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CAVE RESEARCH FOUNDATION

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President's Corner

By: Dave West

At our annual meeting in November 2018 Ed Klausner stepped down from the presidency and agreed to continue as a Director. I was elected President leaving open my positions of Vice-President and Director, and Kayla Sapkota was elected Vice-President. Janice Tucker stepped down from the board and was named as our new Southwest Operations Manager. Jenn Ellis has been elected as a Director. Joyce Hoffmaster agreed to stay on as Secretary as did Bob Hoke as Treasurer. We also had the pleasure of awarding Fellowships to Brenda Goodnight, Dennis Novicky, Dillon Freiburger, and Jim Ruedin in the Ozarks. Charles Fox, a former President and Eastern Operations Manager was awarded a Certificate of Merit. I extend my appreciation and congratulations to all.

Our records suggest we have over 1200 members. Many of you may not know me beyond whatever has been published in the newsletter. I first started caving in 1968, joining organized caving in 1977 and the CRF in 1990. When I joined the NSS via the District of Columbia Grotto, I was quickly introduced to surveying in Organ Cave. Over thirty of my maps were published in the West Virginia Speleological Survey publication, *The Caves of Pendleton County*. I managed the John Guilday Caves Preserve in West Virginia for over 20 years. I have served 15 years as the CRF Eastern Operations Manager and four years as CRF Vice-President. and since my retirement from the government continue to work on CRF cartography projects at Mammoth Cave National Park, Hidden River Cave, and Cumberland Gap National Historical Park in Kentucky, Monongahela National Forest in West Virginia, Carlsbad Cavern National Park in New Mexico, Lava Beds National Monument in California, Buffalo River in Arkansas, and the Ozarks National Riverways in Missouri. I have a terrible memory for names, but I hope to meet more of you in the coming years.

On the Cover

Dennis Novicky and Krista Bartel welding while doing repairs on the entrance gate at Cooks Cave, in the Salem District, Reynolds County, Missouri. Photo by Mark Jones.

Caves and Named Karst Features in Cave Research Foundation's Hamilton Valley, Kentucky

By: Stan and Kay Sides, November 2018

Hershell Adwell (1924-1978) took Kay and Stan Sides to Adwell Cave in 1969. Stan took John Bridge and Denny Burns on a hike in the farm's Hamilton Valley in about 1972 and found a low cave entrance in the valley bottom that has not been found again. The farm then consisted chiefly of open fields for cattle grazing for Hershell's dairy farm.

Roger McClure and Red Watson purchased the Hershell Adwell farm for CRF in 1992. For more than ten years afterwards the area showed few signs of depressions or sinkholes.

Common farming practice was to fill sinkholes to provide more farm ground or to be utilized for farm ponds if they could be sealed sufficiently. The pond below CRF's main building held water to the level of the spillway until about ten years ago when the water level began to drop. About five years ago it was dry most of the year. Since two years ago a hole eight inches in diameter and at least five feet deep has developed. We will likely see more of these open in the future like McClure's Tractor Trap and the Tire Pit.

Many cavers have combed the property over the last twenty-six years. Roger McClure, Red Watson, Richard Zopf, Stan Sides, and a host of others hiked the then abandoned farm to identify the property boundary and find any caves on CRF's property. In February 2003 Red Watson, Roger McClure, and Tom Brucker inventoried and gathered UTM data, datum apparently NAD 27, on the many sinkholes in Hamilton Valley. Fred Douglas (1946-2013), Roger McClure, Doug Alderman, Norman Warnell, John Feil, Joyce Hoffmaster, and Dan Greger especially have devoted hours to opening several caves in this listing.

The goal of this article is to briefly summarize the history of the caves and karst features that have caught our attention through the years. We're certain many who have worked hard in the valley should receive credit but will be missed in this report because no trip report of their activity was submitted. Several features have had fluid names leading to confusion from early descriptions in the trip report file. GPS locations recorded earlier also have uncertain datums and different coordinate systems.

We want everyone to hike the property and find new caves, to enjoy CRF's beautiful property and write a trip report for the files to document your activity. GPS locations were updated during the 2018 November Annual Board and Member's Meeting, and New Year's Expedition with John Feil, Dan Greger, and the writers visiting most named locations.

All GPS locations are UTM NAD83.

Adwell Cave:

The Arthur Adwell (1880-1967) family living in the valley used Adwell Cave to store items like vegetables and other perishable items. Hershell and his brother, Oscar "Pete" (1914-2002), both expressed how much they hated being told by their parents to enter the cave to retrieve things. When Hershell Adwell took Kay and Stan Sides to Adwell Cave in 1969 he would not enter it.

Adwell is the only cave in Hamilton Valley that is a piece of a large trunk passage. It has been surveyed twice by CRF, and often by Western Kentucky University's students enrolled in Pat Kambesis' cartography class. The entrance opens at the top of a terminal breakdown and leads to a formerly decorated ceiling breakdown. Pieces of flowstone columns protrude from the breakdown. The passage is 50 feet wide by 12 feet high. The right side floor leads to a flat mud floor and connects through an opening in the flowstone curtain. The flat area near the entrance has been set up with 24 reflectors as a theodolite-surveyed calibration range for Disto X instruments.

The route to the left goes down a distance of about 20 feet beyond the entrance. Remnants of a still, a rusting galvanized washtub top and other metal fragments are along the pathway. An opening leads through the massive flowstone curtain extending diagonally across the trunk segment. The curtain is actively being bathed in water from a short line of shallow surface sinkholes in the fence line north of the entrance. The flowstone curtain is about 20 feet high by 70 feet wide. Beyond the curtain is a 200-foot segment of trunk passage 50 feet wide by 20 feet high. The pools coalesce into a drain on the right side of the passage, and water disappears under a low rock ledge. Attempts to follow the water have not yet revealed a drain.

Surface expression of the end of the cave is in the large wide shallow collapse depression between CRF's barn and the Adwell house. Stan Sides ran a surface traverse years ago from the first cave survey data to establish the surface position of the cave's mid-passage column water source and the terminal breakdown location when the fields were not overgrown.

Dave West has probed the right side of the far end terminal breakdown, and Roger Brucker, John Feil, Dan Greger, and others dug along the right wall of the entrance terminal breakdown. This latter tunnel extends about 65 feet to an ending breakdown with air blowing.

Surveyed.
16S 0585540
4115832

Bittle Sinkhole:

Don Bittle dug open this sink near the road to the valley behind the Tenant House during a CRF cleanup/small cave survey. Rick Olson humorously named the dig the "Bittle International Sinkhole." No enterable cave was encountered.

16S 0585237
4115812

Bittle Sink:

Don Bittle also attempted to dig open a sink 40 feet east of Bittle Sinkhole. No cave to enter, but should be periodically examined. Bittle Sinkhole and Bittle Sink are near the pond discussed above.

16S 0585253
4115798

C2:

John Feil used his tractor and chains to move large rocks out of a promising sinkhole on the far end of the valley near the hillside on July 4, 2001. Dave West, Dusty and Bob Guldens assisted in the digging. The next day Karen Willmes and John managed to squeeze into a low wet 30 foot-long cave. Dave West, Veda DePaepe, and the Guldens returned to survey the cave on November 29, 2002.

Fred Douglas further took note of the nearly filled cave entrance while exploring Hamilton Valley bottom on December 14, 2012. Joyce Hoffmaster, Dan Greger, and John Feil entered the entrance on February 16, 2013 and found it had opened considerably since 2001. Lynn and Roger Brucker, and Bill Baus returned March 16, 2013 and again surveyed the cave. From within the cave they found a metal frame in a ceiling crack. This was later found to come from the nearby Paddy's Pit Entrance.

Surveyed.
16S 0585802
4116300

Douglas Cave (C1):

Fred Douglas and Doug Alderman found the cave October 12, 2012 and started enlarging the entrance. They built a wooden stairway down into the cave. Gary Berdeaux used his backhoe to enlarge the entrance on October 13, 2012. Roger Brucker and Fred Douglas surveyed the cave on February 16, 2013, and found a cave crayfish in a pool that drains under a ledge. The cave bottoms in a mud-filled basin about seven feet in diameter. Douglas Cave is high above the East Salts E-survey with no known relationship between the two caves.

Surveyed.
16S 0585769
4116273

Fred's Barn Dig:

A tripod of logs is over the hole today. Fred devoted many hours digging here to try to con-



Top: McClure Pit with John Feil, Dan Greger, and Kay Sides. **Middle:** John Feil at entrance to C2. November, 2018. **Bottom:** John Feil at Paddy's Pit Entrance. Photos by Stan Sides.

nect with the Stan's Well passage surveyed beyond Balcony shaft. Fred encountered no cave passage before his digging effort ended when he died February 22, 2013. Several additional nearby sinks might actually be over Stan's Well, including a shallow sinkhole named Roger McClure Sink near the hillside edge to the southwest.

16S 0585446
4116007

McClure Pit:

McClure Pit is in the hillside woods east of the field station. Roger McClure found the pit shortly after the property was purchased and before the buildings were constructed. Fred Douglas, John Feil, Dan Greger, and others have deepened the open pit to a depth of over 30 feet with no passage encountered -- yet.

16S 0585128
4115451

Paddy's Pit Entrance:

John Feil examined a sinkhole near C2 on March 17, 2018 during the St. Patrick's Day (hence, "Paddy's Pit") expedition. Others had noticed the site since the early days of CRF's ownership, but recent sediment removal revealed a narrow bedrock drain. John opened the slot on Saturday of the expedition and he, Joyce Hoffmaster, and Madisyn Orr crawled into a low wet passage. However, they shortly encountered daylight ahead and discovered Paddy's Pit Entrance was a backdoor to C2. John hopes that further sediment removal will lead to more cave passage being unveiled at this low point in Hamilton Valley. Paddy's Pit was tied to the C2 survey in April 2018.

16S 0585810
4116279

Tractor Trap:

Roger McClure was mowing the overgrown valley bottom on the John Deere 1010 tractor and accidentally discovered this deep sinkhole by running into it. Some digging and rock removal has not yielded a passage that can be entered, but it should periodically be examined because

of its proximity to the Salt Cave E-survey.

16S 0585774
4116432

Watermelon Patch

The Watermelon Patch on the northwest portion of the property drains to a sediment and rock-filled sinkhole. Dave Weller blasted boulders in the hole in 2001. Digging by Red Watson revealed a drain with no accessible passage. John Feil and Dan Greger returned for more digging during the 2014 Thanksgiving expedition with no breakthrough.

16S 0585594
4116354

Notes:

The sinkholes in the Watermelon Patch and Tractor Trap, Douglas Cave, C2, and Paddy's Pit entrance to C2 are above the end of the far deeper East Salts E-survey between approximately E-160 and E-168. This has led to much interest in the sinkholes and sinking streams in this low down-dip part of Hamilton Valley.

The deep sink east of the lane down into Hamilton Valley near the field station has Tire Pit. We cleaned out more than 30 tires, a steel bathtub, fiberglass shower stall pieces, a car door, and assorted household rubbish from Tire Pit after CRF purchased the property. The Tire Pit sinkhole moves noticeable air, but digging by hand is treacherous due to many broken glass jars.

Roger McClure Sink near Fred's Barn Dig has not had an opening attempt. Radiolocation of the end of Stan's Well should identify the best candidate for digging a back entrance into the Well.

Just beyond the northern boundary on non-CRF property is a surveyed short cave named Deer Skull Cave found by Roger McClure and mapped by Roger, Johanna Kovarik, Dan Nolfi, Joyce Hoffmaster, and Dan Greger on March 19, 2006.

Thanks to Doug Alderman, Roger and Lynn Brucker, Don Bittle, John Feil, Joyce Hoffmaster, Roger McClure, Dan Greger, and Bob Osburn for their comments.

Obituary for Robert Ray Parrish

Passed away on January 6, 2019

Robert Ray Parrish, 81, passed away January 6, 2019. Born January 6, 1938 in Cave City, KY. Robert was a 1957 graduate from DuPont Manual High School. He retired after 41 years as a communications supervisor from Louisville Gas and Electric and was a faith member of Southside Baptist Church for over 50 years. Robert was a former square dancer, member of Airstream Wally Byam Club, Cave Research Foundation and an Amateur Radio operator

WB4IWZ. Robert is survived by his loving wife of 59 years Judith Howell Parrish, children Ronald Parrish (Linda) and Christopher Parrish and granddaughter Savannah Parrish. Visitation will be held Thursday, January 10, 2019 from 3-6:30 pm at Arch L. Heady at Resthaven Funeral Home, 4400 Bardstown Road, with a funeral service to follow at 6:30 pm in the chapel. Burial will take place in Resthaven Memorial Park Friday, January 11, 2019 at 11 am.

REGIONAL EXPEDITION REPORTS

Elmer's Trench and Downflow Post Office Cave, Lava Beds National Monument, Tulelake, California, October 13-19, 2018

By: Ed Klausner

Three investigators held a joint expedition to Lava Beds National Monument for six survey days. I worked on Elmer's Trench and down flow Post Office Cave, Dave West worked on Balcony/Boulevard flow, and John Tinsley worked on Craig and Craig Temple, plus explored the possibility of 3D sampling to differentiate ages of flows. We were joined by Elizabeth Miller, Karen Willmes, Mark Jones, Paul McMullen, Pic Walenta, Bill Broeckel, Marina Khananayev, Dawn Ryan and Mark White. Survey teams were determined by interest and ability each day.

Day zero was the day we arrived and since some of us arrived early in the day, Mark Jones, Paul McMullen and I continued systematically searching Elmer's Trench for new caves and to survey any of the caves found in the nearby area last April by Mark Jones. No new caves were found. One of the caves found last April turned out to be Rubble Slope Cave and was 56.2 feet long. Another of the leads turned out to be less than 40 feet in length and was not surveyed.

Elizabeth Miller, Karen Willmes, Mark Jones, and Paul McMullen joined me for day one in an attempt to finish Dragon's Head and Dragon's Tale Caves. We took two ropes and had plans for Paul and Mark to rig the second pit in Dragon's Head, while Elizabeth, Karen and I surveyed to the edge of the pit. It turned out that the pit/slope was climbable so they checked the passage below. They had to stop going forward due to a number of bats (70 or so Townsends). The passage going back under the upper level had no bats. At this point, what made the most sense was for Mark and Paul to continue the survey of The Dragon's Tale while Elizabeth, Karen and I surveyed the passage below without bats. We got a total of 425.5 feet in Dragon's Head. Mark and Paul finished The Dragon's Tale with 136.1 feet to finish that cave.

On day two, Elizabeth Miller and Dawn Ryan joined me at Elmer's Trench. Our objective was to survey two of the caves Mark Jones and Bill Broeckel found this past April. The first had a note that it was 100 feet and was mazy breakdown. We named it Mazy Breakdown Cave and got 107.17 feet of survey along with 102.6 feet of surface survey tying it into Elmer's Middle Bridge. The nearby cave lead was named Cashew Cave for its shape and because Elizabeth and Dawn were talking about



Top: Elizabeth Miller and Marina Khananayev at Lava Beds. **Bottom:** Bill Broeckel in a newly found cave at Lava Beds. Photos by Ed Klausner.

cashews. Names can be hard to come by. Cashew cave gave us 57.15 feet of survey. Finally, we headed to a known cave (Galzer's 89X) which was reported to be 35 feet as an estimated length. Once we got there it was 4:30 and the cave was much bigger than 35 feet. We poked around and found the cave went in three directions and would take far more time to survey than we had. Also on day two, Mark Jones and Paul McMullen continued the systemic search for caves in Elmer's Trench. Their leads will be surveyed later in the week.

On day three, Bill Broeckel and Mark White joined me in the survey of several caves in Elmer's Trench. Mark Jones and Paul McMullen also were in Elmer's Trench, but they were doing the systematic search for caves (and found many.)

The first objective was Glaeser's 87X. This cave is noted on one of the maps of Elmer's Trench but not in the Monument's data. It was 90.7 feet of survey. We tied this into the brass cap at Fumarole Cave (357.8 feet of surface survey.)

We next surveyed Three Entrance Cave, found yesterday by Mark Jones and Paul McMullen. We got 43.5 feet of survey. Finally, we surveyed Glaeser's 89X that we located the previous day but didn't have the time to survey. Glaeser's 89X turned out to be complex and we got 153.78 feet of survey.

Karen and Mark Jones joined me in Elmer's Trench for day four of the expedition. The plan was to check the leads that Mark and Paul found earlier in the week. Many were too small, but were noted. Three of the caves qualified (were at least 40 feet long). The most intriguing was Devil's Cellar Cave. The surface seemed to be a thin lobe of the Devil's Homestead Flow, but the interior was part of Elmer's flow. We got 50.36 feet of survey.

Next was Coral Annex which was only 25 feet from Coral Cave and we tied it to Coral Cave. It was 55.9 feet. Finally, Amoeba Cave was surveyed and it was 59.1 feet of survey.

Thursday was the day to return to the down flow Post Office Cave area. Elizabeth, Paul, Marina Khananayev (Biology Technician for the

Monument), and I started at Dragon's Head Cave and did a surface survey to Schonchin Cave. Elizabeth showed Marina how to use a compass, clino, DistoX2, and how to set station.

When we started to survey the trench in front of Schonchin Cave, we noticed that the grotto up flow was actually a cave. We named it Emerald Moss Cave and got 84.99 feet of survey. After surveying the trench between Emerald Moss Cave and Schonchin Cave, we started the survey of Schonchin Cave. After a few survey shots we saw two bats and abandoned the survey until we return to Lava Beds next year.

On our final day, Mark Jones and Karen joined me at Elmer's Trench to survey the cave Mark found earlier in the week. On the way, we found an additional cave named Rubble Trouble Cave, but due to the two bats encountered, we saved the cave for later survey. It has over 100 feet of survey.

Next was the new cave, named Pocket Cave and we got 61.1 feet of survey. It was in the same trench as Elmer's Alcove, so we surveyed the trench as well as Elmer's Alcove. Elmer's Alcove was complex and we got 182.25 feet of survey plus 96.8 feet of trench survey. Karen and I went back to the RC while Paul joined Mark to continue searching for caves in the area of Elmer's Alcove.

John Tinsley was able to join us for the first part of the expedition. On the first day of caving, he took Pic Walenta to Craig Cave to field check a few items and gave her an orientation to Lava Beds geology.

On the second day, he met with Katrina Smith to arrange for execution of a modified RP for collection of basalt of Mammoth Crater chemical composition in three dimensions.

On day three, he took Pic Walenta to a few more key LABE localities.

On his last day, he stayed at the RC tending to paperwork, completing a USGS review for a colleague and then visited Sentinel Cave to locate potential sample sites in upper, middle and lower levels.

It's always a pleasure working at the Monument and we have plans for two expeditions in 2019.

Ozark Operations Activities, September-December 2018

By: Scott House, with reports by Kayla Sapkota

The dreadful hot and wet weather last summer gave way to much cooler temps this fall, inspiring folks to get out and hit the hills (or more properly, plateaus).

OZARK NATIONAL SCENIC RIVERWAYS

CRF Ozarks works with the Ozark National Scenic Riverways (NPS) under a cooperative cave management agreement. Trips usually originate from the Winona office of the Mark Twain National Forest.

September 29, 2018:

Three crews went to BBS Cave on the upper Current River to continue the survey. The long water crawl did its damage, but the crews managed to get about 560' surveyed in a 12-hour effort. Participants included: Dan Lamping, Joe Sikorski, Derik Holtmann, Ben Miller, Bob Lerch, Andy Lerch, Aaron Soles, Brian Hamm, Matt Tomlinson, and Cody Munday.

October 20, 2018:

Joint agency trip on MDC land within the park. See below.

October 29, 2018:

Dennis Novicky and Brenda Goodnight finished up the profile for McCubbin Hollow Cave near the upper Jacks Fork River.

October 30, 2018:

Ken Grush and Scott House monitored seven caves on the upper Jacks Fork and surveyed one of them, a previously undescribed archaeological site.

October 31, 2018:

Don Dunham and Mark Jones monitored Bootleggers Cave near Round Spring. They followed that with a gate check on Round Spring Cave, lubricating the lock and monitoring a nearby stream cave. Lastly they monitored a cave at Pulltite campground. Files work went on at the Winona office, keeping Scott and Ken busy.

November 1, 2018:

Scott and Don monitored two caves near the upper Jacks Fork.

November 2, 2018:

Scott, Ken, and Don surveyed close to 400 feet in a privately-owned cave at the Riverways boundaries. The cave feature large passages after an annoying entrance crawl.

December 14, 2018:

Mark Jones, Krista Bartel, Dennis Novicky, and Brenda Goodnight monitored Bear Cave and other accessible caves in Barn Hollow, off the upper Jacks Fork. Deep pools of water in the canyon kept them from getting to others.

Elsewhere on the same day, a trip monitored two MDC caves (see below) within the authorized boundaries.

BUFFALO NATIONAL RIVER

CRF work at Buffalo National River (NPS) is facilitated through a cooperative cave management, survey, and bat monitoring agreement. Report by Kayla Sapkota

September 1, 2018:

Pradeep and Kayla Sapkota surveyed Lost Valley Ridge Cave #2 and Lost Valley Ridge Cave #6 until the seed ticks finally won their dedicated battle.

On the same day, Matt Covington, Elizabeth Covington, Will Covington, and Nate Covington bio-monitored Jasper-in-June Cave, with the boys leading the survey and finding some cave life, but no "baby bears," much to Nate's dismay! Corey Maize, Jesse Yazzetti, Jamie Yazzetti, Mike Srieber, Bridgette Groves, and Jason Groves traveled to the base of Cliff Hollow, fighting the heat and seed ticks, as well. The team bio-monitored Slant Cave but had some GPS difficulties and were unable to make it to the others. Jennifer Ellis, Hai Truong, and Kei Masuzawa monitored Chimney Rock Mine Cave.

September 2, 2018:

Jennifer Ellis, Jamie Yazzetti, Jesse Yazzetti, Hai Truong, and Kei Masuzawa bio-monitored Copperhead Cave.

September 9, 2018:

Cindy Darrow and LeeAnn Duch monitored Indian Rockhouse Cave, noting some new graffiti.

September 15, 2018:

Mark Jones, Brandon Van Dalsem, and Landon Downing searched for Stoops Pit and Ship-



Entrance to Indian Rockhouse Cave. Photo by Matt Beeson.

man Cave but were unable to locate either after an extensive search. The team bio-monitored Waterfall Pit #1, Waterfall Pit #2 and Waterfall Pit #3. The team also located a new cave that did not match any existing descriptions and that was higher up on the ridge. They surveyed this one and named it Foursome Cave. Kayla Sapkota and Caleb Schlager started the map of Dog Man Sink. Treavor Bussard and Nathan Blades surveyed Ketchup Cave nearby. Dillon Freiburger, Corey Maize, and Kyle Kapella finished the survey of Dog Man Cave. Mark Brooks, Cody Brooks, and Tim Morgan returned to Summer Cave to finish the profile of the main passage. Jessica Wheatley, Casey Jarding, and James Gould hiked out to Tea Table Ridge and surveyed Tea Table Ridge Cave, locating an interesting assortment of hog bones in the cave.

September 16, 2018:

Brandon Van Dalsem and Landon Downing returned to search for Stoops Pit and Shipman Cave but were again unsuccessful.

October 12, 2018:

Matt Beeson surveyed Roadcut Solution Hole and the first part of Twenty-Nine and a Half Cave.

October 13, 2018:

Kayla Sapkota, Amber Roderick, Jimmy Gore, and Stacy Scherman finished the survey of Dog Man Sink, which ended up being much more extensive than expected. Dillon Freiburger, Aaron Thompson, and Treavor Bussard

surveyed Cracked Bluff Cave and located/monitored Stromatalite Sink and Conglomerate Cave. Matt Beeson, Brandon Van Dalsem, Charlyn Dyson, and Sammy Wentz finished the survey of Twenty-Nine and Half Cave and bio-monitored Panther Cave, Indian Rock Shelter, and Buffalo Point Cave.

October 20, 2018:

Corey Maize and Jon-Michael McGee located a new bluff shelter -- Southwest Bluff Shelter -- and ridgewalked the upper Cliff Hollow/Chimney Rock area.

October 22, 2018:

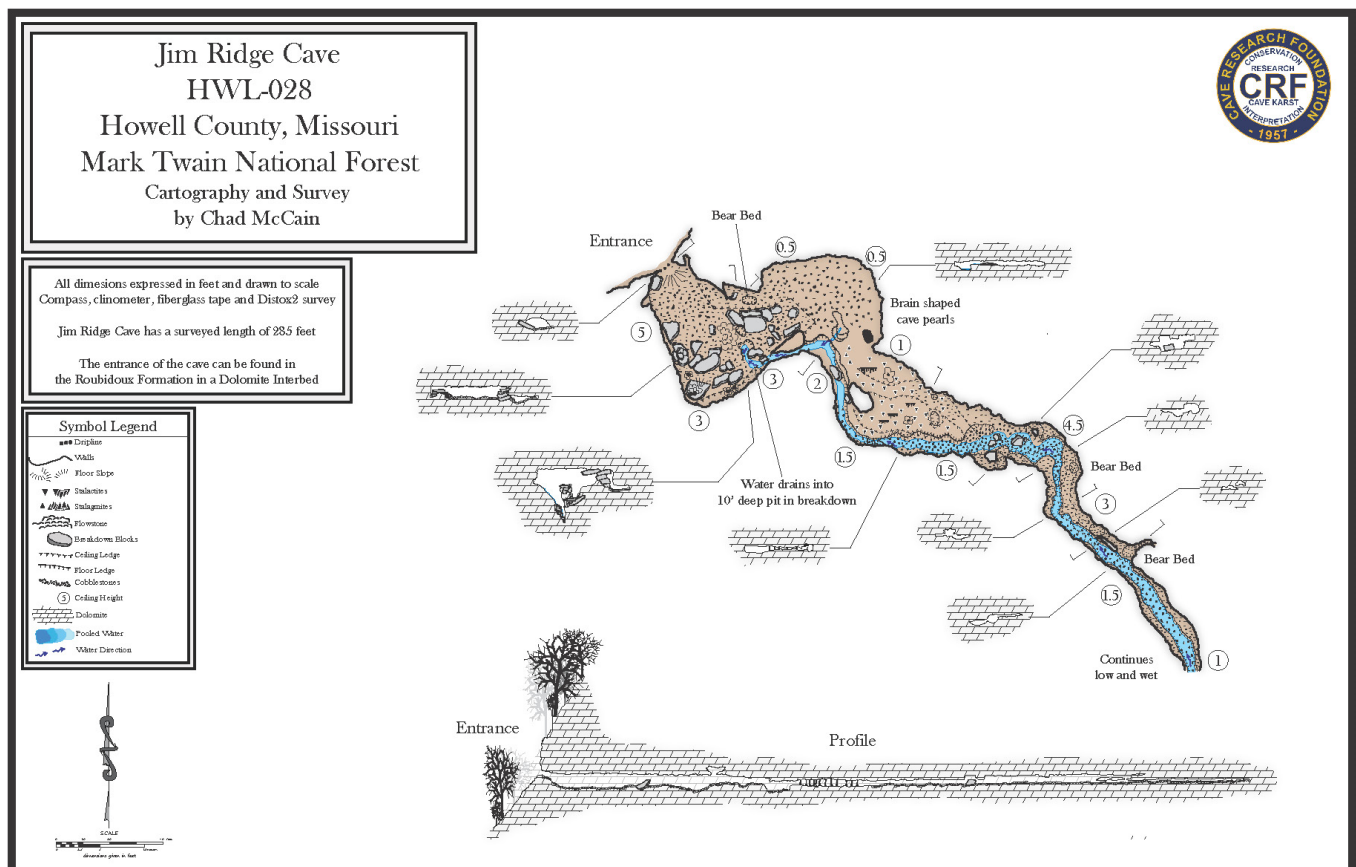
Josh Brewer and Sarah Arpin surveyed Slot Canyon Karst.

November 23, 2018:

Kayla Sapkota, Pradeep Sapkota, Sam Collier, and Rhett Finley surveyed on George Ridge, locating several clutches of salamander eggs. Brandon Van Dalsem, Dillon Freiburger, and Corey Maize surveyed Lost Valley Ridge Cave #1. The crew enjoyed a fabulous Thanksgiving-leftovers "potluck" that evening.

November 24, 2018:

Jessica Wheatley and Shiloh Walden monitored several caves in the Arrington Creek area. Corey Maize, Aaron Thompson, and Treavor Bussard returned to Miner's Crack and located additional passage; the crew opted to return with a team better suited for the vertical complexities of the survey next month. Kayla Sapkota, Pra-



deep Sapkota, and Sam Collier surveyed Tin Can Cave, Centerpoint Shelter (a new feature), Seven Snails Cave, and Cliff Hollow Mine Cave. Brandon Van Dalsem, Mark Brooks, and Sammy Wentz surveyed Obscure Cave, Memorial Day Cave, and Monday the 28th Cave, sketching one cave each. Eric Hertzler and Rhett Finley completed the survey of Milk Cow Cave but also located some very new graffiti in the cave, which was reported to the NPS.

MARK TWAIN NATIONAL FOREST

CRF work on Mark Twain National Forest (U.S. Forest Service) is performed through a pair of cooperative agreements covering inventory, survey, monitoring, and gating. The Mark Twain covers 1.5 million acres, and the bulk of it contains caves. Much recent work has been focused on three forest districts: Ava, Cassville, and Eleven Point. Most trips are based at the Winona office but the Timbers Resort in Shell Knob MO has been home for several remote trips on the Cassville District.

September 20-21, 2018:

Jim Cooley began another gating project in the Cassville district by driving and loading up gating equipment to stage it.

September 22, 2018:

Kayla Sapkota, Donald Locander, and Kyle Moore surveyed three caves in the Cassville district, Barry County MO, trying to whittle

down the lengthy do list. Meanwhile, Dillon Freiburger, Aaron Thompson, and Corey Maize surveyed another nearby cave before moving to begin the survey of Mosquito Squadron Pit, which turned out to be deep despite beginning at the bottom of a losing hollow.

September 23, 2018:

Matt and Amanda Beeson surveyed two caves in a different part of the Cassville, but still in Barry County. They also monitored three more caves and determined that one cave is not on FS land.

September 25-29, 2018:

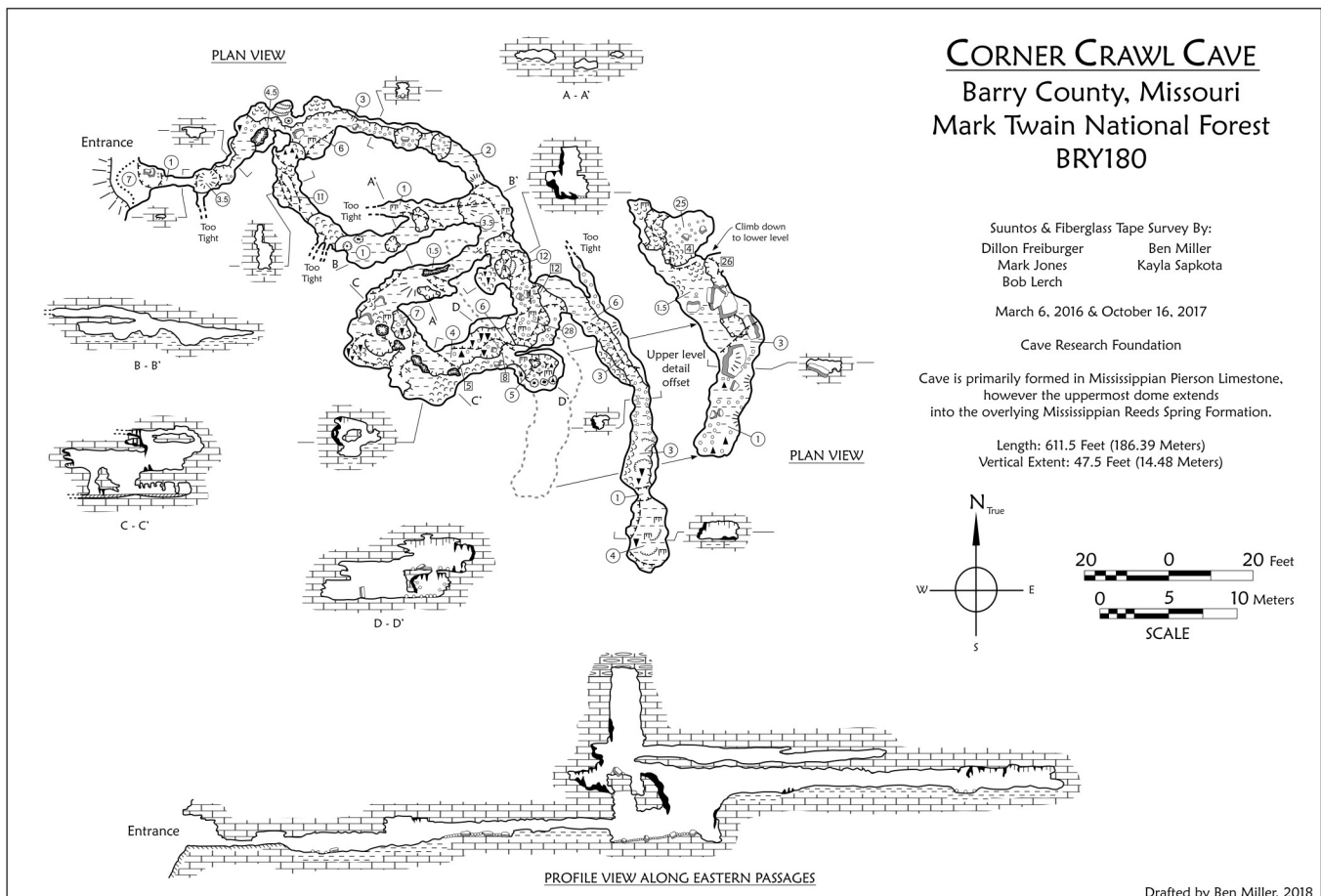
The last gate on Radium Cave, Cassville district, Barry County, was started and completed by a veteran crew of Jim Cooley, Aaron Thompson, Art Medley, Jay Bridgewater, Jeff Bowman, Julie Swetnam, Adrian Daniels, Joe Williams, and Tyler Smith.

September 27, 2018:

Chad McCain continued the survey of Jim Ridge Cave, Willow Springs district, Howell County MO. After nearly 200 feet of additional survey the cave continued, grim, so Chad is contemplating a return.

September 30, 2018:

Matt and Amanda Beeson surveyed two more caves and monitored another still in the Cassville district.



October 21, 2018:

Matt and Amanda looked for a missing cave (still missing after yet another effort) and surveyed and monitored another one, all in the Cassville district.

October 30, 2018:

Back on the Eleven Point District, Dennis Novicky and Brenda Goodnight surveyed one small cave but could not get to another without a canoe or other boat.

October 30-November 6, 2018

Once more into the breach: Jim Cooley and gang built a large fence gate around the pit entrance of Butler Hollow Cave in the Cassville district. Participants included, but were not limited to: Jay Bridgewater, Jimmy Weese, Aaron Thompson, Joe Williams, Kirsten Alvey, and Carlos Cunha. They got 'er done.

November 3, 2018:

While the gating was going on Jon Beard, Dillon Freiburger, and Matt Bumgardner mapped some hundreds of feet in Butler Hollow Cave. Later, borrowing Aaron Thompson from the gating crew, they went to Mosquito Squadron to attempt to drop the pit, but the pit disappeared out of sight and must be well over 100 feet deep. Meanwhile, Mick Sutton, Sue Hagan, and Matt Beeson surveyed 700+ feet in a different part of Butler Hollow Cave.

Scott House, Ken Grush, and Don Dunham hiked for some miles and surveyed three caves, two of them new, in the Willow Springs district, Howell County.

November 4, 2018:

Two crews of Jon Beard, Mick Sutton, Matt Bumgardner, Matt Beeson and Sue Hagan continued mapping in Butler Hollow Cave. The cave is tall and narrow and very interesting with a near maze plan.

November 17, 2018:

Following up on a cave lead, Dan Lamping, Joe Sikorski, Derik Holtmann, Tony Schmitt, Jim Ruedin, Tyler Skaggs, Richard Whiteside, and Many Leroux went to a pit deep in the Eleven Point district. The cave was mapped at a little over 250' while an inventory was done at the same time.

November 18, 2018:

Craig Williams, Paul Konrad, Jessi Schoenewies, and Kirsten Carroll monitored two archaeological site caves in the Rolla-Houston district, Pulaski County.

November 22, 2018:

Dillon Freiburger, Aaron Thompson, and Garrett Thompson finally reached the bottom of Mosquito Squadron Pit in the Cassville district. However, the crew ran short of rope pads in the jagged canyon of a pit; Dillon removed his elbow and knee pads and used them for temporary pads. However, with such a system, they decid-

ed to return with more pads (they took 9 or 10 plus the personal pads) at another time.

November 24, 2018:

Matt Beeson, plus his brother Mike and father Bud, along with Jon Beard returned to Butler Hollow Cave and surveyed another 550' of complicated canyon in two crews. As usual with resurveys, newly discovered passage was also mapped.

November 26, 2018:

Matt returned to Butler Hollow to reinstall a lock on the gate.

November 30, 2018:

Mark Jones, Ken Grush, and Brandon Vandalsem surveyed two caves and monitored two more, all in the Cassville district.

December 1, 2018:

Jon Beard and Mark Jones surveyed Slug Cave on the Cassville district and monitored another nearby cave. Meanwhile and not too far away, Brandon VanDalsem and Dillon Frieburger surveyed and monitored five caves that had been found a couple of years ago and were hiding from the do list. Also nearby, Mick Sutton and Sue Hagan did an extensive bio-inventory and monitoring of dampish (okay, wet) Radium Cave.

December 2, 2018:

Mick, Sue, Jon, and Ken Grush did bio-



Sammy Wentz exiting a cave on the Buffalo National. Photo by Mark Brooks.

Drop Cave Shelter

Mark Twain National Forest

Barry County, MO

BRY084

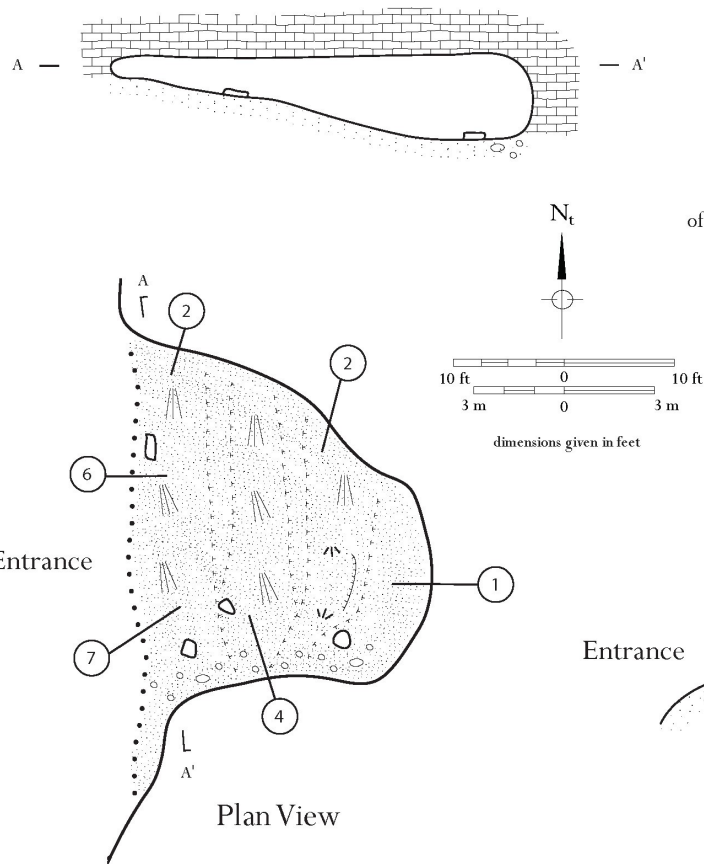
A Suunto & Disto Survey

by Matt Beeson, & Amanda Beeson

of the Cave Research Foundation, September 2018

Cartography by Matthew Beeson

Survey Length: 24.4 feet (24 meters)



Sidearm Cave

BRY257

Barry County, Missouri

Mark Twain National Forest

Surveyed December 1, 2018,
by Dillon Freiburger and Brandon VanDalsem

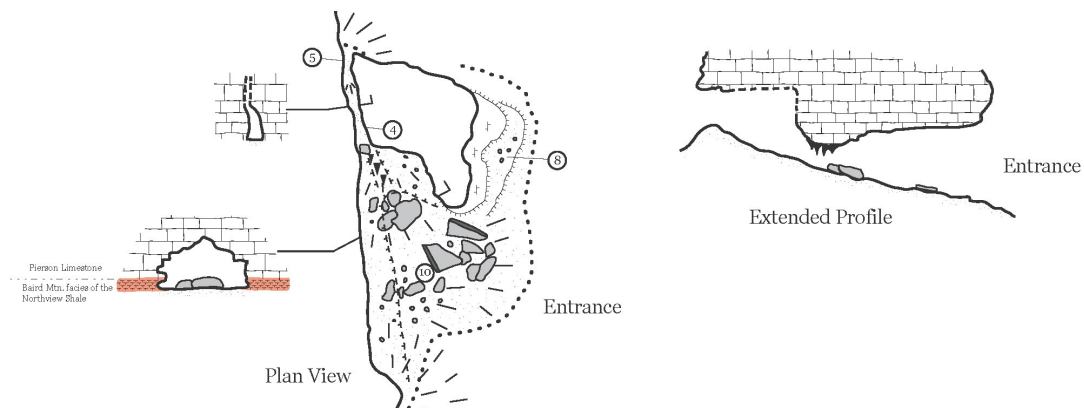
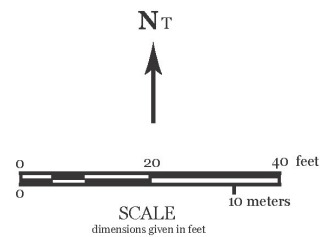
CRF, MSS, SPG

Leica DistoX2

Survey length 35.8ft./10.9m

Host Rocks: Pierson Limestone

and Northview Shale
Cartography by Dillon Freiburger, 2018





Clockwise from upper left: Josh Brewer in Slot Canyon Karst. Photo by Sarah Arpin; Amanda and Matt Beeson surveying and monitoring a shelter in Barry County, Missouri. Photo by Amanda Beeson; Evening cave data work by Mark Jones, Ken Grush and Jon Beard at rental cabin, Barry County; Dillon Freiburger points to Pierson/Northview contact in Barry County. Photo by Mark Jones; Hog Skull in Tea Table Ridge Cave. Photo by James Gould.

inventory on four priority caves in the Cassville district. All proved to be biologically rich since they had some water in an otherwise dry terrain. At the same time, about ten miles away in the same district, Mark, Dillon, Aaron Thompson, and Krista Bartel monitored one known cave while finding two more new ones. Surveys were begun in both, but one continues and will require a return trip.

December 3, 2018:

Jon, Ken, and Mark were joined by Scott House for a monitoring trip to five more caves in the Cassville district. Two caves were also surveyed.

December 11-12, 2018:

After a day of preparation at the Winona ranger station, Mark Jones, Dennis Novicky, and Krista Bartel repaired the gate on a gray bat maternity colony in the Salem District, Reynolds County. While they were busy doing this, including ferrying equipment in a jon boat, Mick Sutton and Brenda Goodnight did a detailed bio-inventory of the cave. They did find some little brown bats in residence, a rarity.



Welding in progress at fence gate on Butler Hollow Cave. Photo by Jim Cooley.

December 13, 2018:

Mark and Krista spent the day cleaning and repairing and repacking gating equipment at Winona.

MISSOURI DEPT. OF CONSERVATION

CRF work on lands administered by the Missouri Department of Conservation is done through a series of special use permits to CRF and the Missouri Speleological Survey.

October 6, 2018:

Jim Ruedin, Alicia Wallace, and Kathy Sovulewski monitored three caves in the Huzzah Conservation Area using canoes on Courtois (pronounced coat-away) Creek and the Meramec River.

October 20, 2018:

Jim Ruedin, Alicia Wallace, and Derik Holtmann monitored two caves on MDC land that are within or close to the authorized boundaries of the Ozark Riverways. The pleasing highlight was the discovery of several hundred transient gray bats in one of the caves.

November 29, 2018:

Jon Beard accompanied MDC biologist Rhonda Rimer and bat biologist Jeanette Bailey, plus several more MDC personnel to Lower Burnt Mill Cave in Camden County for a monitoring trip.

December 1, 2018:

Dan Lamping, Joe Sikorski, Derik Hotmann, Jeremy Weih, Mark Andrich, Korey Hart, and Tom Panian all ventured into Love Cave, Crawford County near the Meramec River, to continue the survey and tidy up previous notes. The cave is rigorous, requiring one to "love" caves in order to continue.

December 14, 2018:

Scott House and Ken Grush took MDC bat biologist Kathryn Womack to two caves within the Ozark Riverways boundaries. One of the caves proved to be overly wet to continue in, but the other was harboring Indiana and gray bats in record numbers.

December 15, 2018:

Jim Ruedin led ten others out into the wilds of Texas County's Gist Ranch Conservation to relocate, inventory, and monitor five caves that have been lost for years. After miles of hiking for many hours in the mist and rain, the caves are still lost but it is now known where they are not.

ELSEWHERE

Berome Moore System, Perry County MO

Owned by the Missouri Caves and Karst Conservancy, this project is headed up by Chad McCain.

November 8, 2018:

Chad McCain, Brian Biggs, Mark Brooks, Cody Brooks, Sammy Wentz, Gary Resch, and

Alex Litsch formed up three teams to continue survey in the Moore Cave system, both Berome and Tom. The long day's efforts netted more than 950' of survey, most of it new.

December 8, 2018:

Jeremy Weih, Brian Biggs, Austin Brooks, and Mark Brooks toughed it out in Dorothy Taylor Cave, a Moore system tributary. Working in two crews they netted about 200' in a passage called The Most Horrible Crawl (do not let this dissuade you from helping).

Bull Shoals Reservoir

October 16, 2018:

Jon Beard accompanied Ty Fowler (US Corps of Engineers) on a monitoring trip to Beaver Creek Cave in Taney County (within the Bull Shoals Lake property). This was a follow-up to a recent rescue at the cave.

Onyx Cave, Howell County MO

A privately owned cave is being surveyed under the leadership of Mark Brooks.

September 21-22, 2018:

Mark Brooks met Spike Crews at Onyx Cave to discuss the various old surveys of the cave and plan new work. They also took a detailed look at the areal geology. The next day, Mark initiated a new survey of the historic section of the cave, netting some 500+ feet.

December 15, 2018:

Mark Brooks, Cody Brooks, and Sammy

Wentz continued surveys in Onyx Cave, accompanied by a neighbor's dog. The survey is revealing the intricacies of large caves developed in the Roubidoux Formation (Ordovician).

Three Forks Cave Project, Adair County OK

Owned by the Russell family adjacent to the NSS Russell Preserve, CRF is mapping the caves under the leadership of Mark Jones.

November 2, 2018:

Mark Jones, Dennis Novicky, and Jimmy Gore surveyed some 300 feet accessed through the Washtub Entrance.

November 3, 2018:

Mark, Dennis, and Jimmy were joined by Rita Worden to survey an area known as the Muddy Maze, also accessed through the Wash-tub Entrance. They totaled 350 feet of new survey.

November 4, 2018:

Mark, Dennis, and Rita were joined by owner Clayton Russell to survey in Bearcrawl Cave, adjacent to Three Forks Cave. After surveying 300' of muddy passage, they stopped for the day. Dennis pushed ahead a short distance and found himself in a larger passage with a survey station – a mapped passage in Three Forks Cave itself. The official tie of the connection will have to wait for the next expedition.

Mammoth Cave: Independence Day Expedition, June 29-July 8, 2018

By: Dave West

The 2018 Independence Day expedition saw 24 parties go out during the week. We again hosted four Eagle Scouts, introducing them to project caving. Their presence enabled some trips that might not have happened otherwise, and they were able to get an idea of the various aspects of cave-related science. A total of 42 people accomplished 5,053 feet of survey: 3,417 feet of new survey and 1,636 feet of resurvey.

The week began with Pat Kambesis giving a two-day sketching class for five of our members. Can't have too many sketchers. It was expected they would back sketch later in the week, but not all were able to remain with us.

Nine parties went to Colossal Cave. John Delong and Kayla Sapkota led three parties to Austin Avenue for resurvey. Dave West, Kayla Sapkota, and Bill Koerschner led three parties to the Bedquilt Route for resurvey. A bad tie-in was discovered in the Bedquilt Route, moving the survey 45 feet. Tom Brucker and John DeLong led two parties to the Belfry area to survey leads and resurvey others. John DeLong led a party to a Sandy Crawl near the Sandstone Tumbledown.

Five parties went to Roppel Cave. Ed Klausner led two parties to Roppel Junction and Yahoo Avenue for mop up survey. Holly McClin-tock led a party to Lower Elysian Way for mop up survey. Bill Koerschner led a party to continue the resurvey of The Fleeceway. Tom Brucker led a party to Western Kentucky Avenue to survey Tom's "hot lead". It quickly plugged with mud. They found other things to do in the area and came back with a bit over 30 feet of new survey.

Two parties went to Salts Cave. Bill Koerschner led a party to continue survey in East Salts, and Mick Sutton led a party to Finch Avenue to survey side leads there.

Two parties went to Proctor Cave. Bob Osburn led a party downstream in Hawkins River to a breakout dome for some mopup survey. One lead continued, and Tony Kroes led a party there later in the week to finish it.

Ed Klausner led a single party to Historic Mammoth to resolve numerous small leads in Gratz, Calypso, Briggs, and the Labyrinth. They finished up many, but did not get to the Labyrinth.

Keely Owens led two parties to Wilson Cave to further the survey there, continuing work beyond the Netherdomes and into Not Kansas.

Bill Koerschner led two parties into Hidden River Cave to survey leads in Whiskey Way. The two leads connected, but the connection was a pond with only minimal airspace, so no shot was taken to close the loop.

David and Jeanette Griffith again led our scouts to Great Onyx Cave to continue his beetle studies there.

The entrance passage in Stan's Well had collapsed, preventing entry to most of the cave. Stan Sides led a party to begin the process of regaining entry.

This year, camp management was led by Karen Willmes. She was assisted by Ed Klausner, who helped her with breakfast every day, Tony Kroes, who prepared a stir fry dinner, and Mike Cicherski, who cooked lasagna so Karen could go caving, and he and Bill Steele prepared a sandwich dinner one evening as well. Pat Kambesis prepared dinner for our July 4th celebration. Kayla Sapkota, John, Everett, and Bonnie DeLong also pitched in to help in the kitchen. Jeanette Griffith is always a big help in camp. Rick Olson took time out to assist with the keys. Many thanks to them all for helping to make the expedition a success.

Colossal Cave—Austin Avenue: 1) John DeLong, Michael Cicherski, Sam Pollack, Max Renner; 2) John DeLong, Luke Giovanine, Harison Bhanoo; 3) Kayla Sapkota, Deitra Roberts-Biely, Tim Green, Aaron Quicksall; **Bedquilt Route:** 1) Dave West, Karen Willmes, Michael Cicherski; 2) Kayla Sapkota, Deitra Roberts-Biely, Shawn Connelly; 3) Bill Koerschner, Tim Green, Susan Wilkinson, Anthony Kroes; **Belfry:** 1) John DeLong, Everett DeLong, Sam Pollack; 2) Tom Brucker, Max Renner, Anthony Kroes; **Sandy Crawl:** John DeLong, Michael Cicherski, Everett DeLong, Sam Pollack

Roppel Cave—Roppel Junction: Ed Klausner, Luke Giovanine, Harison Bhanoo; **Yahoo:** Ed Klausner, Tim Green, Shawn Connelly; **Lower Elysian Way:** Holly McClintock, Kevin Downs, Harison Bhanoo; **Fleeceway:** Bill Koerschner, Luke Giovanine, Shawn Connelly, Harison Bhanoo; **Western Kentucky Parkway:** Tom Brucker, Bill Koerschner

Salts Cave—East Salts: Bill Koerschner, Fred Wilkinson, Amy Skowronski; **Finch Avenue:** Mick Sutton, Luke Giovanine, Tim Green

Hawkins River: 1) Bob Osburn, Bill Steele, Anthony Kroes; 2) Anthony Kroes, Bill Steele, John DeLong

Historic Mammoth: Ed Klausner, Karen Willmes, Sam Pollack, Max Renner

Wilson Cave: 1) Keely Owens, Corey Hackley, Michael Raymond; 2) Keely Owens, Corey Hackley, Harison Bhanoo

Hidden River Cave: Bill Koerschner, Bill Steele, Anthony Kroes, Fred Wilkinson, Sam Pollack, Max Renner

Great Onyx Cave: David Griffith, Jeannette Griffith, Michael Cicherski, Luke Giovanine, Sam Pollack, Max Renner

Stan's Well: Stan Sides, Aaron Bird, Tyler Bosch-Bird, Zachary Bosch-Bird, Rachel Bosch, John Feil

Mammoth Cave: CRF Annual Meeting and November Expedition, November 8-11, 2018

By: Karen Willmes, Expedition Leader

This year the annual meeting was hosted by Eastern Operations and held at Hamilton Valley. About 30 people attended all or part of the weekend. The CRF board met on Friday. Afterwards there was a mixer at Hamilton Valley and many people went to dinner at El Mazatlan in Cave City.

After a short members' meeting, several cave trips went out on Saturday. Mark Jones led Ozark cavers Caleb Schlager and Brandon Van Dalsem to Jessie Cave, a small cave that turned out to not amount to very much at all. Caleb and Brandon used the afternoon to play tourist. Joyce Hoffmaster, Tim Green, and Janice Tucker went to South Cave to continue the survey of the upper level, encountering several snug spots which they were all able to traverse. Derek Bristol led two teams to New Discovery, to the end of Big Avenue to begin the resurvey of the western map sheet. He, Corey Maize, and Elaine Scott surveyed 2,029 feet. Kayla Sapkota, Jen-

nifer Ellis, and Kei Masuzawa surveyed 1,216 feet. All teams made it out in time for the banquet.

The banquet, held on Saturday evening, featured a Greek feast prepared by Pat Kambesis. After dinner Dr. Leslie North and Dr. Jason Polk from the Center for Human Geoenvironmental Studies at Western Kentucky University talked about the importance of CRF grants to cave science and about some of their specific research.

On Sunday, Ed Klausner and Dave West went to the Ranger Rendezvous in Bowling Green to give a presentation about CRF.

Thanks to Pat Kambesis, who not only made all the arrangements for the mixer and the banquet, but also offered helpful advice for running an annual meeting weekend. Elizabeth Miller, Ed Klausner, Janice Tucker, and Kay Sides helped in the kitchen.

Mammoth Cave: Thanksgiving Expedition, November 21-25, 2018

By: John DeLong, Expedition Leader

A total of 17 parties accomplished 166.06 feet of new survey and 2900.55 feet of resurvey for a total of 3066.61 feet. Parties also worked on reestablishing the trail to Bedquilt, continued work reopening Stan's Well, participated in field work testing Resistivity, and participated in a demonstration of Lidar technology. 40 cavers signed in to the expedition, and we had others stop by to say hello.

The expedition began to gather Wednesday afternoon on a beautiful sunny November Day. Buz, Betsy, and Henry Grover arrived on Tuesday and dealt with a fair amount of tree damage before the official start of the expedition. Jan Hemberger and Phil DiBlasi joined Buz on Wednesday to procure and start preparing the next day's Thanksgiving Feast.

On Thursday 4 parties set off intending to return for the Thanksgiving feast. The party consisting of Buz Grover, Phil DiBlasi and Jan Hemberger stayed in camp to prepare the Thanksgiving feast.

Historic Mammoth: Ed Klausner led Elizabeth Miller and Henry Grover to Harvey Avenue and the Labyrinth to check on small leads. They were pleasantly surprised to find one of the leads produced 52.56 feet of new survey.

New Discovery: Mick Sutton took Karen Willmes and Kelly McCarthy to Big Avenue in New Discovery. Their objective was to continue the Big Avenue resurvey. After locating their tie they put in 818 feet in large and sometimes delicate passage.

Bedquilt: Dave West took Betsy Grover and Fred Wilkinson to Bedquilt to survey leads in Tom's Hole. After a difficult journey getting to the cave because of new deadfall they found the entrance in better shape than feared. Proceeding to the leads, they found the leads had shrunk over the years. 13.8 feet were surveyed before the one lead became too tight. It was determined that a skinny party should approach the lead from the Hall of the Mountain King rather than through Tom's Hole the next time.

New Discovery: Bill Koerschner led Maddy Ellis, Chris Caswell and Nick Socky to New Discovery to work on leads near Crevice Dome. After working at understanding and surveying a crawl maze, they pulled rope from an alcove off Big Avenue and rigged the adjacent pit to survey at the bottom. This area then connects to several other surveys. They accomplished 114 feet of survey, 72 new.

Friday saw 8 parties set out.

Bedquilt: Dave West led Henry Grover and Dick Market along the Bedquilt Trail to clean up the deadfall encountered the day before.

They identified and cleared the trail all along the top of the ridge; enjoying the fruits of their labor on their return.

Proctor: John DeLong led Matt Mezydlo (who didn't let us know it had been his birthday the day before until we were safely in the cave), Nick Socky, and Kelly McCarthy to continue resurvey getting ever closer to the explored end of Fritsch Avenue. They put in 772 feet of resurvey following an old R survey which looped on itself, making route finding more confusing. From where the survey ended the next party will be entering a complex area near the end of surveyed passage; still with the wind that makes that passage so intriguing.

Resistivity – 2 trips: A group of students from Northwestern University (NWU) led by Dr. Mitchell Barklage including Jackson Barnes, Madeleine Lucas, Grant McKnight, Gabriel Nathan, Daniela Raillard, and Jonathan Switzer were joined by Rick Toomey and Bob Osburn doing resistivity studies above Crystal Cave, then comparing results to the reality underground. That evening they were joined on a geologic education tour by Betsy Grover and Maggie Osburn led by Rick Toomey in the Historic Section.

Stan's Well - John Feil and Daniel Greger worked in the entrance of Stan's Well exploring a bypass to the entrance passage collapse. They were able to confirm that following the stream passage put them in the alcove above Gary Falls.

Roppel - Lower Elysian Way - Bill Koerschner led Chris Caswell and Maddy Ellis to LEW arriving at their objective at P101 in about three hours. They discovered a lead that was said to fill actually continued on, and surveyed around and through breakdown with 199 feet of new and 126 feet of resurvey. Most exciting, they found a lead that goes 3Hx6W after a 7-inch bedrock pinch, with fair airflow and appears to be an upstream infeeder heading NE at 25 degrees for 38 feet.

New Discovery Big Avenue - Mick Sutton led Hal DeLong and Bill Baus to continue the previous days survey in Big Avenue. Survey started in 25-foot-high, 45-foot-wide canyon frequently modified by breakdown and with patches of spectacular gypsum throughout until after 10 stations the previously EW passage takes a sharp turn north, strange structural things are going on, with large variations in passage width and solutional features in the ceiling - shallow domes and various high-level complications. Evidently there is some joint and/or fault control going on here. At BC69, the passage widens, and the trail goes down a steep slope to a lower

ceiling at our final station, BC70. 885 feet of resurvey was done with about 200 feet remaining to join Derek Bristol's survey.

Lower Level Arlie Way (LLAW) - Ed Klausner led Fred Wilkinson, Joyce Hoffmaster, and Betsy Grover to check leads in the XA survey off LLAW, gaining 227 feet of new survey. All leads in the XA were finished.

Saturday had 5 trips sign out.

Resistivity - Mitchell Barklage led the same group as Saturday to Echo River Spring to continue the resistivity study on a water filled passage. They obtained good data that will need further study.

Lidar Demonstration - Chris Caswell arranged for Nic Braune to run a demonstration for the Zeb Revo Lidar imaging system. Working with cartography team it was decided to work in the Historic area to compare it to previous Lidar scans, especially in areas that were troublesome in the past. Data was obtained, and hopefully we will see an article here sometime about how these systems compare. The demonstration was attended by Rick Toomey, Bob Osburn, Karen Willmes, Dave West, Dave Weller, Matt Mezzydlo, and Nick Socky.

New Discovery - Bill Koerschner led Betsy Grover, Kevin Downs, and Mary Schubert to Fossil Avenue to work in the lower level at F24 to replace the old M survey. They achieved 411 feet of survey, 28 new, while increasing their understanding of this complex area, including tying in to Fossil Avenue.

Stan's Well - John Feil led Dan Greger and Dick Market to continue work on the collapse

bypass. While they confirmed on the previous day's trip that they had connected to the dome above Gary Falls, work needed to be done to enlarge the passage to a workable size. The small slot at the connection point was enlarged on both sides and additional ceiling material was removed. Dick Market established several anchor points at the beginning of the crawl for hanging ropes.

Marion Avenue - Maggie Osburn led Rick Toomey, Gabriel Nathan, Jonathan Switzer, Jackson Barnes, Joanne Osburn, and Bob Osburn on a water sampling follow up trip. The team successfully took measurements, water samples, samples of fixed microbial cells, and samples for lipid biomarker analysis from the sulfur seep pool of Marianne's Pass.

Camp Management was ably performed by the illustrious Buz Grover, who arrived a day before the start of the expedition to plan and procure. Buz and his children also used this time to address the many branches that had fallen during an ice storm the week before. A thank you goes out to Holly McClintok for alerting us so we were prepared to deal with it. Phil DiBlasi and Jan Hemberger worked with Buz on Wednesday and Thursday to insure the Thanksgiving feast was complete. Bill Baus took care of camp management on Saturday giving Buz a much deserved rest. Thanks are due to Karen Willmes for taking expedition leadership on Friday so I could lead some young cavers to the far ends of Fritsch Avenue. Many people in camp were very helpful and things worked quite well. Rick Toomey assisted with the keys.

Mammoth Cave: New Year's Expedition, December 28, 2018-January 1, 2019

By: Ed Klausner and Elizabeth Miller, Expedition Leaders and Camp Managers

The partial government shutdown meant that Mammoth Cave National Park was closed and all our surveying had to be done outside the park. Fortunately, there were plenty of objectives in Roppel, Stan's Well, Hidden River Cave, Diamond Caverns, and caves on the Church's land for our three-caving-days expedition.

Five trips were sent out on the first day. Dave West took Rick Toomey and Karen Willmes to Hidden River Cave to survey a lead in Jingle Bell Lane, but they found that the water level was quite high. First they investigated surveying the new bridge instead, but all the metal in it interfered with compass readings. They will have to return with a transit and tripod. They did manage to get 162.6 feet of wet survey in Jingle Bell Lane before getting too cold. Continuing Jingle Bell Lane will have to wait for lower water levels.

Mark Jones took Hannah Lieffring and Jason Weyland to Lexington Avenue in Roppel Cave. They got 263.2 feet of new survey in some of the side leads. Also in Roppel, Tom Brucker took Mandy Harris and Bill Steele to continue the resurvey of Goblin Trail. They tied to Casing Canyon and resketched that connection. All in all, they got 404.9 feet of survey. A third trip to Roppel was led by Bill Koerschner. Fred Wilkinson, and Maddy Ellis joined him in upstream Death Canyon via Chris Crawl. They got 64.3 feet of new survey and 418.8 feet of resurvey.

Finally, John Feil, Stan Sides, Eli Winkler, and Diana Tomchick went to Stan's Well where they installed a ladder in the new route opened during the Thanksgiving expedition. They then surveyed this area and got 69.3 feet of survey.

On the second day, six trips were fielded. Three of the trips were to Roppel. Rachel

Bosch, Aaron Bird, Zach Bosch-Bird, and Hannah Lieftring went to a lead in Walter Way and then to North Crouchway to resketch a dome and finally to a small lead in Roppel Junction. They completed the lead in Walter Way but also found a promising hole leading to a stream. They wanted to check to see if this was indeed a new lead (it was) before they surveyed it. The dome in North Crouchway and the lead near Roppel Junction were completed for a total of 14 feet of new survey and 102.7 feet of resurvey.

The second Roppel trip was led by Mark Jones accompanied by Maddy Ellis and Bill Steele. They continued surveying the leads along the western section of Lexington Avenue and got 156.3 feet of new survey. Finally, Bill Koerschner led Fred Wilkinson and Mandy Harris to Ursa Avenue. They started by resurveying some of the loop at J44 to try to fix the 13 foot vertical closure error. They continued through Ursa Avenue to Johnson Way to continue the resurvey using some of the old stations when possible. They got 138 feet of new survey (side lead) and 919.5 feet of resurvey.

Dave West led Karen Willmes, Rick Toomey, and Jason Weyland in search of a back door entrance to Wilson Cave. This is inside the park, but they were not entering any caves and the park allowed hiking during the government shutdown. They calculated where the entrance might be (near the Northwest Territory section of Wilson Cave) and found a likely candidate. They will need vertical gear once the park reopens.

Stan Sides led John Feil, Diana Tomchick, and Roger Brucker to Strawberry Patch to GPS and photograph the pit for an impending article in the CRF Newsletter. They also went to Tractor Trap for GPS and photos. They also looked at the Adwell Cave's end collapse before trying to locate the 20-foot pit found by Walter Johnson and described by Richard Zopf in 1994. They were unsuccessful. Finally, Lynn Brucker and Janet Wilkinson went to Adwell Cave to calibrate DistoXs.

For the final day of the expedition, the weather did not cooperate with heavy rains overnight and heavy rains forecast for the rest of the day. Trips were changed to dryer areas. Stan Sides led Karen Willmes, Dave West, and Diana Tomchick to Diamond Caverns to survey a room, one of the two remaining leads he had (the other would be too wet). They completed the survey of the room reached through a tight squeeze and got 33.2 feet of new survey. There were two trips into Roppel. Eli Winkler led Mark Jones and Mandy Harris to Pete's Puzzle to clean up many of the remaining leads. They couldn't find the objective but spent some time showing Mandy parts of the cave.

Aaron Bird led Rachel Bosch, Jason Weyland, and Hannah Lieftring to the Harvey Avenue lead for the second Roppel trip. They returned to the lead found the day before. Unfortunately, it just led to a room with no passage out of the room. They got 55.76 feet of new survey. They had some time so they returned to

North Crouchway to pick off a lead at S18. They put in two shots for 45.8 feet of small, wet, muddy survey.

Thanks to everyone who helped with the kitchen (Kay Sides, Janet Wilkinson and Diana Tomchick), the survey gear and ropes (Elizabeth Winkler), and building maintenance (John Feil), and everyone else who helped around camp making this an enjoyable and successful expedition.

Participants: Aaron Bird, Rachel Bosch, Zach Bosch-Bird, Lynn Brucker, Roger Brucker, Tom Brucker, Maddy Ellis, John Feil, Mandy Harris, Mark Jones, Hannah Lieftring, Ed Klausner, Bill Koerschner, Elizabeth Miller, Madisyn Orr, Kay Sides, Stan Sides, Bill Steele, Diana Tomchick, Rick Toomey, Dave West, Jason Weyland, Fred Wilkinson, Janet Wilkinson, Karen Willmes, and Eli Winkler



Top: Watermelon Patch Sinkhole with Stan Sides, John Feil, Madisyn Orr and Roger Brucker. Photo by Diana Tomchick. **Middle:** Diana Tomchick at Adwell Cave entrance. Photo by Stan Sides. **Bottom:** John Feil, Madisyn Orr, and Diana Tomchick at the Tractor Trap Sink. Photo by Stan Sides.

2019 EXPEDITION CALENDAR

Before attending any expedition, you must contact the expedition leader as trip sizes may be limited. Failure to contact the leader may prevent you from attending the expedition as the trip may be full.

Eastern Operations - Mammoth Cave Schedule

President's Day, February 15-18, 2019. Mark Jones, speleok9@gmail.com.

St. Patrick's Day, March 15-17, 2019. Dawn Ryan, dwn_ryan41@yahoo.com.

Earth Day, April 19-21. Joyce Hoffmaster, jehoffmaster@sbcglobal.net.

Memorial Day, May 24-27. Rachel Bosch, rachel.bosch@gmail.com, and Aaron Bird, wvcaveman@gmail.com.

Independence Day, June 28-July 7. Dave West, d270@bellatlantic.net.

Friendship Day, August 2-4. Bob Lodge, lodge54@gmail.com.

Labor Day, August 30-September 2. Bob Osburn, osburn@levee.wustl.edu.

Columbus Day, October 11-14. Pat Kambesis, pat.kambesis@wku.edu.

Thanksgiving, November 27-December 1. Charles Fox, charles.d.fox@sbcglobal.net.

New Year's, December 27-30. Ed Klausner, klausnere@gmail.com and Elizabeth Miller, elizabeth.batwoman@gmail.com.

All Eastern Operations CRF JVs who have not attended an expedition safety orientation must do so before participating in expedition activities. The safety orientation is scheduled at the beginning of each expedition after the morning meeting. Those who have attended a safety orientation are not required to participate in another. New JVs should arrange to be at the expedition early enough to attend the orientation. Those who do not attend will not be allowed to participate in expedition activities. Contact expedition leader for more details on the orientation.

Ozarks

Ozarks Operations trips and expeditions take place on a variety of government and private lands; the trips are based in a variety of locales and may include staying in NPS buildings, campgrounds, or even motels. Ozarks trips are held year round, but are often scheduled (or cancelled) on short notice due to the vagaries of the weather. If interested in attending an Ozarks expedition your first stop is the operations manager. However, contact any of the following for information on upcoming trips or check the CRF website.

Ozark Riverways/MTNF, February 15-18. Jim Ruedin, jruedin@aol.com.

Buffalo National River, February 16-17. Kayla Sapkota, kayla.sapkota@gmail.com.

Lime Kiln Mine Bat Count, February 19-20. Scott House, scott_house@hotmail.com.

Ozark Riverways/MTNF, February 22-24. Dan Lamping, lampingdaniel@att.net.

Mark Twain NF, March 7-13. Scott House, scott_house@hotmail.com.

Buffalo National River, March 9-10. Kayla Sapkota, kayla.sapkota@gmail.com.

Tumbling Creek Cave, May 3-6. Scott House, scott_house@hotmail.com.

These individuals also lead expeditions, trips or projects:

Kayla Sapkota (Buffalo National River survey and bio-inventory), kayla.sapkota@gmail.com.

Dan Lamping (Pioneer Forest and Ozark Riverways surveys), daniellamping@att.net.

Tony Schmitt (Pioneer Forest and Ozark Riverways surveys), tonymary2601@yahoo.com.

Jon Beard (Mark Twain NF in SW MO), mokaanman@att.net.

Matt Bumgardner (Mark Twain NF in SW MO), shaw95@gmail.com.

Jim Cooley (Cave gating and Mark Twain NF Irish Wilderness), coolstoi@kc.rr.com.

Craig Williams (Mark Twain NF archaeology), cwilliams@cairnsl.org.

Jeff Crews (Mark Twain NF Rolla/Houston area), cavespyque@gmail.com.

California - Lava Beds

Contact: John Tinsley, jtinsley@usgs.gov.

Before participating on any of these expeditions, please contact the Operations Area Manager, John Tinsley, at least two weeks before the expedition. Please do not just show up as there may be limits on the number of participants we can accommodate.

California - Lilburn

Some basic rules of engagement for California expeditions: Contact the expedition leader preferably two weeks ahead of time; please don't spontaneously show up. We have to deal with head count limits, particularly on our Lilburn trips, so we need to know who is planning to attend. Contact John Tinsley; 650-329-4928, jtinsley@usgs.gov.

HSS/CRF Hawai'i Caving - Big Island

Contact Pat Kambesis, 309-762-3860, pnkambesis@juno.com.

Carlsbad Caverns

Contact for all expeditions:

William and Tammy Tucker, william.tucker@att.net.

ADDRESS CORRECTIONS

If you have changed phone number or e-mail, or have moved, please send your information to:

Phil DiBlasi
110 S. Campbell St., Unit 204
Louisville, KY 40206-1863
pjdiblasi@gmail.com

THE CRF WEBSITE

www.cave-research.org

Contact your operations manager for the user id and password for the members-only section