than 150 solitary bats of four different species, although there were no bat clusters. (A much more thorough survey on 11/10/94 revealed 175 bats.)

Based on these observations, I made the recommendation that the park manage Mushroom Cave as a permit cave. At that time we had no provisions in our state park cave management policy for prohibiting access to a cave containing *significant numbers of hibernating, non-endangered bats* during their hibernation period.

IF THE CURRENT CAVE MANAGEMENT POLICY IS AMENDED TO PROTECT SIGNIFICANT NUMBERS OF NON-ENDANGERED HIBERNATING BATS, IT WILL PROBABLY AFFECT FROM THREE TO SIX OF THE 150 CAVES IN MISSOURI STATE PARKS.

Bats that are federally listed as endangered species are protected in Missouri state parks under policies established by the U.S. Fish and Wildlife Service. Caves that have hibernating Indiana or Gray bats are closed from September 1 through April 30 each year. Caves that have bachelor or maternity Gray bat colonies are closed from April 1 through October 31.

In *Bats* (Vol. 9, No. 3, 1991), Merlin D. Tuttle says: "A severe winter compounded by human disturbance could spell disaster for a hibernating bat. Only three extra arousals beyond the normal could cost the bat its life."

In light of the increasing understanding by scientists of the vulnerability of hibernating bats, I am proposing that it is time the Missouri Department of Natural Resources considers the detrimental effects that the state park system's

current cave management practices are having on *non-endangered bats*. Although the more common cave hibernating bats might not become in danger of extinction, their populations would certainly grow if human-caused hibernation mortality were reduced.

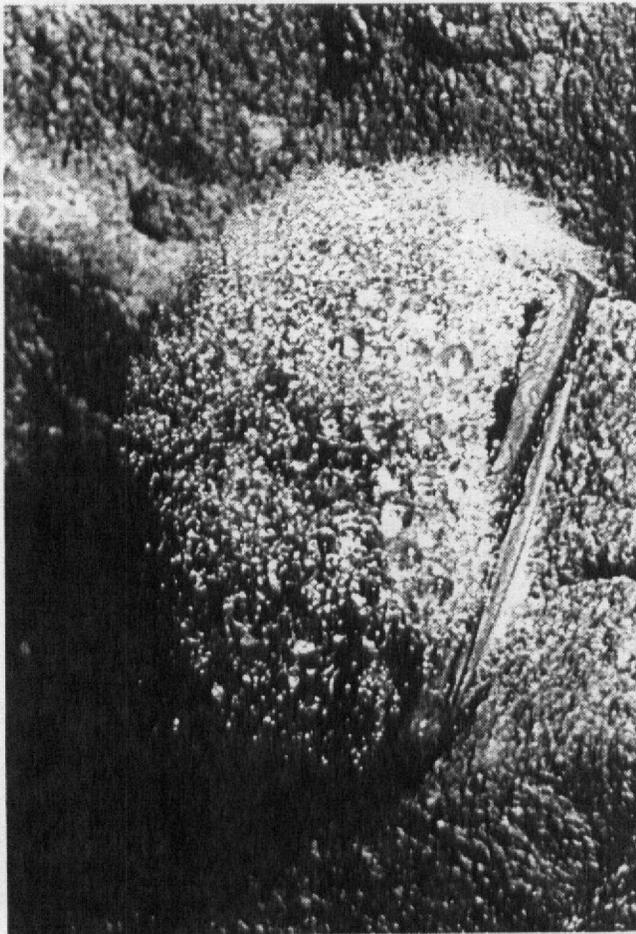
In 1989, Meramec State Park issued permits to a total of 220 people for access to Mushroom Cave. By 1993, the number had soared to 715 people who ran the gamut from complete novices to biospeleologists. As Don Toole said in the April '94 issue of the *Digest*, "The caving 'Age of Innocence' is all but over. The carefree days of spelunking are gone." Don points out that this is due in large part to burgeoning population growth. It is my observation that the popularity of caving is growing many times faster than our human population.

Thus, Mushroom Cave has become a catalyst for a meeting this January between Missouri state park cave managers and state bat biologists to begin a debate on just what constitutes *a significant number of hibernating, non-endangered bats in need of protection*. Since the outcome of this discussion is likely to change the Missouri State Park Cave Policy, input from the caving community is both needed and important. If the current cave management policy is amended to protect significant numbers of non-endangered hibernating bats, it will probably affect from three to six of the 150 caves in Missouri state parks. In a case where a cave is closed to protect Gray bats in the summer, but is a cave which also has significant numbers of non-endangered hibernating bats in the winter, winter access would still be possible but the park would look at options to minimize disturbance of the bats.

A second part of the Mushroom Cave management dilemma deals with the controversial topic of closing a cave to encourage bats to recolonize it.

When the Corps eventually closed down their Sullivan office, I became the recipient of documents pertinent to several bat research studies they had commissioned. Unfortunately, I didn't get the code sheet identifying which caves were the focus of the studies. Last winter, Rick Clawson, a bat biologist for the Missouri Department of Conservation, provided me with a copy of the code sheet. It was the key to a wealth of information.

In the Corps documents, Brian Wilcox, a



Rick Walk

A hibernating *Pipistrelle* bat wears a cover of water douplets in Mushroom Cave.

naturalist at Meramec State Park, discovered some remarkable data. In one document it was mentioned that in 1957, bat biologist Richard Meyers, noted a viable Indiana bat hibernation colony of at least 450 bats in Mushroom Cave. According to Clawson, only 24 of Missouri's 5,400 caves have had documented Indiana bat hibernation colonies of over 100 individuals.

This is due to this particular bat's requirements for a precise hibernation microclimate.

Although it may be overly optimistic on my part to hope that Indiana bats return to this cave any time soon (given their continuing and alarming population decline), limiting access to Mushroom Cave during the hibernation period might allow them to recolonize the cave. Consequently, this combination of bat hibernation concerns has led me to recommend that Mushroom Cave be closed to recreational caving from October 1 through April 15, starting in the fall of 1995.

This closed period would be 1.5 months shorter than the recommended closed period for Indiana bat hibernaculum. I believe this would be an effective compromise that would protect *non-endangered species* currently hibernating in Mushroom Cave. It would also provide Indiana bats with the opportunity to recolonize the cave. Of course, if they did recolonize the cave, the longer closed period would go into effect.

"THE CAVING 'AGE OF INNOCENCE' IS ALL BUT OVER. THE CAREFREE DAYS OF SPELUNKING ARE GONE." Don Toole

Some of the questions that readers can give me suggestions or information on include:

1. Do you know of other agencies (in Missouri or in other states) that have special policies to protect *significant populations of non-endangered hibernating bats*?

2. What, in your opinion, constitutes a *significant population of non-endangered hibernating bats*?

3. What recommendations do you have for managing visitors who do go into caves that have significant populations of non-endangered hibernating bats?

4. Do you know of any abandoned Indiana bat hibernaculum that have been recolonized?

My thanks to the *MCKC Digest* for providing this forum to solicit input on this important issue. You may send your comments to: Dan Dress, Naturalist, Meramec State Park, HC65, Box 4, Sullivan, MO 63080.

The Missouri Caves & Karst Conservancy would like to see it widely disseminated so that all Missouri cavers will have an opportunity to respond to the questions asked. This is an important issue and Missouri's state park cave managers need your input.

(Reprinted from *MCKC Digest*, Vol. 1 No. 2)

Continued from page 2 MSS Report

June 23-27, 1977 NSS Convention Report: Committee chairs—Stan Sides, medical service coordinator; Doug Feakes, vendors; Dwight Weaver, tour packages with commercial caves; Robert Taylor to compile maps; Joel Laws, computers. ***Grotto members are needed to volunteer for a portion of the week-long event.***

Journal of Missouri Speleology Vol. 30 No. 1-2, *The Effect of Faulting on Missouri Caves* by Langford G. Brod, Jr. is available from Missouri Speleological Survey, % Pam Saberton, 3820 Juanita, St. Louis,

MO 63116 for \$9 postpaid. (Kate can pick up at MSS meeting and save \$3.) This is an excellent overview of an uncommon structural feature in Missouri caves.

Calendar Project: Rob Tayloe is exploring the possibility of the MSS producing a calendar of cave photos as a fund raiser.

Lower Ozark SubTerrestrials (LOST) has merged with Ozark Highland Grotto (OHG) in the Springfield area.

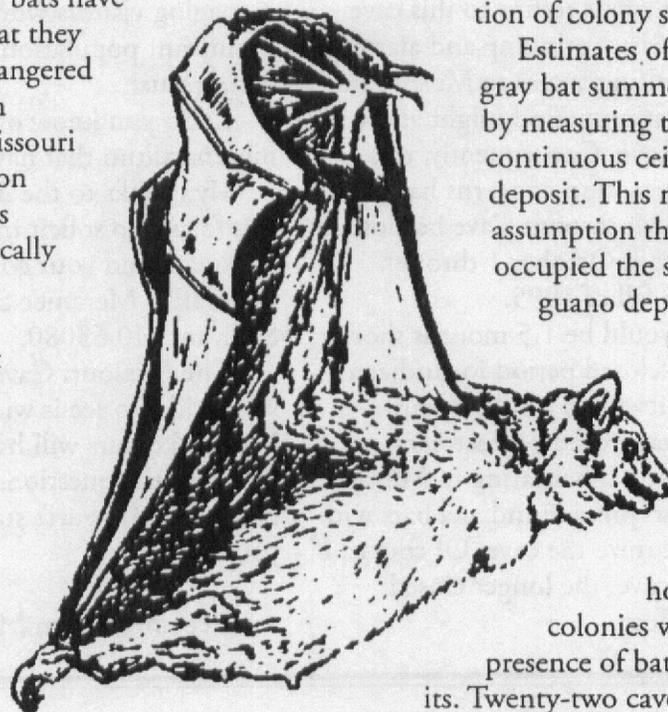
1994 GRAY BAT CAVE SURVEY RESULTS

By Mark McGimsey

Population declines of gray bats have been significant enough that they are listed as a federally endangered species. From June through November of 1994, the Missouri Department of Conservation conducted a survey of caves that have been used historically by gray bats but were not surveyed in recent years. Recent trends indicate that gray bat populations have increased in Missouri, so there was a chance that historic caves were seeing new use.

The primary objectives of this study were to (1) survey caves that historically have been used, (2) estimate population sizes of summer colonies, (3) record observations of evidence of previous population levels of gray bats, and (4) estimate frequency and levels of human activities which could lower cave utilization by endangered bat colonies.

Estimates of current population size of summer colonies were made by direct observation of bat clusters, or measurement of fresh guano deposits. Fresh guano can be distinguished by high moisture content, pungent odor, and shiny appearance. Approximately 170 gray bats occupy each square foot of cluster space. By multiplying 170 by the



area of fresh guano, a close approximation of colony size is obtained.

Estimates of past population size of gray bat summer colonies were made by measuring the area of the largest continuous ceiling stain or old guano deposit. This method is based on the assumption that a solid cluster of bats occupied the stain area over the old guano deposit. This estimate

results in a maximum past population estimate.

Surveys were conducted at 66 gray bat caves.

Thirty-nine caves housing summer bat colonies were confirmed by the presence of bats or fresh guano deposits. Twenty-two caves contained gray bats,

14 contained fresh guano, and in three caves fresh guano was observed but the roost sites were not reached. Eight sites were found to serve as maternity sites, and 25 were transient use sites. No evidence of recent use was found at 26 caves. Most of the 26 caves with no bats were among the most heavily visited by humans.

If you have any questions concerning bats, feel free to contact me at (314) 499-1724, or by my e-mail address—mmcgimse@bigcat.missouri.edu.
Mark McGimsey

Reprinted from *Foresight*, Vol 30 No. 4. Dec. 1994

1994 GRAY BAT SURVEY CAVE LIST

Arthur Cave, Barry Co.	MP 48	Lone Hill Onyx Cave, Franklin Co.	MP 1
Bagnell Dam Culvert, Camden Co.	MP 81	Low Water Bridge Cave, Greene Co.	MP 49
Bat Bat Cave, Crawford Co.	MP 11	Martin Cave #2, Shannon Co.	MP 103
Bat Bat Cave #1, Hickory Co.	MP 85	Massey Cave #2, LaClede Co.	MP 95
Bat Bat Cave #2, Hickory Co.	MP 86	Mayfield Cave, LaClede Co.	MP 90
Bat Bat Cave, La Clede Co.	MP 54	McDowell Cave, Miller Co.	MP 89
Bat Bat Cave #1, Pulaski Co.	MP 65	McKee Cave, Dallas Co.	MP 16
Bat Bat Cave #2, Pulaski-ski Co.	MP 67	Medlock Cave, Shannon Co.	MP 105
Bat Bat Cave, Texas Co.	MP 12	Mud Cave, Stone Co.	MP 107
Beer's Lake Cave, Shannon Co.	MP 109	Neill Cave, Shannon Co.	MP 8
Big Mouth Cave, Oregon Co.	MP 61	Onondaga Cave, Crawford Co.	MP 83
Brown Cave, #2, Pulaski Co.	MP 68	Onyx Cave, Pulaski Co.	MP 102
Bruce Cave, Pulaski Co.	MP 94	Panther Springs Cave, Carter Co.	MP 9
Bunch Cave, Camden Co.	MP 47	Pine Hill Cave, Ozark Co.	MP 93
Cat Hollow Cave, Dallas Co.	MP 43	Prairie Cave, Camden Co.	MP 58
Cleveland Cave, St. Clair Co.	MP 120	Radcliff Cave, LaClede Co.	MP 62
Cole Camp Cave, Benton Co.	MP 2	River Cave, Osage Co.	MP 59
Cookstove Cave, Shanon Co.	MP 016	Ruark Cave #3, Lawrence Co.	MP 60
Davis Cave #2, La.Clede Co.	MP 55	Ruark Cave #2, Lawrence Co.	MP 10
Devil's Den Cave, LaClede Co.	MP 57	Round Spring Cave, Shannon Co.	MP 63
Dodkin Spring Cave, Crawford Co.	MP 43	Russell Cave, Ozark Co.	MP 84
Dry Branch Cave, Morgan Co.	MP 7	Saltpeper Cave, Dallas Co.	MP 87
Elkton Cave, Hickory Co.	MP 51	Saltpeper Cave #1, Pulaski Co.	MP 50
Fiery Forks Cave, Camden Co.	MP 6	Sequiota Cave, Green Co.	MP 53
Fisher Cave, Ralls Co.	MP 76	Shamel Cave, LaClede Co.	MP 66
Flippin Cave, Benton Co.	MP 3	Tunnel Cave, Pulaski Co.	MP 52
Frankford Cave, Pike Co.	MP 64	Turnback Cave, Lawrence Co.	MP 42
Hannah Cave, Camden Co.	MP 46	Twenty-three Degree Cave, Crawford Co.	MP 42
Henson Cave. McDonald Co.	MP 5	Twin Springs Cave, Franklin Co.	MP 44
Hilderbrand Cave, Dallas Co.	MP 41	Unnamed Cave #2, Cole Co.	MP 4
Howell Cave, LaClede Co.	MP 56	Unnamed Cave #B, LaClede Co.	MP 104
Indian Ford Cave, Maries Co.	MP 91	Wind Cave, Reynolds Co.	MP 69
Jesse James Cave, McDonald Co.	MP 96	Windy Cave, Pulaski Co.	MP 92
Jones Creek Cave, Pulaski Co.	MP 101		
Little Scott Cave, Washington Co.	MP 14		

Kansas City Area Grotto
 Kate L. Johnson
 1705 Safari Drive
 St. Joseph, MO 64506-2554

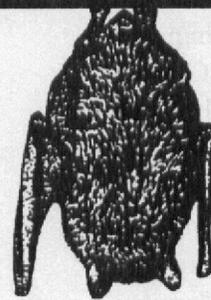
THOUGHTS ABOUT ATTRACTING BATS

by Kevin Classen

In Caver's Digest #5038, Jim Zeirke asked about methods of attracting bats to his yard. When faced with this question, my thoughts turned to the old barn up the road. It was constructed in the early 1900's, and is still in fairly good shape. The roof is composed of corrugated tin roofing (the type shaped like repeating sine waves, not the more modern "standing seam" variety) over boards spaced about 2" apart. During the summer this barn is home to an estimated 5000 bats—they roost between the boards and the metal roofing, and conversation with the local Fish and Game representative indicates this is probably an active maternity colony. Bats apparently like higher temperatures to raise their broods, and it must get *very* warm up there.

Another related thought. Several years ago the State Wildlife department installed 6 inch metal skirts around several hundred trees in an attempt to

reduce damage from some To their surplus of these summer homes for bats.



age to the trees critter or other. prise more than "skirts" became

So, it would seem a key issue might be temperature. I have constructed a bat house which is simply a "copy" of the barn roof I already described, and installed it where it will receive a significant amount of sun through most of the day. I don't know if this will work, but I have had no success with the wooden 'commercial' bat houses.

I have also been told (and have no idea of the accuracy) that bats have an acute sense of smell, and tend to avoid roosting where there are "fresh human smells." Since local attics are a favored roosting place, I question this thought.

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