

Some Unintended Results of Blanket Cave Closures: a Story about Fern Cave

Jennifer Pinkley

The first time I visited Alabama's Fern Cave, I thought of the Mines of Moria in JRR Tolkien's Middle Earth: vast beyond imagining. As I moved through the cave, it seemed that around every corner I discovered another passage, another canyon, another path to explore. On that first bewildering trip, I visited Helictite Heaven, one of the most beautiful and bizarre rooms not only in Fern, but in any cave I've ever visited. Weird rock forms sprout out of the floors, walls and ceilings like mutant, sparkling coral bushes. After that trip, I was hooked. I spent the next 20 years learning my way around in the cave, trying to understand its complexities, and unlocking its secrets.

A LITTLE FERN CAVE HISTORY

Huntsville Grotto members found the Surprise Pit entrance to Fern Cave in 1961 in the early years of vertical caving. Several years later, in 1968, cavers discovered another cave just around the corner with a gorgeous sinkhole entrance but dead bats and even a dead skunk at the bottom of a 97 foot pit. Everyone was quite disgusted when they reached the bottom, so they gave the new cave the fitting name of the Morgue. Then in 1969, Huntsville cavers found yet another cave near Surprise that they named New Fern; the entrance was named the Johnston Entrance. New Fern proved to be more complicated, vast, and gorgeous than anyone expected. Over the next several years, cavers worked to map their new finds and yearned to connect all three caves. Eventually, they did connect all of them, mapped a cave system almost 16 miles long, and discovered that five entrances led into the depths of Fern.

Along the way, explorers found beautiful and rare helictites, gypsum crystals that look like giant corn flakes, huge dogtooth spar calcite formations, rimstone dams, towering flowstone, giant rooms, deep pits, cave pearls, and stream passage. In obscure rooms, cavers found bones of extinct animals that roamed the earth over 13,000 years ago, including giant-sized varieties of cave bears, armadillos, and lions. Hidden in the mud were also jaguar teeth, a horse tooth, and a 2,400-year-old human jawbone. Cavers also found torch fragments, charcoal, and torch marks throughout the cave, indicating that someone, at some point, visited some very remote and technically difficult areas with only small torches for light. The 15 distinct levels of the cave, spread out over almost 16 miles of passage, are vast, complicated, and beautiful. It became one of my favorite caves to visit.

A few years after cavers discovered the Morgue, Huntsville caver Jim Johnston was busy exploring some leads in the guano-coated part of the cave and noticed a bat on a wall with a band around its wing. He managed to collect the band information and sent a letter to the contact written in tiny type on the band. Jim soon heard from Merlin Tuttle, a young biologist working on his doctoral dissertation on gray bats. It turns out that Fern Cave was a "missing link" in Tuttle's research and Fern is actually the largest hibernaculum for gray bats in the country. Unlike most TAG caves, the isolated Morgue section of the cave is a cold trap, getting down to the upper 30s or low 40s in the winter. Gray bats love the cold temperatures. The rest of the cave is very warm and dry. Merlin educated Huntsville

Grotto members about gray bats and the need to avoid disturbing them. The Grotto started to get the word out that cavers should stay out of the approximately three miles of Morgue passage of the cave in the winter. Cavers complied. The bats thrived.

MANAGEMENT UNDER THE US FISH AND WILDLIFE SERVICE

In 1980, the US Fish and Wildlife Service (FWS) purchased all of the entrances to Fern, except Surprise Pit, to protect the gray bats. They decided to leave most of the cave open all year (the part gray bats don't use), to only allow access to the Morgue in the summer when the bats weren't in the cave, and to require a permit to enter the entrances they owned.

Huntsville Grotto members almost immediately started helping FWS manage the cave by essentially taking over the permit system. Huntsville cavers knew the cave intimately, so JV (John Van Swearingen IV) signed on as a volunteer access coordinator for the cave. JV received permit requests, screened people who wanted to visit the cave, compiled reports of trips, and submitted annual reports to the FWS on how many people visited the cave, where they went, and any problems they encountered.

JV was especially interested in making sure the delicate sections of the cave, such as Helictite Heaven, didn't receive too many visitors each year. He also started the "helmets-off" policy for Helictite Heaven. Cavers were instructed to take off their helmets while crawling through the delicate formation room to reduce the risk of damaging formations. When the SCCi started leasing Surprise Pit, that part of the cave was



Peter & Ann Bosted

Formations in the Upper Cave



Dave Bunnell

Helictite Heaven

added to the permit system. When JV died in 2001, Steve Pitts took over as access coordinator. For 30 years, this system worked great. There were few problems with the cave, the bats were thriving, and a re-survey effort and a biological inventory were in full swing. Cavers had re-mapped 10 miles of the cave using extremely precise measurement and sketching techniques. We'd found a spider species new to science living deep inside the Morgue. We were learning more and more about the cave. Until White Nose Syndrome closure orders.

THE WNS BLANKET CAVE CLOSURE AND THE GREAT GRAFFITI DISCOVERY

In March 2009, to coincide with the FWS Caving Advisory asking everyone to totally stop caving in WNS-positive and adjacent states, FWS pulled all Fern special use permits and completely closed all of the federally owned entrances to Fern Cave. For a brief time cavers weren't even allowed to set foot on the property. Steve and I were very depressed. Many of us working on the survey project told FWS we would buy totally new cave gear and thoroughly decon before and after each survey trip if they'd allow us to continue surveying in the non-bat areas of the cave. We knew totally closing the massive cave would lead to nothing good.

We were turned down. Nobody was allowed into the cave at all except for once a year when FWS biologists asked cavers to rappel into the hibernaculum to see if the bats had WNS. No biologists accompanied us into the cave to investigate the gigantic bat colony. Luckily, as of March 2011 the bats were still fine. I didn't go into any part of the cave except the first canyon passage in the Morgue for over two and a half years. Nobody visited the delicate and special areas of the cave to check and see if the cave was safe, if vandals were sneaking in, or if anything was generally amiss. Biologists didn't visit the cave to collect any information about the bats. The cave was essentially abandoned.

In the spring of 2011, a biologist got permission to analyze bat guano cores from Fern. Since few people know where guano piles actually are in the cave, Steve and I got a permit to go into the Johnston Entrance to collect the guano and headed into the cave in July. It was strange being back in the cave after such a long absence, but I still remembered everything about it. My feet and hands automatically moved to the right handholds and footholds as we navigated the passage. As we traveled down the large canyon called the West Passage, we started noticing some strange things. A new yellow arrow. A new white arrow. Arrows and strange shapes drawn into the mud banks along the sides of the passage. Graffiti led

down the entire passage for about 1500 feet, pretty much the entire way to a fall gray bat roost. As we slowed down and started to look, we found a whole lot of graffiti. I started to get really mad. After collecting the guano, we decided to go over to another area that features a huge display of unusual and delicate formations. We found more arrows leading right to it.

I was torn between wanting to cry, wanting to throw something, and wanting to hunt down and strangle the people who did this to such a wondrous cave. I was also much more annoyed than usual at the FWS total cave closure policy that had allowed this to happen.

We went back home, called some of our friends who also love Fern, I did a lot of yelling, and then we wrote up an email to our contacts at FWS. The refuge manager was very concerned about the damage, and after some back and forth over the next few weeks, he granted three of us a special use permit to return to the cave to start cleaning up the graffiti and to monitor the rest of the cave for damage. In the meantime, I fantasized about finding someone in the cave with a can of spray paint in their hot little hands and tackling them.

On August 27 we went back to the cave with a fellow Fern enthusiast Jimmy Romines (and obviously sparkling clean, deconned cave gear), armed with soft scrub brushes to start cleaning up the mess. We made our way to the typical path we usually take, and within a couple hundred feet we found a new yellow arrow on the ceiling. We followed it down a side passage and discovered many other arrows, in an array of rainbow colors. We scrubbed those off. We got back on the main drag and found more arrows. We popped into a few other side passages. More arrows. More scrubbing. After finishing scrubbing some of the more obnoxious paint, Jimmy and Steve headed down the Gold Canyon, the main drag towards the well-known formation area called Helictite Heaven to check on it. I headed down the West Passage to photo-document the arrows and mud etchings Steve and I had found.

I ended up going slow and meandering around in all of the levels of this multi-level passage to see what I could find. In a lower level of the canyon I found yet more yellow arrows, some within feet of each other, plus some sprayed on top of delicate gypsum crust and active popcorn formations. I returned to the main passage and found additional chalk arrows and white spray paint. In addition, I started seeing the initials "HR" carved into mud banks, along with arrows. This person went crazy with graffiti. Since I was traveling slow and taking pictures, I only covered about 500 feet of the passage. I photographed over 50 different instances of the HR graffiti. In



Morgue Pit entrance to Fern

several places, five separate HRs were carved in a five-foot-square area.

I didn't try to remove the HR markings. They're in a passage that also features torch marks from long-ago explorers. Several of us found the torch marks back in the early 1990s, and they had been fine up until the cave was closed. I did notice several of the torch marks were very close to graffiti and some torch marks have likely been obliterated. Several archaeologists are planning to visit the cave in December to help us figure out how to preserve and/or collect samples in portions of the cave underneath private property for future study.

When I met back up with the guys, they reported that they'd found all sorts of arrows and other markings leading all the way back to Helictite Heaven. They found more arrows at the next key junction where you climb down out of the Gold Canyon (a major thoroughfare) and duck into a small crawl. They found flagging tape here and there. There was another arrow at the next climbdown into a tight passage that pops out into another key junction. Turn left to Helictite Heaven, right to the Middle Cave. To the left, they found a large black mark on the ceiling on pure white gypsum crust. There were several small broken helictites in Helictite Heaven itself, in the middle of the trail through the small room, but it's impossible to tell when the formations were broken.

They detoured back to the last junction and took the route towards the Middle Cave. At the next important intersection, an obscure duck-under crawl that leads to one of the first big rooms in the Middle Cave, the Balcony Room, they found a large stick



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We found over 100 separate instances of the initials "HR" in the cave near archaeological remains

figure drawing in the sand. This is a route we often traveled before the cave was closed, and the drawing definitely was not there in early 2009. This area is very deep in the cave and very hard to find. Even many members of the survey team, people who have visited the cave numerous times, said they would not be able to find this passage. Steve found more markings in what is called the Northwest Passage, which takes you to the West Room. The West Room leads to the last series of pits that go down into the Bottom Cave, the lowest reaches of Fern. The Bottom Cave is well-known for even more archaeological and paleontological resources, including torches, bear bones, and bear claw marks, not to mention beautiful stream passage and formations.

We're still cleaning up the mess. It's going well, but we know that people are almost certainly still sneaking into the cave. Three people cannot possibly monitor a 15-mile long cave with five entrances unless we decide to take up residence there. I am not inclined to do that. We have found new, well-traveled trails leading down to the Johnston Entrance from the top of the mountain, not the typical path. We have no idea if anyone's been sneaking into the Morgue and the bat hibernaculum. But we do know that the cave closure has made the cave and the bats much less safe.



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Jennifer inspects a popcorn formation covered with yellow spray paint.

WHAT CAVERS (AND LAND MANAGERS) CAN LEARN FROM FERN CAVE VANDALISM

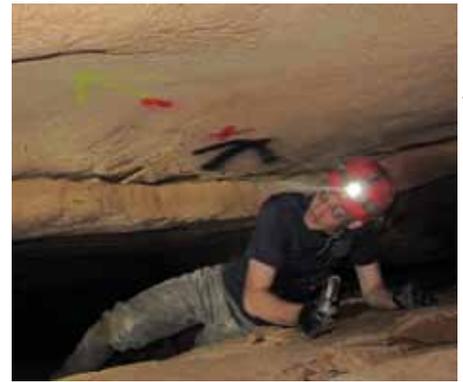
What can the caving community learn from the vandalism in Fern Cave, a cave that was well cared for and very pristine before March 2009? First, it's pretty obvious to those of us intimately familiar with the cave that the blanket cave closure has only succeeded in keeping responsible cavers out. Flashlight cavers, spray paint vandals, and some number of pretty darned good cavers who are probably thrilled not to have to deal with pesky permits have obviously been traipsing all through the cave for the past 2.5 years.

After letting people know what we found in the cave, we also started hearing some other stories. One friend was ridge-walking in the area and saw a truck with Indiana tags parked near the cave. On a different day, he saw a van-load of people meandering down the road, loaded with people and cave gear. Another person saw a truck with Virginia tags. The whole reason behind closing the cave was to keep people from spreading white-nose syndrome to the bats hibernating in the cave. But we now know that people from states with caves affected by WNS are sneaking in to Fern.

Friends just happened to notice vehicles parked near Fern by chance. Do we know what's going on there every weekend of the year? No. Have any of the people who are sneaking in been screened to ensure they understand cave conservation ethics? Have they been screened to ensure they're deconning their gear? Has anyone told them to stay out of bat areas or to take their helmets off in Helictite Heaven? Nope.

It's also pretty obvious to me and Steve that the rationale of government agencies is seriously flawed. Cave conservation and management is tricky, and a "one size fits all" approach does not work. Bat conservation is obviously extremely important and a top priority, but managing caves to only conserve bats is bad management. In the case of Fern, what about the fabulous and rare cave formations? What about the archaeological and paleontological treasures? What about the other unique animal species that call the cave home? In addition, just saying "cave closed" without any actual oversight or monitoring to make sure the bats and the cave itself are actually protected simply doesn't work. We need a balanced approach to ensure that the gray bats *and* the cave environment are effectively protected.

Some agencies are in fact operating under a more balanced approach. I've heard that the US Forest Service in the midwest is allowing surveying in closed caves. That's what we should all be pushing for in all closed caves. That's what I'm going to start pushing for in Fern. Responsible cavers with deconed



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Jimmy Romines getting ready to remove some of the graffiti.

cave gear need to be keeping a close eye on the parts of Fern where gray bats don't hibernate.

After we started telling our story, we heard varying responses from non-caver land managers and scientists, including "well, it's just locals spray painting, so we don't have to worry about them spreading WNS." That's not only incorrect since we have heard of vehicles parked there with license plates from WNS-positive states, it also implies that as long as people aren't first visiting a WNS cave before heading to Fern with a bottle of spray paint, it's perfectly fine for people to spray paint their way all through the cave. Others said we had no way to know whether or not providing limited access all along would have prevented vandalism. That's true, because we are unfortunately not psychic. If I happened to have psychic abilities, I would know who is vandalizing the cave, I'd wait for them to show up at the cave with their neon yellow spray paint, and I'd wrestle the spray paint and carving implements out of their hot little hands. But since we had no problems with vandalism for the 40+ years before the closure, and we are now, common sense tells us that taking responsible, passionate monitors (who actually decon cave gear) away from the cave is what has led to this unprecedented damage. And that is what is missing from most WNS management decisions: common sense.



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We found obnoxious arrows like this throughout the West Passage and upper levels of the cave.

Those of you in other areas of the country, take note of what is happening to Fern. The same thing will happen to caves you love if you sit by and do nothing while agencies totally close them. I now wish I'd fought much harder for limited access to Fern. We should all start fighting for at least limited access for surveying and monitoring. We should offer to use dedicated cave gear for especially sensitive caves. We should always abide by decon protocols if we do get access.

Tell this story. Fight for the caves you love. I also strongly encourage our NSS leaders to fight even harder for caves and cavers in the face of unprecedented assaults on our sport, our way of life, and some of the most unique places on earth. If we don't start collectively fighting harder for our caves, when the WNS disaster has passed, another disaster will remain, the disaster of caves that have been vandalized and defaced beyond repair. We cannot let that happen.

Disclaimer: The views and opinions expressed in this article are those of the author and do not necessarily reflect the views or opinions of any other person or organization.

POSTSCRIPT

Since writing this article in the fall of 2011, we've managed to clean up almost all of the spray paint and arrows on the walls. We have not been able to remove the numerous HR initials carved into the mud banks, and it's unlikely we'll be able to figure out a way to ever remove them. We also have recruited several archaeologists to help us evaluate and document some of the materials in the cave. We're hopeful that we'll be able to continue working with FWS to protect this important cave resource.



Dave Bunnell

Helictite bush in Helictite Heaven. Note 35mm film can on right for scale.

Cave Conservation in Missouri

Text and photos: Jonathan B. Beard
Springfield Plateau Grotto

Accomplishments of the MCKC and Missouri Grottos exemplify how their collaborative efforts benefit cave conservation in the state.

FLIPPEN CAVE (BEN-009) GATING PROJECT

This summer, Missouri Department of Conservation cave biologist Bill Elliott approached Jim Cooley, Kansas City Area Grotto (KCAG) president about possible gating of Flippen Cave to protect a colony of gray bats.

At the September Missouri Caves and Karst Conservancy Board of Directors meeting, Jim Cooley gave a presentation to show the features of the cave, its gray bat colony and illustrations of a proposed gate to protect the bats and provide cost estimates for materials to construct the gate.

The Springfield Plateau Grotto had already voted to contribute funds for the project. To make the project possible, the MCKC Board voted to donate additional funds needed and to loan an 8,000-watt generator to provide electrical power. The last of the money required for the project came from the Missouri Conservation Heritage Foundation.

Members of the Springfield Plateau Grotto (SPG), (KCAG), Meramec Valley Grotto (MVG), MCKC and other volunteer cavers pooled efforts to construct the Flippen Cave gate. Most of the on-site work to construct the 7.5-foot high, 18.5-foot-wide gate for the Benton County cave was done Thursday, November 3 through Sunday, November 6. Jim Cooley, KCAG president and MCKC member headed up the project.

Charley Young and Roy Gold photographed the cave and its features Friday morning before helping with the gating effort. Missouri Department of Transportation biologist Bree McMurray, who did most of the steel cutting, also did a bio-inventory of the cave early Friday evening. Others who were on hand to help with the project were Jon Beard, George Bilbrey, Bill Gee, and

Alicia Wallace. In charge at the cook tent were Pic Walenta and Brandy Riggs, who prepared all the delicious meals for the cave gating crew.

The only additional work needed for the cave gate was for the owner to hire a contractor with a front end loader to push soil and rocks over the expanded metal about



Pearson Creek Cave owner Don Hancock with the completed cave gate

six inches deep. The removable bar is in the lower right corner of the gate.

PEARSON CREEK CAVE GATING (GRN-016)

The Springfield Plateau Grotto funded a bat-friendly gate for Pearson Creek Cave. The gate was designed to Bat Conservation International standards and constructed on November 19, 2011.

The private landowner of Pearson Creek Cave, located in Greene County, Missouri, very much wanted to keep out frequent vandals. Besides trash, profuse graffiti, used drug needles, etc., the constant traffic was disrupting the cave biology that includes bats. Gating Pearson Creek Cave was not only an excellent opportunity for the Springfield Plateau Grotto to enhance landowner relations, but also to spread the word about the benefit of cave gating and, of course, improving conditions in the cave.

Jim Cooley and Cyle Riggs of KCAG brought the MCKC 8,000-watt generator and 1-inch hammer drill, the Cave Research Foundation's Lincoln arc welder and various other tools to help make the Pearson Creek Cave gate possible. SPG members designed, cut and welded the steel. Charley and Jeff Young pre-cut the steel at Charley's metal shop, so very little cutting had to be done on-site. Charley, Todd Twilbeck and Eric Hertzler took turns welding the gate, and Cyle did most of the hammer drilling for the anchor pins. The project on-site took about 11 hours.



Completed Flippen Cave gate