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Second Notice: CRF Annual Meeting

Perryville, Missouri, November 4-6, 2022

By: Scott House

This is a follow-up to last issue's announcement. The 2022 CRF National Annual Meeting will be at the Catalyst Center, 508 N. Main Street in Perryville, Perry County, Missouri.

The Board of Directors will meet during the day Friday. Driving tours to local karst and historic sites will be available to companions who are not participating in the BoD meeting. A cave trip may be possible as well. Friday night will be social time at the downtown Perryville eateries (use Google Maps to zero in on north Jackson Street just off the square).

Saturday: morning public meet and greet with displays, maps, and posters. The American Tractor Museum (adjacent to the meeting room) will be open for visitation. After a luncheon (available on site), there will be a public CRF meeting with presentations on projects and operations. That evening there will be a catered banquet at the same locale in the \$20 range.

Cave trips will be available on Sunday. All difficulty levels will be accommodated.

Perryville is easily accessible by highway. It is 90 minutes south of Lambert Field/St. Louis Airport.

Accommodations are varied. There are a number of very good and very reasonable B&B's in the Perryville area. A cluster of hotels in varying price ranges are at the I-55 exit, just three miles from downtown. Primitive camping will be available at the Berome Moore Cave preserve, 4 miles from downtown. More luxurious camping can be had at a nearby commercial campground, also 3 miles from downtown.

For more information contact me at **scott_house@hotmail.com**.

Correction

In the May issue of the CRF Newsletter the photo of the salamander in the culvert was by Derik Holtmann, not Scott House.

On the Cover

Mark Jones, Craig Williams, and Andrew Porter survey a surface tube in Lava Beds National Monument. Photo by Scott House.

Caver Fall and Rescue in Crystal Cave

By: Michael Raymond, with contributions from other participants

During the February 2022 expedition at Mammoth Cave National Park, an experienced caver slipped off a ledge and landed on her shoulder, dislocating it. This happened during the return from a survey trip in Crystal Cave. Between her and the exit of the cave were a series of straddle canyons, chimneys, and low crawls. The route could be traveled by a healthy caver in under three hours. The cavers with her conducted a small party assisted rescue along with help from additional cavers and park personnel brought in later, returning her to the surface thirteen hours later.

The day started with two teams entering the cave at 10 AM. They traveled to the Five Passages area to survey. The parties included members with a wide variety of caving experience and it had taken them about four hours to travel to their survey area. They completed their assigned objectives and met back up at 7 PM. They then started out of the cave.

The teams were exiting the Waterfall Trail between the big room at station Z70 and Ebb & Flow Falls at approximately 8:20 PM when the accident happened. The patient was traversing a ledge with about eight feet of exposure when her foot slipped, she couldn't maintain her grip on the wall, and she fell. She landed on her back and shoulder. After lying for a moment and assessing where she was hurt, she sat up and found that her right arm wasn't moving, just hanging along her side.

The two party leaders were ahead of her and rushed back. The other members stayed where they were and tried to avoid knocking rocks down on her. The party leaders conducted a basic patient assessment. They found that she was conscious and alert, mildly warm, and her shoulder was the only injury. Her shoulders appeared to have symmetry and it was not clear if the shoulder was dislocated or if she had torn something. They got a pad under her for warmth and helped her move away from the rockfall area. They then started planning her rescue.

The principal concern was a twelve-foot free climb a short distance ahead. They had lengths of webbing but didn't think they could get her up it without more rigging. The decision was clear: send out half the members to get help while the others stayed with the patient. The members leaving the cave left their extra clothes, food, first aid supplies, and Palmer Furnace with those remaining, and started their trip out.

The party leaving the cave had three members. Two of them were active cavers who fortunately had been trying to memorize the route on the way into the cave. They were selected for their ability to get rescuers back to the patient.

The third caver was on his first major caving trip; he was tired, but he never quit. As they were about half way out of the cave, the team that left had started ripping out blank pages from their survey book and drawing arrows on them to help rescuers find their way. The last direction marker they had needed to leave was the last blank page of paper they had, which meant they were able to preserve all the survey data they had collected that day. They exited the cave around midnight.

Meanwhile, the team in the cave had gotten started on their trip out of the cave. Moving helped keep them warm, and meant that the rescue party wouldn't have as far to go. The patient took two Advil and two Tylenol, which helped reduce her pain. After they passed each obstacle, the patient would huddle up with a friend to keep warm. The other two kept going ahead, clearing away loose rocks and figuring out how to pass the next obstacle. Reconnaissance found an easier way up the twelve-foot climb. Straddle canyons were passed by having her slide her butt along one side with her feet on the other. One caver was on each side of her, which kept her from slipping and helped her to move along. This enabled them to make a lot more progress than anyone expected.

Up on the surface, the party that had left the cave called the CRF expedition leader. The cell-phone signal from the Crystal Cave parking lot was very spotty, but they conveyed that an accident had happened and that they needed a rescue party, food, and water. CRF leaders contacted the national park in accordance with protocol and sent an initial response team (IRT) to the cave. One of the original team members went back in the cave with the IRT to help them navigate the final part of the cave. After letting the leaders know that a second team was needed with rigging supplies, which they didn't know were no longer needed, the IRT entered the cave. The other two party members stayed in the parking lot to help route personnel as they showed up, and to get some sleep.

The IRT made very good time. They met up with the patient around 2 AM. The patient and her group had been able to advance three hundred feet over the past five hours. Everyone appreciated the food, hot chocolate, space blankets, and other supplies that were brought in. The original member who had brought in the IRT now departed the cave with two of the three cavers who had stayed with the patient, including the friend who had been keeping her warm. They brought out all the extra gear which was now unneeded. On their way out they were passed by the next set of rescuers coming into the cave, and exited around 4 AM.

The second set of rescuers to reach her brought several useful skills. One of the new rescuers had limited use of his right arm, the same as hers, due to a caving accident many years prior. He investigated and modeled for her how to pass each obstacle. Another one of the rescuers was a flight paramedic caver. She was in town for a medical training event and became available to help. The patient exited the cave at

9:30 AM. There was an ambulance there waiting for her, which took her to Bowling Green for an X-ray and to get her shoulder fixed. She was soon back to the CRF facility and we're looking forward to her getting back to caving.

We'd like to thank all the Mammoth Cave National Park personnel who assisted with surface watch, logistics, and recruiting the specialists we needed for a successful rescue.

REGIONAL EXPEDITION REPORTS

Lava Beds Castle Flows Expedition, March 26-April 2, 2022

By: Scott House, Principal Investigator

Participants: Scott House, Craig Williams, Mark Jones, Andrew Porter, and John Tinsley

The purpose of this trip was to continue research on the South Castle Flow, particularly the inventory and survey of South Castle caves generally south of the fire road, excepting those already completed.

March 27, 2022:

Lacking an approved research permit, we were unable to enter any of our unsurveyed objectives in the South Castle Flow. Instead, we scouted several entrances that we were planning on surveying near the fire road. We then hiked over Hardin Butte and returned to a number of North Castle caves and obtained crude elevation data from a number of brass caps using modest handheld units. We also looked at the Sand Butte battle site. No underground inventory or survey was done.

March 28, 2022:

After meeting with NPS (Tinsley and House) we got into the field and mapped Big Money Cave, which is what we had time for. We returned early so that House could help the NPS with clearing up locations and names in their data. This took quite a while.

March 29, 2022:

We made our way back to the same area and surveyed Upper Crust, Middle Class, and "The Projects" - a cave we did not know existed. Believing it to be part of Middle Class, we inventoried and surveyed it. Then we found a brass cap and references to that name on other recon cards. The cave was renamed to avoid the de-meaning name connotations.

March 30, 2022:

Accompanied by park ecologist Emma Sutphin, we surveyed Sweet n' Sour Cave, near Ratty Loft Cave. We took time to instruct Emma in the use of the instruments and to demonstrate proper mapping techniques.

March 31, 2022:

We set out to survey caves further east of the Ratty Loft Area. We were guided to Blastenhoff Cave (we thought) by a NPS GPS

point for it. Turns out, that was not the location of the cave, but there was a small tube at that spot which we had entered. Since we had entered it, we went ahead and surveyed it. We did not have a different location for Blastenhoff with us so we headed to other caves. Gator Belly and Crocodile Crawl were relocated, surveyed, and inventoried although there was recon confusion over which was which. We found Midden Madness and completed it. Two more points in the NPS list were found to be non-caves. Bright Spot Cave was relocated and we completed its survey and inventory. We relocated the entrance of Two Rings Cave but lacked permission to inventory and survey it. One additional cave was looked at near the fire road, but we also lacked permission to enter it. Also we were unsure it was within the Castle flow.

April 1, 2022:

We inventoried and surveyed Geoduck Cave. It was larger than anticipated - the recon people having missed a side passage and upflow continuation. We then spent time trying to find "Droodle" and "Dysania". We surveyed Dysania and looked further for "Droodle." We found what we thought was a mislocated "Droodle" and finished it, despite its tiny entrance. Turns out we had already surveyed "Droodle" which was really just a continuation of Geoduck, not a separate cave. The new cave we termed as Crackerjack Tube, throwing out the "Droodle" name altogether. While returning to the vehicle we identified the entrances of Abalone Grottos and Little Arch Caves, neither of which we were allowed to inventory and survey. We found a new cave near those, but lacking permission to enter, we had to leave it as well. We returned to camp with time on our hands, but met with NPS staff again that afternoon and early evening.

We inventoried and surveyed thirteen features. We left three caves not done, which we thought we would be able to do until we actually received the permit. The surveys we did, including surface survey, totaled 2900 feet. However, this was one of the least productive trips we have had despite the generally good weather.



Clockwise from upper left: Paul McMullen at a lava cave entrance. Photo by Ed Klausner; Mark Jones instructs Theresa Schwartz on cave surveying. Photo by Paul McMullen; Scott House and Mark Jones confer at a cave entrance. Photo by Craig Williams; Ed Klausner and Mark Jones surveying. Photo by Paul McMullen; Theresa Schwartz enjoys a lava squeeze. Photo by Mark Jones; Mark Jones after a long survey of a challenging lava tube. Photo by Craig Williams.

Lava Beds Balcony Flow Spring Expedition, April 16-29, 2022

By: Dave West

Karen Willmes and I arrived Saturday night finding Mark Jones and Paul McMullen already at the Research Center. Informed we could go out on Sunday, we proceeded to the surface survey in the South Trench and surveyed an additional 1513 feet. Paul found a number of obsidian flakes and shards. We got GPS locations and photos, which we provided to the Monument on Monday morning. We also located a few more cave leads to add to the list.

On Monday morning, Dave Hays came to the Research Center to provide our RP numbers and advise which caves we could access. We were cleared for all of the previously documented caves we planned to survey. We were informed we could not go to Genesis Cave, which had not been requested as we had already mapped it. We went out to the surface survey to continue from the previous day, avoiding the area where the obsidian had been noted earlier. Cleaned up one area where a portion had gone off the page and moved on to another, getting in two shots before the wind made surface work impossible. We retreated to the Research Center to regroup to head underground. We went out to Hopper Cave and rushed to get underground away from the wind. Hopper Cave proved to be a bit over 56 feet in length. It is a nice little cave with a few pretties. When we returned to the surface, the wind had increased and we returned to the Research Center to ensure we wouldn't get caught in whatever storm was moving in.

Yesterday's storm left over an inch of snow on the ground. I didn't want to risk falling and elected to stay at the Research Center. Being more sure-footed, Mark and Paul went out to get a surface profile over Hopper, and began a survey of Socki and Srooc (Coors backwards) caves. I began drafting on Hopper. Karen addressed some ongoing issues at Eastern Operations and her mother's estate. Paul and Mark finished Socki, but only got started on Srooc.

Wednesday morning the weather cleared somewhat so we went back to the south trench and finished up the trench survey before the wind again increased. Paul and I climbed up the slope beyond Genesis Cave to a vent that looks to have some passage at the bottom. Got a GPS fix and then we all returned to the Research Center, winded again. I stayed in camp after lunch to do reports and more drafting and the others went out to Srooc Cave hoping to finish mapping it. But, it was not to be. They found a passage not shown on the Recon sheet while surveying through breakdown and got into a real tube. We will have to go back.

And go back we did. We woke up to a landscape covered in over an inch of snow and it was still coming down. Mark and Paul were determined to finish Srooc and went out after

breakfast when the sun came out. They finished up and returned in time for lunch. Ed Klausner and Elizabeth Miller arrived. We made plans for surveying Bitty Pit on Friday.

Paul and Mark Joined Ed to work on his project. Karen, Elizabeth, and I went out to Bitty Pit and surveyed it. What an abusive cave. My memory of it was charitable to say the least. Nevertheless, it qualified as a cave under the 40 foot standard. Walls, floor, and ceiling were all breakdown. The entrance is 0.8 feet wide x 1.4 feet long x 6 feet deep. We rigged an etrier to assist in getting started up the squeeze to get out. It worked, but caver's vitamin I (ibuprofen) was needed after the trip. We retreated to the Research Center for lunch. After lunch, we headed out to Hopper Cave to get some surface detail between it and another cave. We then obtained GPS locations at a number of leads on our way back to Bitty Pit, where we got a surface profile above the cave. On top of this, we found yet another lead on the way back to the car.

It turns out that the cave we surveyed to from Hopper wasn't the cave we thought, but it is another lead for the list. On Saturday, Mark and Paul joined me and we returned to the vent to survey the cave and grotto within. En route we found more obsidian, got another photo, and got a GPS location which was provided to the Monument the following day. Given that this vent was above Genesis, we dubbed it the Origin Vent Cave and Grotto. The two features had just over 72 feet of survey between them. Then we surveyed the surface just over 410 feet down to Genesis Cave, hoping to tie to the brass cap. Unable to tie to the cap as we couldn't find it, we tied it to a point they remembered using although it was not marked or labeled. I turned over the book to Mark. He and Paul surveyed a lead just below Genesis which became Golly Gee Cave. The next lead to the north had no cave to survey. Mark and Paul surveyed the next in line and that became U-Tube Cave which mapped out to 49 feet. We called it a day and returned to the Research Center.

On Sunday, Karen and I went down to the Balcony parking lot for some surface survey. We surveyed first to a survey pin apparently put in for the paving project (PP10 110') and over to a lead that had been noticed when surveying Bitty Pit earlier. Then we surveyed a nearby trench collapse that led to leads referred to as 3 Bubbles. Continuing down the trench, which was getting somewhat vague, we stopped at a lead in another collapse filled with shrubbery that apparently escaped the fire, at least for the most part. We dubbed it the 'Oasis' and added it to the lead list, having left tie-in stations in three locations for the leads. We took lunch,

then went back to Bitty Pit and surveyed up to and around a relatively large collapse that contained at least one more undocumented lead.

Monday, Karen and I went to the Merrill parking lot to continue knocking off leads. It should be noted that all of these “leads” fit in one of two categories:

1. Either nobody or only one person on the surface survey trip that identified it thought they might fit, so its investigation was put off until smaller people could examine the lead.

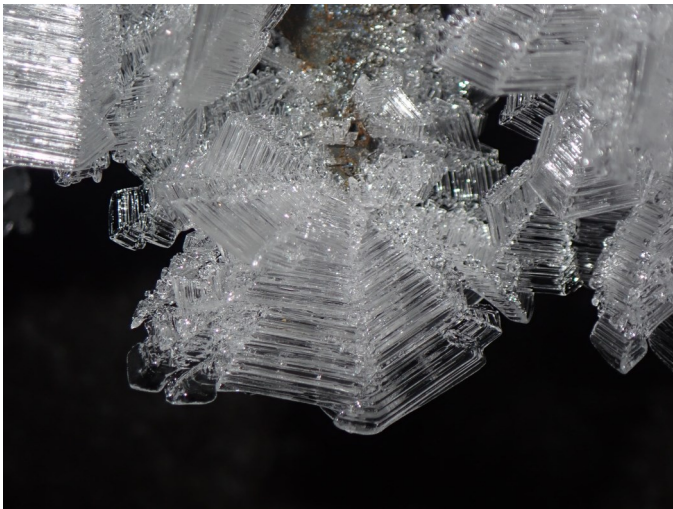
2. The lead, having been entered and examined by us and others, did not meet an old standard of being 40 feet or longer and had no apparent cultural significance, and was therefore not documented.

Some fit into both categories. The current standard, per Dave Hays, is whatever we think needs documentation. We are therefore backtracking to some degree. My own standard is fifteen feet, the Iowa Cave Standard used by the Iowa Grotto. Karen and I continued north from where the Saturday trip stopped. Karen is among the most petite members of our group. If she doesn't fit, it isn't a lead. We first eliminated a lead that was not on the Balcony Flow. We eliminated another ten “leads” as either non-existent or too small before finally locating one labeled “Pit”. When first entered, Pit was seen to be about fifteen feet long, so we elected to survey it. Although the cave occupies about only twenty square feet of area, it turns out to be developed on two levels, and 77 feet of survey was required to map it. Karen and I also found more obsidian, got a couple photos and a GPS location. On our way back from the pit we found a greater concentration a bit closer to the trench than the first grouping. As we had already documented the location, we moved closer still to the trench to avoid it as we returned to the Research Center.

I was joined by Mark Jones on Tuesday and we went out to examine more of the leads that remained in the Balcony Flow. We first stopped at one Karen had balked at the day before and

determined it was too small to survey. We then went to a spot in the trench that had escaped being sketched last year and I filled in the missing portion. Then, on to Prodigious Passage Pit to recover my reading glasses. We continued north zig-zagging down flow checking leads, determining that Holy Breakdown had no holes that went more than ten feet in breakdown, and the nearby grotto had been given the name as well. We surveyed Great Disappointment Grotto. The next lead (314) was too small. Lead 315 had already been placed on the map as 3 Amigos #2. Camp Bubble was too small to enter. We mapped Trig Cave and noted that Deadwood Bubble Grotto had the same coordinates, but was theoretically 57 feet lower in elevation. The cave kept the name Trig. Lead P10 was surveyed and named Very Little Cave. Blister Bubble Grotto was surveyed and renamed to Equidistant Cave to avoid confusion with Blister Cave elsewhere in the Monument. UFO cave was also surveyed. Lead 324 was too small to enter. Lead 182 had already been surveyed as 15' Pica Grotto. We then returned to the Research Center.

Karen and I picked up zig-zagging the next day as Lead 181 had already been surveyed as Breakdown Slope Grotto. B-list Grotto was just five foot void in breakdown. 386 and 385 were both too small to enter. 323 is a narrow, shallow pit with five feet of passage to the north and seven feet of passage to the south. Fizzler Grotto fizzled in only four feet. I will assign the Fizzler name to the pit and sketch it in on the map. 180 is a 3'Hx12'Wx4'D Grotto I will sketch in as well. 384 had no cave. 387 was already mapped as Natural Light Cave. 376 went all of 2 feet into a blister. 382 and 381 go in opposite directions in a small rift. Neither was long enough to consider surveying. 377 went four feet into breakdown. Karen and I surveyed a two shot surface tie-in to Junior Cave which was already surveyed. Fern Grotto became the only lead we surveyed all day. Spidercicle? Was not a cave. 378 was a small 3'Hx12'Wx3'D grotto that will be sketched onto the map. 316 is



Left: Ice crystals deep in a lava tube. **Right:** Lava drippings. Photos by Mark Jones.

located in Elmer's Trench and referred to Ed Klausner. 380 is a hole in breakdown that doesn't lead to cave. 187 is a five foot by 12 foot blister with a three foot diameter center hole. Under the blister is less than a foot high. 389 is already surveyed and is in fact Spidercicle Cave. 038 turns out to be the lower entrance to Mossy Knoll (AKA the Privy) which is already mapped. We stopped at this point and returned to the car using a reasonably direct route. We had attempted this once in the past, and found the area to be almost impenetrable. The travel was easier post-burn. We identified five new leads during the day, four in the Balcony Flow which will be added to the list for our next visit. The fifth was found north of the Merrill parking. Also found a small depression with a number of barrel hoops and other metal debris at 10T 620790 4621190 4777' NAD83. A photo will be provided.

Thursday morning we again awakened to a winter wonderland. I got caught up on reports

and data entry. After lunch the snow had mostly melted so Karen and I went to Merrill to get the rental car gassed for our return to Reno. We got back and went out again parking at the Balcony lot. With relatively little time, we elected to determine whether leads needed survey or not. We examined another five sites and determined four of them needed survey.

Friday was time to pack up and go home. John Tinsley, Ed Klausner, Elizabeth Miller were a tremendous help in getting Research Center ship shape before they left about 9AM. Karen and I needed to check in to our flight at 10:55. We got ourselves mostly packed up, keeping enough gear available to get a cross section in Upper Heppe Bridge before turning in all the LABE material to Resource Management. Then off to Susanville for the night before flying out of Reno Saturday morning.

Dave Hays was an enormous help to the group, ensuring we had all we needed. Can't thank him enough.

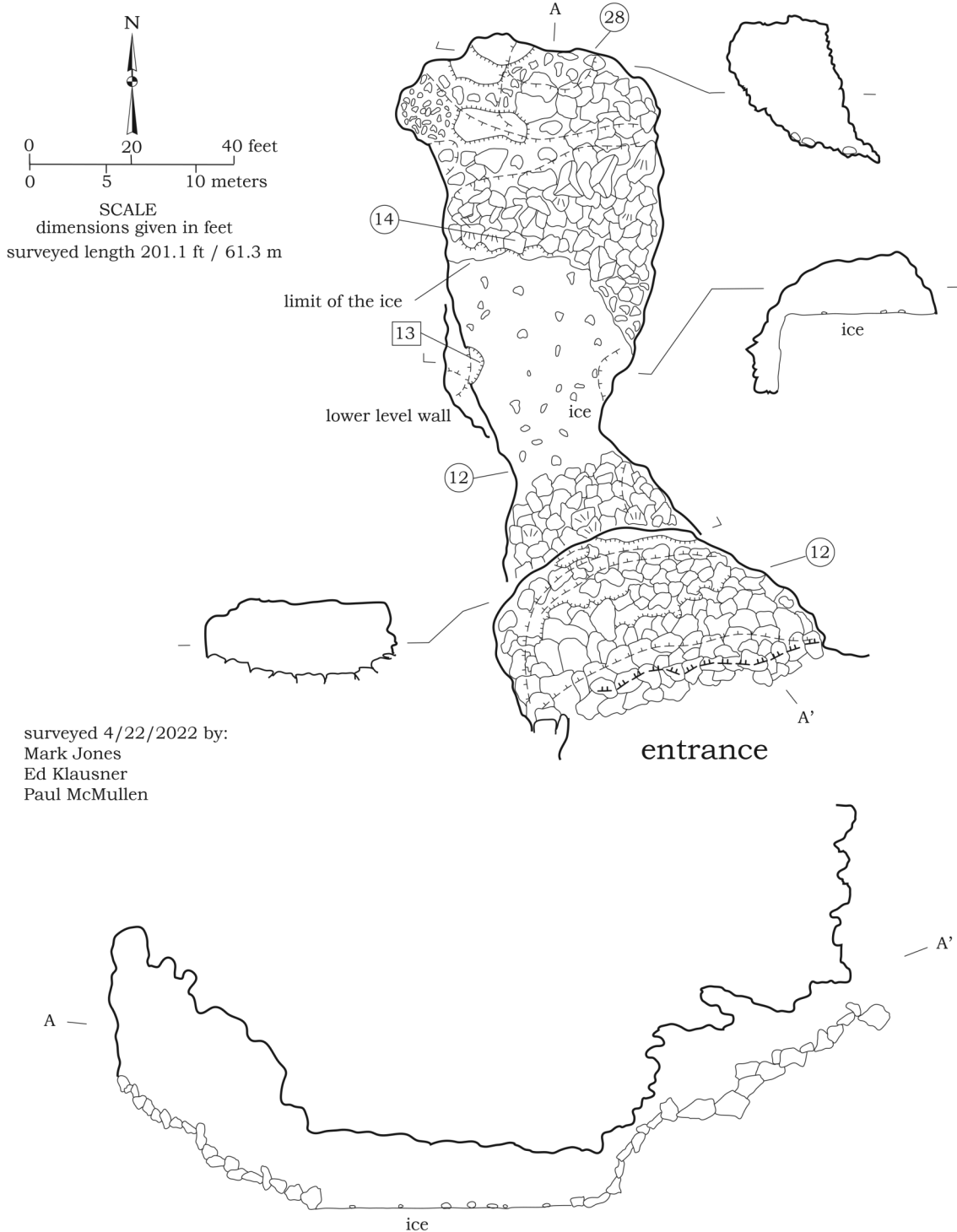


Clockwise from upper left: Fred Wilkinson pushes a lava tube lead; Paul McMullen in gnarly a'a crawl; Cave millipede skates across ice floor; Townsend's big-eared bat in lava tube. Photos by Mark Jones.

COX ICE CAVE (L800)

Lava Beds National Monument
Siskiyou County, California

Surveyed in cooperation with
National Park Service and Cave Research Foundation
Cartography by Ed Klausner 2022



Craters of the Moon National Monument & Preserve, May 2022

Butte County, Idaho

By: Mark Jones

After a two year hiatus, CRF returned to Craters of the Moon National Monument and Preserve to continue surveying and inventorying lava tubes. Todd Stefanic, the wildlife biologist, and Mauro Hernandez, the wildlife biological technician, had developed a master list of important caves to be visited throughout the monument for us and provided all the necessary gear and equipment for the expedition. A total of nine CRF cavers participated during the ten day event. Kailey Alessi, Dave Donner, Mark Jones, Ed Klausner, Paul McMullen, Elizabeth Miller, Theresa Schwartz, Fred Wilkinson and Craig Williams were in the field fulfilling a variety of roles. A tenth member, Allen Palmer, the seasonal wildlife biologist, also participated.

To say that the weather was a challenge would be an understatement - rather than being pleasantly cool, it was unseasonably cold and wet throughout the expedition. In addition, rather than being a refuge from the elements the lava tubes were often cold and damp. Despite these issues eleven caves were surveyed with one being a new cave, with only two remaining incomplete.

May 1 - Arco Tunnel

Two teams began the expedition by hiking out to Arco Tunnel, the longest known lava tube in the monument, to survey this cave. Ed led one team to start from the entrance while Mark took another one past the crawl. Ice covered much of the floor with delicate ice formations covering the ceiling and walls. Six hundred feet was recorded by the two teams. A cave millipede was seen skating on the ice floor, widening its range in the monument. Indications of bat usage were also noted.

May 2 - A'A Edge Cave & Arco Tunnel

Mark took a team out on an unexpected milelong Death March to survey A'A Edge Cave. Although the survey garnered over 400 feet, the team was unable to finish due to the deteriorating weather. An alternate route back to the vehicles was attempted but alas proved no easier than the hike out to the cave.

Ed and team returned to Arco Tunnel to add more footage to the survey, recording seven hundred feet in predominantly walking passage.

May 3 - Archeological Study & Arco Tunnel

Craig, Kailey, Theresa and Dave visited several lava tubes in the cave area for archeological assessment. The results were compiled for a report to the monument.

With Ed and Elizabeth departing, Mark and Paul went back to Arco Tunnel for a third day of surveying. A tight constriction prevented the duo from going to The New Section, so they continued along the east wall for seven hundred feet past three major intersections and into the Grim Crawl of Death. Craig and Theresa arrived just in time to enjoy this hundred foot Velcro belly crawl. After this experience the group retired documenting seven hundred feet of cave.

May 4 - Open Dome Cave & Guano Cave

After several arduous days in the field, the group planned to survey some nearby caves. While Dave reconnoitered the area, Mark led Paul, Theresa and Craig to survey a pair of lava tubes. Theresa was instructed in the basics of sketching and shadowed Mark throughout the day. Open Dome Cave clocked in with a hundred feet of hands-and-knees crawling and plenty of woodrat scat.

Scooting over to Guano Cave the team surveyed a fascinating two hundred foot lava tube with a variety of formations. The most important feature was a small, shallow dome where a pile of bat guano underneath indicated a summer maternity colony.

May 5 - Skelebat Cave

Dave, Paul and Mark along with Allen, hiked out to inventory Skelebat Cave. Dave continued to do some reconnoitering while the rest of us surveyed. This cave had several parallel tubes of varying degrees of difficulty with the added indignity of a chilling breeze blowing down the passages. The final belly crawl over rough pahoehoe thankfully finally pinched down. Over four hundred feet was recorded in this convoluted lava tube.

Thanks to Mark's brother Dave, a fish feast was prepared that evening with monument personnel in attendance.

May 6 - Monument Cave, Tenderfoot Cave and Hmmm Cave

The team of Mark, Dave, Paul and Theresa were joined by Fred and hiked out to the Blue Dragon Flow to survey some caves. Once again Dave reconnoitered the area for more leads while the rest of the team would survey. The first was Monument Cave with a sixty foot trench collapse separating the lava tube into an eighty foot north alcove and a forty foot south alcove. In the north cave a strange igloo rock fell from the ceiling creating a haven for the resident woodrats. Bird and bat guano were also found in both caves.

A short hike away was the hundred foot Tenderfoot Cave with a floor covered in dark slime mold.

The last survey of the day was a lead that Dave had discovered, a forty foot surface tube that Theresa and Fred inventoried.

May 7 - Low Bridge Tunnel Complex and Wave Cave

Back on the Blue Dragon Flow Mark, Dave, Paul, Theresa, Fred and Allen returned to map more lava tubes along the Tree Mold Trail. Dave and Allen braved high winds to reconnoiter further south as the rest of us surveyed the Low Bridge Tunnel Complex. The original map had the cave at ninety feet, but we documented three hundred-fifty feet by pushing into some obscure holes. Thankfully the survey was in easy crawls over smooth pahoehoe floors. Two piles of bat guano in the longest crawl indicated that this is possibly a summer maternity colony.

The recon team then led us to nearby Wave Cave which was a comfortable 130-foot surface tube with entrances on either end. Unfortunately, the team could not tie in a nearby lava blister due to the inclement weather.

May 8 - White Roof Cave

Mark, Dave, Paul, Fred and Allen made a third trek out the Tree Mold Trail to the Blue Dragon Flow intending to survey several caves in the area but were limited to only one as the skies darkened. Once again Dave and Allen were going to scout out the area while the rest of the team surveyed White Roof Cave. This surface tube had three entrances and three crawl

ways radiating out from a main room totaling two hundred fifty feet.

May 9 - Data Day

A late season snowstorm with blowing snow pummeled the monument and any opportunity to go in the field on Monday, so the day was spent addressing data and maps.

May 10 - Wave Cave Extension & Reconnoitering

Once the ground began to warm up Mark, Dave and Fred went back to Wave Cave to tie in a lava bridge and an associated crawlway. While less than forty feet was surveyed, the additional information will provide a better picture of the area.

The trio then hiked south in the Blue Dragon Flow to two significant clusters of caves. While in the area they also reconned a potential campsite for the fall expedition.

This wrapped up the May 2022 Cave Research Foundation Expedition with reports completed before leaving the monument. A total of 4,444 feet of survey was recorded during the expedition and over two hundred leads documented. Detailed maps will be forthcoming. Biological observations were also recorded for each site. In addition, Craig, Kailey and Theresa conducted archeological assessments throughout the expedition which will be provided in a comprehensive report to the monument.

The nine participants traveled a total of 18,680 miles and racked up 382 hours in the field with an additional 170 hours spent on management, reports and cartography.



Photos from Lava Beds: Left: Paul McMullen in Icy lava tube crawl. Right: Craig Williams in gnarly a'a crawl. Photos by Mark Jones.

Ozark Operations Activities, February-June 2022

By: Scott House, with reports by Kayla Sapkota

Work continues at a rapid pace in the Ozark Plateau and beyond, with CRF expertise being called forth for a variety of projects. Times were busy with numerous bat counts that had wisely been postponed due to the pandemic.

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 NPS/USFS shared field office at Winona.

April 30, 2022:

Scott House and Rick Haley monitored Poker Cave (no new bear activity), and the six Boyds Creek Caves. They then went on a search for a rumored pit which was finally located and checked out briefly. It remains to be mapped.

May 1, 2022:

A large group floated a few miles on the Jacks Fork from Buck Hollow to Blue Spring. Participants included Dan and Henry Lamping, Derik Holtmann, Joe Sikorski, Bob Lerch, Rob Lawson, Kayla Flamm, Georgia Thomas, and Scott House. Seven caves were monitored.

June 8-9, 2022:

Ken Grush and Scott House spent two days at Winona working on refining cave data for all agencies concerned.

June 10, 2022:

Mark Jones cleaned the lock and installed a new sign at Bear Cave, Texas County.

June 12, 2022:

Mark plus Dennis Novicky and Tyler Skaggs floated from Two Rivers to Powder Mill, servicing a couple of cave gate locks and installing three new signs on caves with older signage.

June 13, 2022:

Mark, Dennis, and Kirsten Alvey-Mudd visited five caves on the Upper Current, replacing three signs, servicing four locks and doing light monitoring. They looked for a Salem crayfish in one of the caves, but did not find any, possibly owing to the epigeal crayfish that were in the cave.

June 14, 2022:

Mark and Kirsten took Rebecca Landewe and Madi Keith from LAD Foundation on a float monitoring trip. They installed one replacement sign and monitored a total of five caves. Some of those caves are LAD land and one more is an MDC cave. One of the caves monitored had an impressive 53 western slimy salamanders, a record for the state which lasted all of three more days. Further upstream, Dennis led Craig Williams and Tyler Skaggs on the river to several caves which needed a cultural evaluation.

June 15, 2022:

The same crew floated from Round Spring to the Mouth of Grassy, replacing one cave sign along the way while monitoring that cave (Courthouse) plus another low, wet cave.

June 17, 2022:

Mark and Kirsten worked on caves near Van Buren, monitoring six while also installing replacement signs on two of them and servicing three locks. One small cave known for its population of slimy salamanders had a new record 69 of the little fellas in residence.

BUFFALO NATIONAL RIVER

Provided by Kayla Sapkota.

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

March 26, 2022:

Emily Roberts and Carter Roberts joined an NPS geology tour. During the tour, they saw and counted a few eastern tricolor bats in Abandoned Dreams Mine.

April 1, 2022:

Matt Beeson, Jessica Walden, and Courtney Werner mapped Cane Hollow Shelter and located/assessed Junkyard Cave for survey the next day. They also located a new feature, Cane Hollow Spring Cave.

April 2, 2022:

Matt Beeson, Emily Roberts, Ryan Spotts, Tyler Karnes, Rose Leeson, and André Leeson mapped in Junkyard Cave, tackling very muddy passage and more passage than expected to arrive at 409.7 ft on this first survey. Kayla Sapkota, Jessie Bridges, and Josh Glazebrook mapped a combined 404.3 ft in several features in the North Maumee area, including Prospector Cave, Prospector Shelter, Grand View Cave, Grand Hideaway Cave, Sanders Cave, Sanders Crawl, and a lead near Sanders Crawl. Four of these were new to the database. Dillon Freiburger, Claty Barnett, Rhett Finley, and Aaron Thompson returned to Dog Man Sink #2, a complex and punishing feature in the Duck's Head area. Another trip will be due. Mark Brooks, Ben Damgaard, Maya Robles, Destany Lytle, and Ben Lytle mapped a combined 371.71 ft in Hanging Tree Ridge Cave, Push-Through Cave, and Wiggle Cave. Wiggle Cave will require another trip to finish it. Treavor Bussard, Erik Stinnett, and Daniel Smith monitored and took new GPS points on Lucky Dutchman Mine, White Mud Cave, Little Big Hole, Boy Scouts Shelter, Turtle Crack, and Cedar Creek Cave. Another trip will be needed to confirm some older locations,

as there are several mines there also, and map the features.

April 30, 2022:

Claty Barnett, Aaron Thompson, and Dillon Freiburger mapped a combined 198.4 ft in Little Big Hole, Lucky Dutchman Mine, and a new feature, continuing the work of Treavor's team from earlier in the month. Another trip to the area is needed to continue mapping. Jessie Bridges, Emily Roberts, and Tyler Karnes mapped beyond the constriction in Buffalo Point Cave, gaining another 104.15 ft of survey.

May 7, 2022:

Ben Damgaard and Gene Damgaard backpacked south of the Hathaway Mountain area of the Lower Buffalo District, searching for (and not finding) First Cave, but locating and monitoring Greenbriar Bore Cave, Sunlight Shelter, Broken Stalactite, and two mines. They mapped Green Briar Bore Cave.

May 8, 2022:

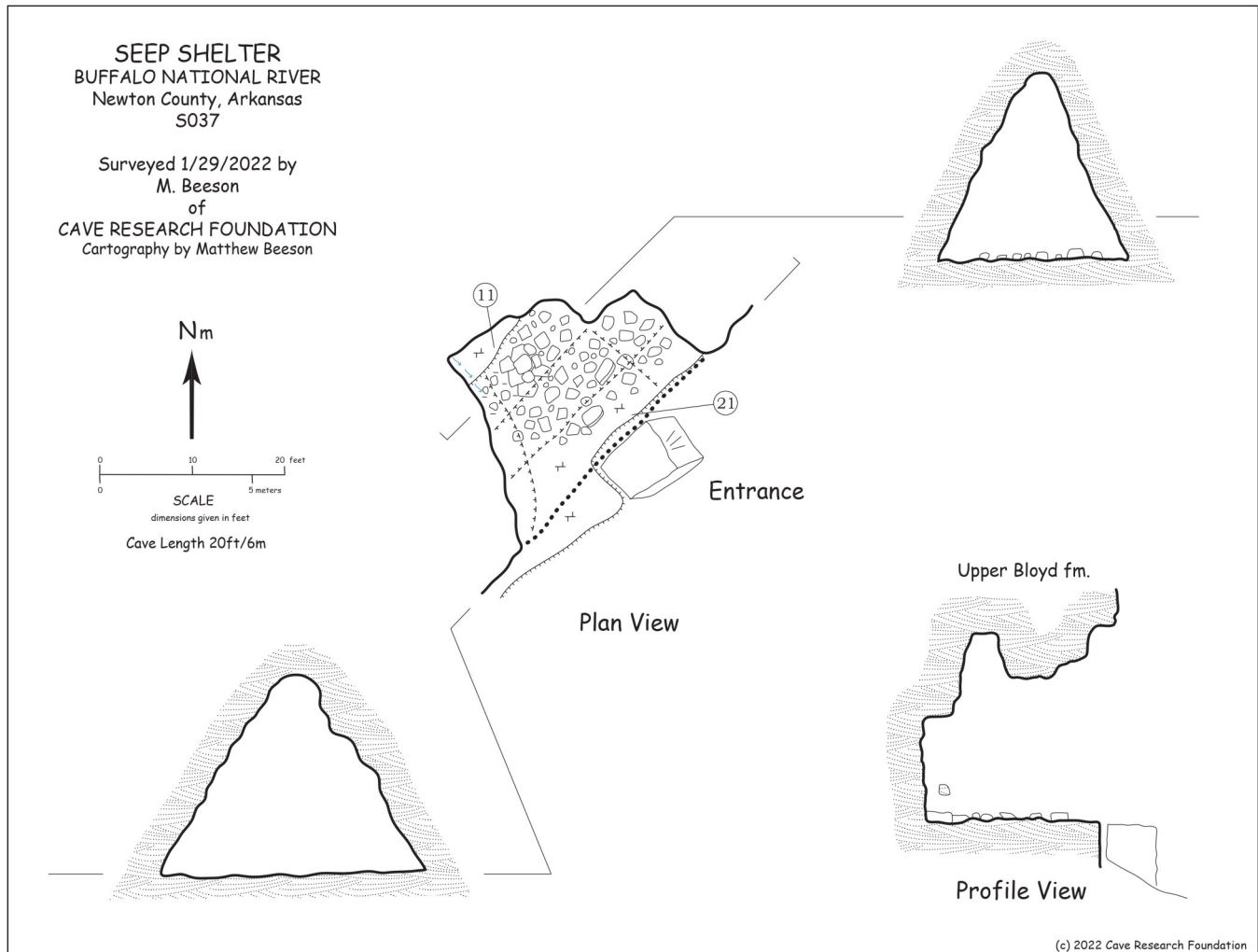
Ben Damgaard and Gene Damgaard continued their backpacking trip, locating and monitoring Horse Camp Shelter, Long Shelter, and Flakey Shelter. They mapped Flakey Shelter.

May 21, 2022:

After encountering a secondary lock (with a different key) on the Fitton Cave Beauty Entrance gate, the crew pivoted its plans. Kayla Sapkota, Emily Roberts, Ben Damgaard, Claty Barnett, Aaron Thompson, Matt Beeson, Brandon Griemel, and Courtney Werner entered Fitton Cave via the Bat Entrance, making for a much wetter trip. Kayla, Emily, and Ben traveled to T Junction and then to the Beauty Entrance to work on some cross sections, as well as worked with Aaron and Claty on tying some sediment sample stations at T Junction and the Missile Silo to the survey line. Matt, Brandon, and Courtney traveled to Grand Central to continue some stream level survey there. With additional rain having fallen, the trip out was more sporting than the trip in had been. Mark Brooks, Issac Smith, Chad McCain, Treavor Bussard, and Jessie Bridges diverted to Fluted Maze Cave and mapped 772.6 ft there. One more trip will likely finish up the survey there.

June 4, 2022:

Having gained access to the Beauty Entrance, Kayla Sapkota, Tyler Rider, and Laura



GRAND VIEW CAVE

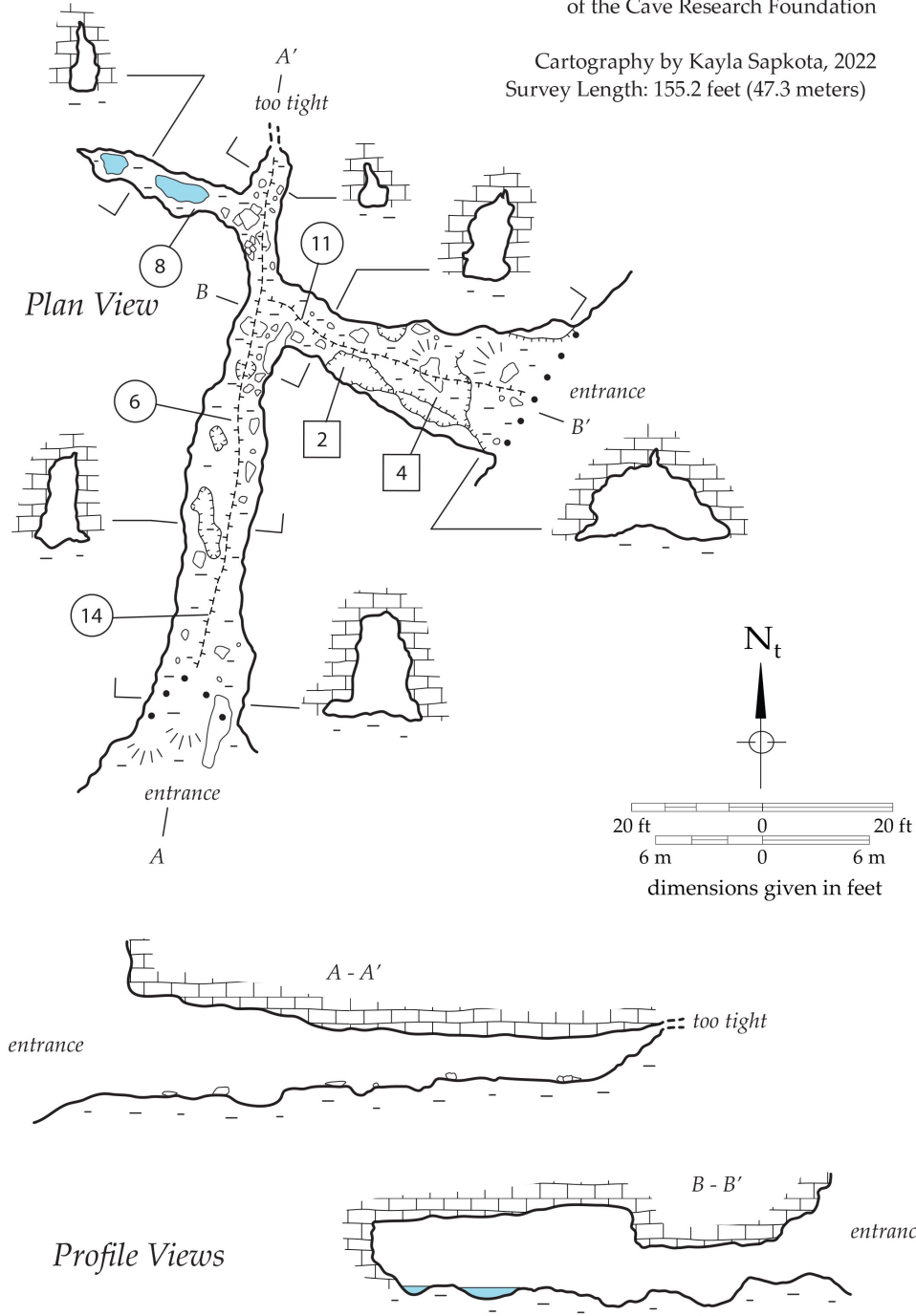
C342

Buffalo National River

Marion County, AR

A Disto X Survey by Jessie Bridges,
Josh Glazebrook, & Kayla Sapkota
of the Cave Research Foundation

Cartography by Kayla Sapkota, 2022
Survey Length: 155.2 feet (47.3 meters)



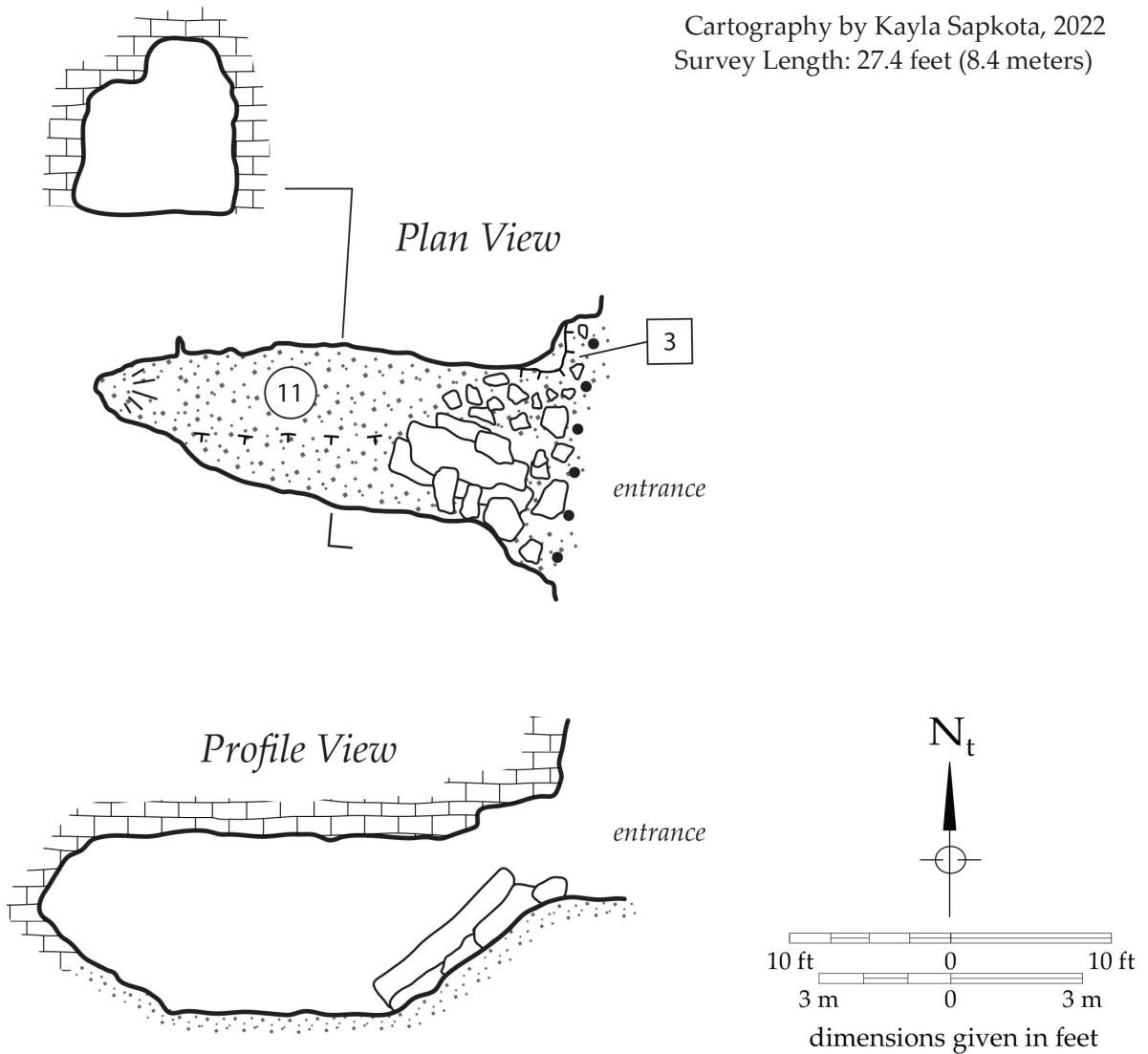
GREEN BRIAR BORE CAVE

C311

Buffalo National River
Marion County, AR

A Disto X Survey by Ben Damgaard
and Gene Damgaard
of the Cave Research Foundation

Cartography by Kayla Sapkota, 2022
Survey Length: 27.4 feet (8.4 meters)



Baumann worked on some north-side leads in the Tennouri Room, searched for a missing survey chain on the eastern end of the Tennouri Room, and continued mapping in Helictite Passage. Jessie Bridges and Ben Damgaard teamed up to map some north-side leads in the Altar Rock Room. Dillon Freiburger, Chris Enders, and John Davis mapped some south-side leads in the Altar Rock Room. Matt Beeson, Max White, and Nathan Burton mapped some leads on the south side of the Roundhouse Room, as well as in Lost Passage.

June 16, 2022:

Matt Beeson and Courtney Werner finished mapping Junkyard Cave. They also monitored Crack in the Earth Cave.

June 22, 2022:

Mark Jones and Dennis Novicky traveled to a cave to assess it for a potential bat-friendly gate.

June 30, 2022:

Matt Beeson and Amanda Beeson began the remapping project of In-D-Pendants Cave in the Maumee area. They mapped 527 ft of the looping entrance area.

ARKANSAS NATURAL HISTORY COMM.

Provided by Kayla Sapkota.

May 7, 2022:

Rhett Finley and Treavor Bussard mapped a combined 117.4 ft in Fox Hole and Rock Ant Shelter at the Devil's Eyebrow Natural Area. The big excitement of the day included finding a fox in the first feature.

May 28, 2022:

Jessica Walden, Keegan Wagner, and Josh Jones mapped Bar Cave and Vulture Cave at Slippery Hollow Natural Area. This was Keegan and Josh's first cave trip, and they did well.

Arkansas State Parks

May 20, 2022:

Kayla Sapkota, Claty Barnett, and Aaron Thompson met Cody Taylor from Tribach Solutions and his assistant to evaluate War Eagle Spring Cave for LiDAR scanning, as contracted through the Arkansas Highway Department. Unfortunately, the water level in the cave was too high to travel more than 30 ft in, so another trip will have to be scheduled.

June 20, 2022:

Mark Jones and Dennis Novicky met with Pedro Ardapple-Kindberg at Devil's Den State Park to assess a crevice for a cave gate.

Private

March 26, 2022:

Meghan Gallo, Derek Thompson, and Shawn Williams visited Onyx Cave (Carroll County, AR), and mapped 175.7 ft beyond the squeeze at the end of the tourist trail.

MARK TWAIN NATIONAL FOREST

CRF work on Mark Twain National Forest (U.S. Forest Service) is performed through a cooperative agreement 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 Ranger Station.

February 26, 2022:

Marissa Schorr and Jeff Crews monitored Apple Dumpling Cave, Phelps County MO on the Rolla/Houston District. Some cultural artifacts were noted and photographed.

March 10, 2022:

Mick Sutton and Sue Hagan went to Cave Hollow Cave, Iron County, Potosi District for a winter bat count. They accompanied Jordan Meyer and Kyle Jansky of MDC plus Nate Patterson and another person from USFS. Bat numbers were not great and the gate has some issues with functionality.

April 16, 2022:

Craig Williams, Stefanie Voss, and Paul Konrad did a cultural assessment as they monitored Hanley Cave, Phelps County, Rolla/Houston District. Previously noted looting was noted again and duly reported.

May 10, 2022:

Mick Sutton and Sue Hagan mapped a new, very short cave on the Salem District in Reynolds County MO. The cave had been found and reported by FS personnel.

June 1, 2022:

Seth Colston plus Jim and Julie Cooley monitored two entrances in the Eleven Point District in preparation for an upcoming biology support trip.

June 3, 2022:

Jim Cooley assisted researcher Beth Hart in collecting samples from Turner Spring Cave, Eleven Point District, Oregon County. They tried to get to another cave but the 2017 megaflood has obscured the entrance area with an immense log jam.

June 5, 2022:

Jim and Julie Cooley found and mapped a new cave near the Eleven Point River, Oregon County.

June 6-7, 2022:

Jim aided MDC and USFS personnel in doing evening surveys of bat exits at Bat Cave, Oregon County, Eleven Point District.

June 11, 2022:

Mark Jones, Dennis Novicky, and Tyler Skaggs monitored several caves on the Upper Eleven Point River via canoe and kayak. They

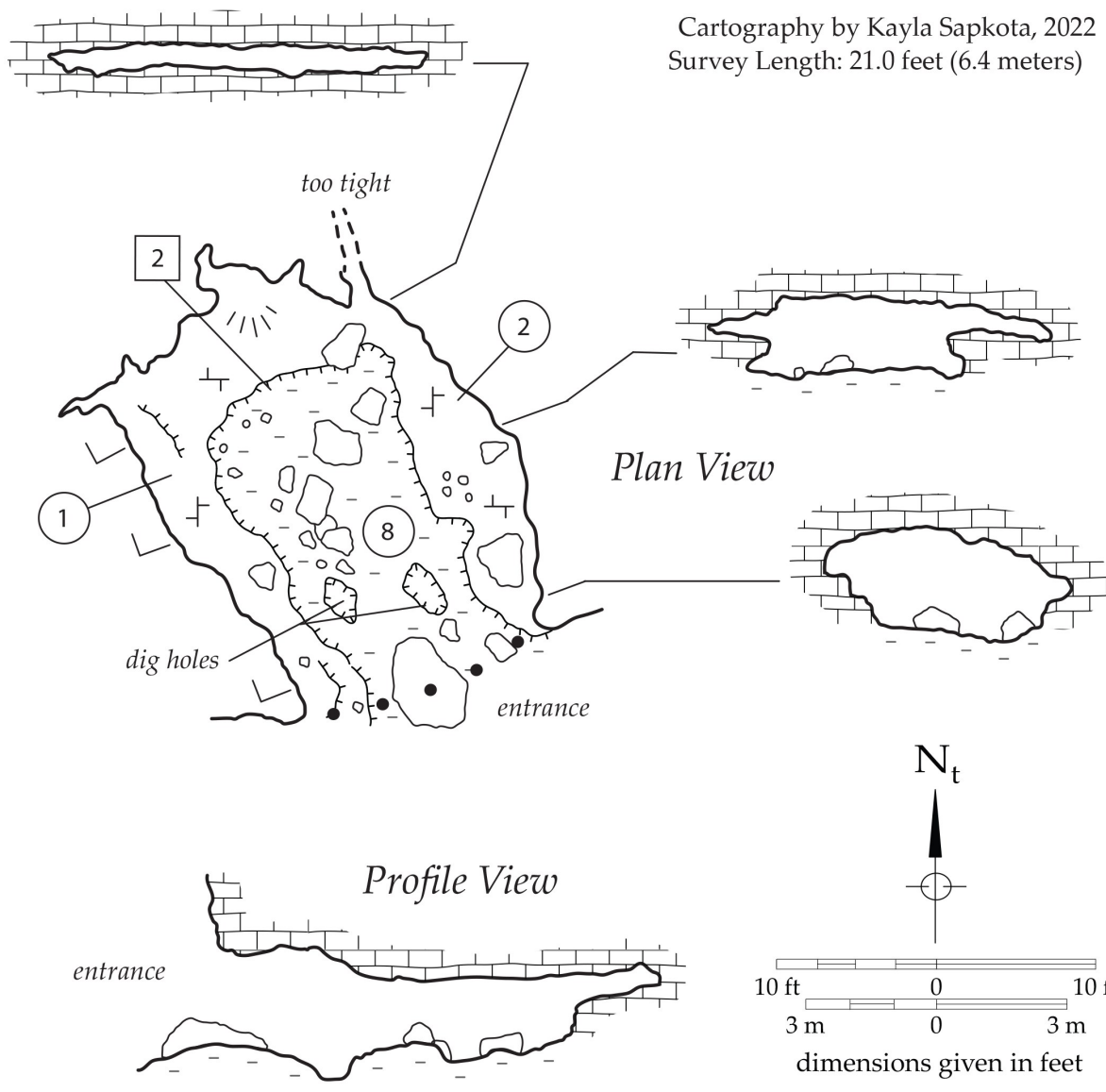
PROSPECTOR SHELTER

S054

Buffalo National River
Searcy County, AR

A Disto X Survey by Jessie Bridges,
Josh Glazebrook, & Kayla Sapkota
of the Cave Research Foundation

Cartography by Kayla Sapkota, 2022
Survey Length: 21.0 feet (6.4 meters)



monitored nine caves and surveyed three (two of which were new small caves).

June 18, 2022:

Mark, Tyler, Kirsten Alvey-Mudd, and Keith Thompson floated a middle chunk of the Eleven Point River monitoring three caves, one of which they surveyed.

PERRY COUNTY KARST

CRF facilitates survey work in several areas of the county, including the City of Perryville, Crevice Cave, and the Moore Cave System.

February 19, 2022:

Chad McCain, Elizabeth Sutherland, Cole Kostelac, Garrett Bell, and Isaac Smith surveyed 400+ feet in Crevice Cave, utilizing the Echo Pit entrance for the first time in several years. Chad is working the accessibility issue with the landowners.

U.S. FISH AND WILDLIFE SERVICE

CRF work for FWS is facilitated through a funded cooperative agreement. The work focuses on endangered species habitat identification and restoration.

March 17-19, 2022:

Jim and Julie Cooley spent several days on prep work for the upcoming gating of Toby Cave, Camden County MO. Their work list included the receiving of the steel and porta potties, plus arrangement of the necessary camp and providing comfort for the incoming hordes of helpers. The cave is a major maternity colony for gray bats and a minor hibernaculum for a variety of bats. The gate would have to be constructed in late winter before the bats return.

March 26-31, 2022:

Jim Cooley and Seth Colston spent a few days moving gear and equipment from the Winona Ranger Station to the cave gating site nearly 200 miles away. Reinforcements in the persons of Jeff Bowman, Joe Williams, Matthew Hernandez, and Kirsten Alvey-Mudd showed up for the last day of prep.

April 1-3, 2022:

All of the above folks plus more began construction on the gate. By the next day (a Saturday) nearly twenty people were working on the gate. This continued through Sunday when the weekend warrior volunteers had to start heading home.

April 4-5, 2022:

Reinforcements arrived both in the form of inspired caver volunteers and several employees of the Missouri Department of Conservation. Work progressed quickly and all concerned pitched in on whatever task they were best suited to. By the end of the second day of this phase, the gate was essentially completed.

April 6-8, 2022:

Jim and Julie returned the gear to Winona and put it away, then returned to the site for final cleanup. Return trips are planned for the summer to ensure that the bats are happy with their new arrangements.

June 9, 2022:

Mark Jones spent the day at the Winona ranger station cleaning the gating equipment, inventorying gear and performing other necessary tasks for repacking all the gear and equipment.



Gene Damgaard in Horse Camp Shelter. Photo by Ben Damgaard.

MISSOURI DEPT. OF CONSERVATION

CRF and MSS work under unfunded permits to collect survey data on MDC lands. Ancillary support comes from CRF and cooperating federal agencies.

March 10, 2022:

Mick Sutton and Sue Hagan, along with Jordan Meyer and Kyle Jansky of MDC plus Nate Patterson and another person from USFS, went to a privately-owned cave in Ste. Genevieve County. Indiana bat numbers were quite good. Although not gated, access to the cave requires a several mile walk which cuts down on “look-ensepers” is frequently beneficial for bats.

L-A-D FOUNDATION

CRF works with L-A-D Foundation and their wholly-owned arm, Pioneer Forest, to help manage caves on their lands.

May 21, 2022:

Mick Sutton and Sue Hagan were joined by LAD’s ecologist Rebecca Landewe to do bio survey in Salamander Cave. Meanwhile, Tony Schmitt, Ben Miller, Bob Lerch, and Dan Lamp-

ing surveyed 900 feet in the cave, which is now over 3100 feet in length. The big find of the weekend was a large room named the “Ursatorium” after its profusion of bear claw marks.

June 14, 2022:

See above for trip on the Current River.

ELSEWHERE

This includes trips done on US Army Corps of Engineers lands and private lands. Some of this work is funded and some is not. Some of the protection efforts may be funded by CRF, MO Dept. of Transportation and other sources.

March 27, 2022:

Cooley and Seth Colston finished the survey of Slough Bottom Cave on Corps of Engineers land in Ozark County, MO. They also worked on an intrusion detector trying to make sure it does its job while also not drawing attention to itself.

June 2, 2022:

Jim Cooley assisted Beth Hart in collecting biological samples from privately owned caves in Carter and Ripley Counties.



Left: Kayla Sapkota, Claty Barnett, Aaron Thompson, Jessie Bridges, Ben Damgaard, Treavor Bussard, and Emily Roberts get ready to hike to the cave - selfie. **Right:** Bob Lerch, Henry Lamping, and Joe Sikorski share a laugh during field work. Photo by Dan Lamping.



Mammoth Cave: CKKC Report on Roppel Cave, BWOB South, July 4, 2022 Nexus Area, Off Transgressions Trail

By: Holly McClintock, Trip Leader

Participants: Holly McClintock, Brad Graf, Kelly McDermott, Joe Timmerman

Objective: Continue survey of the OT survey

Old Mill Crawl Lead – It just Doesn't Get Any Better Than This

Summary: We advanced the OT-survey an additional 155' until the pooled water became too deep in the low passage to continue our survey productively. Upstream low crawling passage does continue and remains a lead. Recommend drought condition trips. A tight canyon lead on the east wall at OT46 is a worthy lead. Persuasion needed. The tight canyon lead on the west wall at OT46 appears to just connect back to the OT at OT42. Too tight to confirm.

In: 11:30, **Out:** 03:30 (16hrs)

For weeks leading up to this trip no rain occurred, leaving most of Kentucky in drought conditions and a perfect opportunity to work this objective. Two days before our scheduled trip a heavy thunderstorm passed through Edmonson and other surrounding counties, creating flash flooding in the area, but the ground soaked it up quickly. I still felt we were good to go for this objective.

We left Lone Star Preserve around 0800 and had breakfast at Love's in Horse Cave. Weather report was showing 32% chance of scattered thunderstorms throughout the day and by the time we were leaving for the cave entrance the forecast had gone up to 52% chance. We discussed the low ledge at OT39 and if a heavy flash flood rain happened while we were under that ledge it would not be good. I really wanted us to go for this objective and convinced my team the ground was very dry, and we would be able to see signs in Black River along the way if it were storming above. We all knew we would only really be in danger if a major flash flood happened once we entered the OT; of course

Preceding page, clockwise from upper left:

Looking out of an unmapped shelter cave on the Jacks Fork. Photo by Scott House; Amanda Beeson in In D Pendants Cave. Photo by Matt Beeson; Joe Sikorski in Island Branch Cave. Photo by Dan Lamping; Jim Cooley at finished Toby Cave gate. Photo by Julie Cooley; Georgia Thomas returns from a stream crawl in Tiny Cave. Photo by Derik Holtmann; Matt Beeson sketches at In D Pendants Cave. Photo by Amanda Beeson.

most of our time during this trip would be spent in the OT.

We took a little more time than usual getting ready. Making sure our greenhorn team member, Joe Timmerman, a journalist writing a story about cave exploration, was properly geared and packed. We allowed him to go with us, insisting he assists in the survey to help him understand better. He was taking pictures and asking questions as we all geared up and made our way to the compass course and on into the Daleo Entrance of Roppel Cave.

We crawled our way to and through Nag Junction, dropped down into South Kangaroo Trail and onto Olympia Junction, picking up Kangaroo Trail Proper, and climbing down into Kangaroo Canyon, then canyoning six-hundred-feet or so to Pirate's Pot, then did a thirty-foot climb down the new ladder, then finagled our way over to Poker Chip Ave, where we picked up Black River for about forty-five minutes of mostly walking, some crawling and rock traversing before reaching a large junction room, Grand Junction.

A quick water break at GJ before taking a right into Upper Elysian Way and continuing twenty-minutes of mostly easy walking, with a little slip and sliding and an occasional spelunk into the water or into the mud, till reaching a slot canyon entrance on the left wall to Transgressions Trail. At this junction we drained water from our boots and left a couple waters for the trip back out, then entered the canyon.

We contorted our way through the OA-survey of Transgressions Trail for seventy-six stations, then did a climbdown through a hole in the floor at OA76, dropping down fifteen-feet through a canyon, then continued canyoning forward another twenty-feet before dropping down five-feet into a small dome room with a flowing stream and a sandy bank with enough room for all of us to sit and enjoy the last few minutes of us not being slimy, muddy, nasty, and wet. Both of Joe's cameras may have already been broke by this point, if not, they were out of commission early after entering the OT-survey.

After a short break we entered the stream passage of the OS by going under the ledge of the canyon we had just climbed down and out of, crawling floor level and back tracking five feet or so before turning right and entering the stream passage. A couple of old stations can be found here, hard to read but they can be located on the wall. We then enjoyed low crawling on elbows and knees heading up stream till we came to a little obvious climb up that looks more appealing than the deep low crawl ahead, the climb up leads to a little by-pass room with

walking size passage for a little over twenty feet to a keyhole in the floor allowing you to slide back down into the stream at the OS, OT junction. Two blind cave fish in the stream at OT1 greeted us and we carefully avoided them as we transitioned back into slopping through mud and water, aka crawling upstream.

OS-survey continues straight ahead or forward and downstream. The OT-survey takes a hard right and continues upstream. No stations noticed during this trip till roughly OT28. Everyone expressed how much they loved me as we enjoyed hands and knees crawling through water and mud, lowering from time to time to elbows and knees crawling in six inches of water along the way. A mud slope meandering along with the stream allowed for attempting to maneuver in ways to keep yourself dryer and pack cleaner, attempt being the key word.

Having been to this miserable area before, I learned a lot about how to deal with the conditions and felt good about our chances of making it further and suffering less while there. Our team was well informed, except for Kelly, who missed the "bring a neoprene shirt part" yet caught the "peach rings chewy candy is packed." She never complained about it though and used a garbage bag under her clothing to substitute as a neoprene shirt, which apparently works well.

Morale was high and laughter was happening as we attempted to dig our way by hand into a side lead about fifty feet before our targeted objective area. I moved on forward to OT39 to prep for beginning survey, leaving the others to attempt to break through the lead. Joe squeezed through a seven-inch squeeze into a little room large enough to almost stand in, the room had a small canyon sloping down off it which connected back into the OT approximately eight feet ahead.

As the team caught up to me, we quickly began survey, giving Joe a crash course in survey. Kelly took point, Brad used BRIC James, Joe held the back sight target card, I did book. I personally was feeling good and amazed at how good of condition we were at this spot compared to the misery of this exact spot my team had experienced in Oct 2019 (FSB1603).

At OT39, the stream passage is sixteen-feet-wide by one-and-half-foot-high, a ceiling ledge lowers the height to less than one-foot as you inevitably must lie in water to slither forward. Two shots totaling thirty-eight-feet cleared the long army style puddle crawl. The mud slope meandering along with us appeared again, giving us a way to attempt to lean out of the stream once again as we inched forward. At OT41, there is a tight muddy crawl lead, low on the east wall, an in-feeder to the stream, light flow of water coming out and joining the stream of the OT. Too tight to attempt to push.

At OT42 another in-feeder, less than one-foot-by-one-foot, low lead on the southwest wall, too tight to push. No water coming out of this lead currently. Around OT42 area we found

multiple places with *Macroceras Nobilis*/ Webworm and noted it in our survey book. Moving forward we gained a little bit of ceiling height here due to a channel in the ceiling which allows hands and knees crawling again for eighty-six-feet, but its shortly lived as the ceiling channel goes away and the passage becomes lower and lower leading to a tight, wet squeeze underneath the ceiling ledge at OT44 just before popping out into the little room Matt Mezydlo had scooped to during his "everyone mutinied crawl of Oct 2019".

This room is twenty-four-feet long by thirteen-feet-high by seven-feet-wide. A cross-over canyon intersects both sides of the room at OT45 area. The canyon lead on the east wall is six-foot-high by nine-inches-wide, it appears to be the better lead of the two canyons and was named Independence Canyon due to the date of our survey. We were able to make it back fifteen feet before it became obvious real persuasion would be needed. Jagged, sharp projections creating too tight of space to continue forward. Unfortunately, no air noticed coming out of this canyon. Air was moving upward into the canyon, but not significant air flow.

The canyon lead on the west wall is tighter and harder to enter. Our survey station is at the entrance to the canyon. Kelly could not get into it far enough to do a shot worth doing. It appears to connect with the lead at OT42, not confirmed though. The OT stream passage continues south. A ceiling ledge dropped the height of the stream passage to approximately one-and-a-half-foot-high, however it had about a foot of water pooled leaving around five-inches of air space. Looking forward it continued another fifteen feet and appeared ceiling was getting lower, or water was deepening.

Realizing our survey could not productively survey forward we spent the rest of our time in this room utilizing our time wisely. I focused on cleaning up my book, Brad ate, Kelly provoked a battle between two very large surface crayfish by giving them a couple of pieces of rice, Joe was using my extra pencil for his notes, having now broke two good cameras and his pencil. During this peaceful time is when we experienced our big scare.

Brad was sitting on my left side, Kelly on my right, Joe standing just to the right of Kelly. A loud noise of what in my mind could only be rushing water was noticed by me. I had a full heart attack and thought "we're dead, we can't beat this!"

A second later I realized Kelly had lit her little stove and I was hearing the fuel burning. As I was beginning to breathe again, Brad shouts out "Everyone silent!"

I knew he was having the same heart attack I had just had two seconds previous. I smacked Brad's arm and cried out "No Brad, We're Not Dead!! It's Kelly's Fuel." Brad, realizing I was correct, calmed down and breathed a little easier also.

Brad and I then both busted into what must have been hysterical relief laughter sounding repeatedly like... Ha ha ha, we're not dead. Ha ha ha, We were quickly joined in laughter by Kelly and Joe, and it became one of those moments where it's hard to regroup and stop laughing.

Clearly, cold, and wet deliriousness was kicking in, too, which meant it was time to leave soon. I added a few more notes such as we saw seven blind cave fish and fifteen cave crayfish in the OT, plus the two large surface crayfish and webworms. We gathered our gear and packed up, then started our long trek out. I kept a little slower pace on the way out due to wearing my neoprene shirt during the trip out, but all in all we moved rather quickly and made de-

cent time. Morale appeared to stay high during the whole trip, short of a ten-minute moment of book person, me, mad at the book and then the rushing water/fuel scare. All team members did great during the trip, and everyone seemed to enjoy the hell I had just put them through. Joe and Kelly even agreed to go back again before we had exited the cave.

Work remaining:

Continue OT-survey beyond OT46
Persuasion needed in Independence Canyon beyond K2

Other leads at OT41, OT42, J1 could be pushed by a very eager and small caver (lower priority than first two leads mentioned. Hammer needed for all three.)

Mammoth Cave: Presidential Weekend Expedition Report, February 2022

By: Mark Jones, Expedition Leader

The Cave Research Foundation February Expedition met at the Hamilton Valley Facility to support research, surveying and exploration within as well as outside of Mammoth Cave National Park. Over twenty people had pre-registered for the expedition with all but one attending.

The expedition kicked off Saturday with six trips within the park and one just outside.

Crystal Cave survey and rope replacement at Floyd's Jump Off with Tom Brucker*, Michael Conover, Matthew Ellis, and Kepler Dimas.

Crystal Cave survey with Michael Raymond*, Shawn Williams, and Rita Worden.

El Ghor survey with Eli Winkler*, Noah Heinrich, Jake Lee, and Karen Willmes.

El Ghor survey with Ed Klausner*, Elizabeth Miller, and Marguerite Parfitt.

East Salts with Bill Koerschner*, Bob Alderson, Christian DeCelle, and Ian Flom.

Woodson Cave evaluation Dave West*, Kirsten Alvey-Mudd, Rick Olson, and Rick Toomey.

Adwell Cave Disto-X calibration with Lynn Brucker*.

Sunday's participants were whittled down to one park trip following the cave incident at Crystal Cave (see report on page 3-4).

Mammoth Cave Historic area data improvement with Ed Klausner*, Rick Olson, and Michael Raymond.

***Trip Leader**

This was a successful expedition with a total of 632.6 feet of new survey, 947.9 feet of replacement survey for a total of 1,580.5 feet of survey in Mammoth Cave. A separate report is given of the incident at Crystal Cave (see page 3-4). I would like to thank all the staff of Mammoth Cave National Park and the staff in DSRM. A big thanks to the camp cook Pat Kambesis for preparing wonderful meals. The data management was spearheaded by Dave West with Karen Willmes managing the computers. Thanks also go out to John Feil and Roger McClure for all the maintenance work they do to keep Hamilton Valley operational.

Participants: Bob Alderson, Kirsten Alvey-Mudd, Roger Brucker, Tom Brucker, Michael Conover, Christian DeCelle, Kepler Dimas, Matthew Ellis, Ian Flom, Noah Heinrich, Mark Jones, Ed Klausner, Bill Koerschner, Jake Lee, Elizabeth Miller, Rick Olson, Marguerite Parfitt, Michael Raymond, Rickard Toomey, Dave West, Shawn Williams, Karen Willmes, Elizabeth Winkler and Rita Worden.

2022 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

Note: All participants must have signed the CRF Joint Venture Agreement prior to the expedition or sign a temporary JV agreement onsite. The JV agreement includes the requirement that the participant have hospitalization or accident and health insurance. Agreements signed in other operations areas transfer to Eastern Operations. At Mammoth Cave, although we are volunteers, we are not part of the official NPS Volunteers in the Parks program, which covers VIP accidents, rescues, and workers comp. Each CRF JV is responsible for their own health and/or accident insurance.

Labor Day, September 2-5. Bob Osburn,
osburn@levee.wustl.edu.

Columbus Day, October 7-10. Mary Schubert,
choclt3376@gmail.com.

Hamilton Valley Work Weekend, October 15-17. Pat Kambesis,
pat.kambesis@wku.edu.

Thanksgiving, November 23-27. John DeLong,
johnrdelong@yahoo.com.

New Year's, December 30, 2022-January 2, 2023. Ed Klausner,
klausnere@gmail.com and Elizabeth Miller,
elizabeth.batwoman@gmail.com.

Participants of Mammoth Cave expeditions are required to attend one safety orientation before participating in expedition activities. Safety orientations will be conducted at the beginning of each expedition. New CRF members: please be sure to arrive at the expedition in time to attend 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 CRF's website.

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, jmtinsl50@aol.com.

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 and Sequoia/Kings Canyon

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: Jen Hopper, jennifer.hopper@ucr.edu, or Fofa Gonzalez, fofa@gzluna.com.

HSS/CRF Hawai'i Caving - Big Island

Contact: Pat Kambesis, pat.kambesis@wku.edu.

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