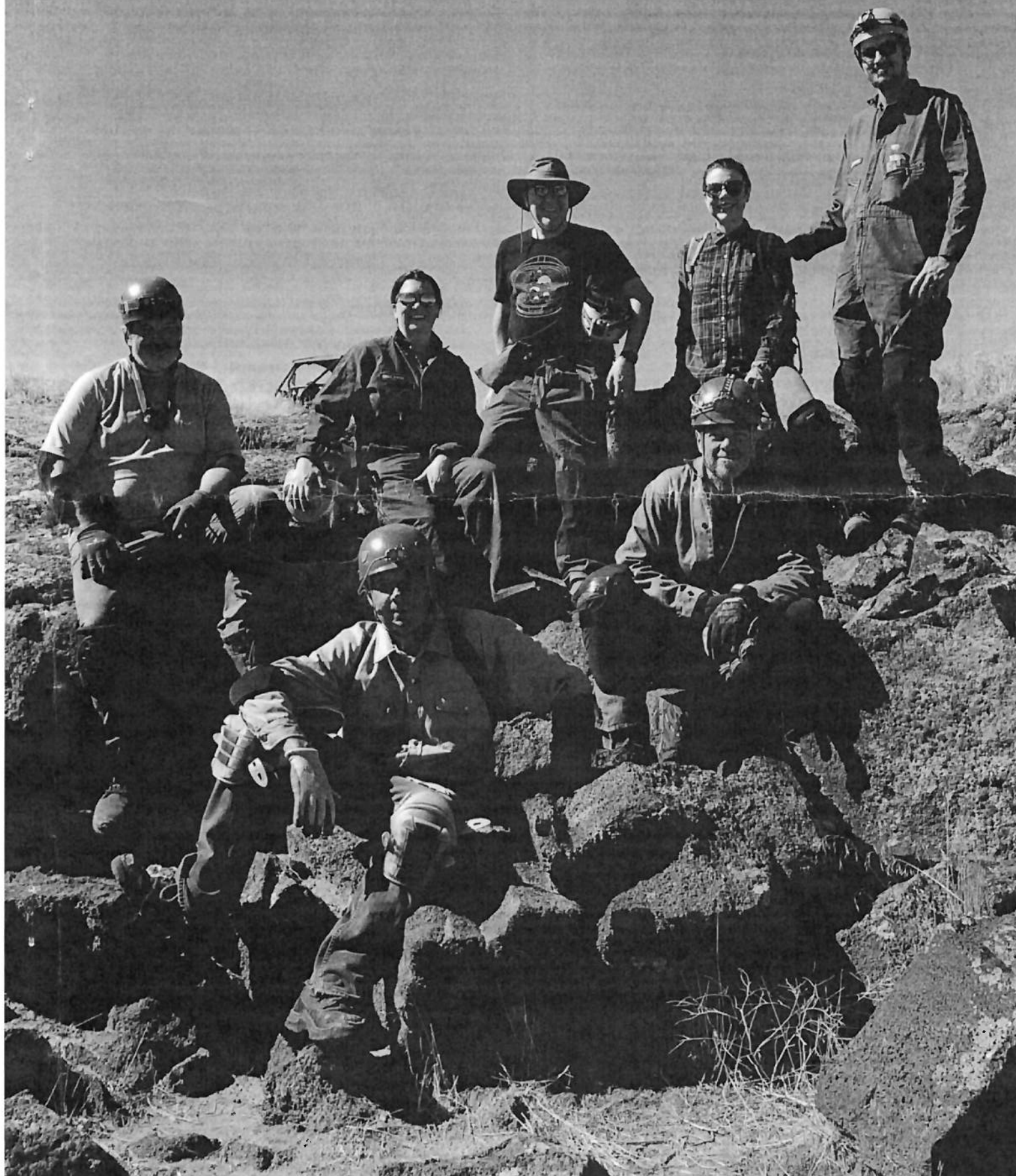


CAVE RESEARCH FOUNDATION

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Newsletter Submissions & Deadlines:

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Before submitting material, please see publication guidelines at: www.cave-research.org

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President's Column**By: Kayla Sapkota**

This year, I have been fortunate enough to go caving with several college students. College (both undergrad and grad school) is such an important period of learning and finding oneself. One thing that I "found" when I was in college was caving, and I am thankful for the journey. Likewise, it's been refreshing and fun to watch inquisitive minds process their surroundings and ask questions. I've fielded a lot of questions about what CRF is and how it works, as well as how they can get more involved on future trips. These fun and positive experiences reinforce how very important it is to share what we do and welcome others into the ranks. We never know where we might be planting the seed of conservation and appreciation of caves and cave life and how important that will be in the future.

Muddy Smiles,
 Kayla Sapkota, President

The Philip M. Smith Graduate Research Grant for Cave and Karst Research is annually awarded to meritorious graduate-level students who are conducting cave-related research. The name of this program was changed in 2015 to honor Philip M. Smith, CRF's founding president, who served from 1957 to 1965. Grant applications are due by March 1st of each year and are reviewed by karst scientists from relevant subfields. This year, Grants Committee Co-Chairs, Dr. Pat Kambesis and Dr. Kayla Sapkota are proud to announce the following recipients and wish them the best in their studies:

Reid Baty, Masters, Fort Hays State University, KS. Exploring Hydrological Dynamics in Hidden River Cave, Horse Cave, KY: An Investigation into Dye Tracing and the Influence of Land-Use Impacts.

Ben Hauschild, Masters, Western Kentucky University, KY. Investigating Karst Groundwater Dynamics and Aquifer Recharge Patterns in Barbados using Forensic Hydrology to Improve Water Resource Management.

Gretchen Hilt, Masters, Southeastern Louisiana University, LA. Title: Utilizing environmental DNA as a conservation tool to monitor rare Georgia Blind Cave Salamander (*Eurycea wallacei*) in understudied groundwater habitats.

DM Malambe, Masters, University of Johannesburg, South Africa. Timing and evolution of the Lefika La Noka tufa site, Cradle of Humankind, South Africa.

Dionysios Stamatis, PhD, University of Iowa, IA. Unveiling Precipitation Dynamics in Central North America: A Comprehensive Investigation at Crevice Cave, Missouri.

Aida Zyba, PhD, Vanderbilt University, TN. Elucidating fire signatures in a semi-arid karst landscape.

Patty Jo Watson, April 26, 1935-August 1, 2024

By: Roger W. Brucker

Dr. Patty Jo Watson, Edward Mallinckrodt Distinguished University Professor in the Department of Anthropology at Washington University, St. Louis (1969 – 2004), and world-acclaimed archaeologist, died after a long illness, in Arlington, MA.

Starting in 1953 and continuing for fifty years, Patty Jo participated in and led field work in Iraq, Iran, Turkey, Arizona, New Mexico, Kentucky, and Tennessee. She consulted on excavations at many other places including China.

Over her distinguished career Patty Jo made groundbreaking contributions to several significant topics in world archaeology. These include: the “Neolithic Revolution,” – the beginnings of domestication, horticulture, and farming in both the Near East and North America. She was a major contributor to archaeological theory and the role of science in archaeology; and more recently, the value of valuing gender and the lives of women in our interpretation of the past.

Patty Jo Watson’s work was supported by grants from many organizations and institutions, including Illinois State Museum, Washington University, National Geographic Society, National Science Foundation, and National Endowment for the Humanities. She was elected a member of the National Academy of Sciences. Her significant awards for professional accomplishments include the Fryxell Medal for Interdisciplinary Research from the Society for American Archaeology, the Distinguished Service Award from the American Anthropological Association, the Gold Medal for Distinguished Archeological Achievement from the Archaeological Institute of America, and the Peter Raven Award for Lifetime Achievement from the Academy of Science of St. Louis.

Patty Jo was introduced to caving by her husband Richard (Red) Watson during their 1955 honeymoon, and she became a leader in cave archaeology, focusing on the extensive and complex Mammoth Cave system in south central Kentucky. Later field work took her into many caves in Tennessee. Numerous of her students bonded with her and each other while crawling through passages in Mammoth Cave and Salts Cave, recording evidence of Native American sophisticated use of caves 4,000 years ago.

On the Cover

The Third Week Survey Team on the September 2024 Craters of the Moon expedition. Front: Mark Jones, Middle row: Paul McMullen, Jessi Schoenewies, Fred Wilkinson, Back row: Michael Schoenewies, Bre Henderson and Chase Barber. Photo by Mark Jones.

Patty Jo Watson contributed mightily to science through her professional organizations. Among the many positions she served as a Board member of the Society for American Archaeology (SAA) and of the Association for Field Archaeology, grant panel member for the National Science Foundation and the National Endowment for the Humanities, editor of *American Antiquity*, and president of the Kentucky Organization of Professional Archaeologists.

All of Patty Jo’s research was distinguished by an integration of archaeological field evidence, appropriate ethnographic data, and thoughtful theoretical analysis. She used action archaeology to illuminate obscure paleo-behavior through practical simulation experiments. Her work was also characterized by extensive collaboration among multidisciplinary specialists, including geoarchaeologists, zooarchaeologists, archaeobotanists, ethnographers, and others. This interdisciplinary approach built on her experiences with Robert Braidwood’s innovative projects. Her research produced numerous published books and articles.

Despite the proliferation of professional accomplishments and recognitions, Patty Jo Watson is perhaps best remembered for her extraordinary personal commitment to graduate and undergraduate students, colleagues, and mentees. She was not only a persuasive advocate for collaborative interdisciplinary research, she lived this commitment in her numerous co-authored, multi-authored, and co-edited publications. During her teaching years and continuing after retirement, she constantly reviewed and commented on other’s draft manuscripts; advised graduate and undergraduate students; early-stage professionals; helped obtain field work opportunities and financial support for students; and provided personal advice by phone, letter, and conversation. Her deep personal mentoring of young professionals has been widely imitated by most of those scientists with their own students.

Patty Jo was humble and inherently good natured, kind-hearted, and loved to work hard and laugh. She brought her family to the field and cared deeply about other families, too. She stayed connected, always curious to learn the newest technique or discovery. She may not have started “changing the world of archaeology,” but in fact she did. A part of her legacy is our conviction that “data” requires a plural word.

Dozens of comments by Patty Jo’s students have been exchanged recently. Some of the most moving are quoted without attribution here: “I would not have become an anthropologist had it not been for Pat...once when I expressed this to Red, he said, ‘I would not have done anything useful in my life had it not been for that wom-

an.' "Pat never wanted us to become her, just to find a path that suited us." "Simply put, I loved her." "My tears today are tears of sadness but also of gratitude and appreciation. I'm just one of countless fortunate souls who passed through her door." "She made me a scientist, not a former student."

Patty Jo Watson was an Honorary Life Member of the National Speleological Society (NSS # 3379) and a member of the Cave Research Foundation. Scores of cavers knew and worked with Patty Jo on her many investigations.

She had two overall objectives in Mammoth Cave: 1. To describe and explain the aboriginal use of portions of the world's largest cave system (prehistoric use of the caves included mining of gypsum and minerals), and 2. To use the dried human paleofecal material from the cave

to document the human diet record of that time and place.

Her team examined the dried human paleofeces in Salts Cave Mammoth Cave) and analyzed the organic contents to identify the diet record of Eastern peoples. She documented the extent of aboriginal travel in the cave and excavated sites in the vestibule of Salts Cave. Ancient cavers traveled extensively in the caves using torches made of dried cane growing along the banks of the Green River.

Patty Jo Watson is survived by her daughter Anna Watson.

NOTE: Most of the above information was compiled by Janet E. Levy, Julie Stein, and William H. Marquardt. Caving information is from Roger Brucker.

REGIONAL EXPEDITION REPORTS

Lava Beds Updates, May 2024

By: David West

Balcony Flow Report, May 2, 2024:

The only remaining field work on the Balcony Flow was the survey of Cave B176 which had to be postponed last year. This was accomplished on April 25, 2024 by Karen Willmes and myself. The area perceived as a fire ring was not entered. The log therein appeared to be partially burned. The "Ring" may be a natural feature but was not closely examined. An apparently unburned log along the opposite wall was not disturbed. No other artifacts were observed. A hibernating Townsend Long Ear bat was observed near the back of the cave.

We appreciate the assistance of Monument staff in helping us to complete this work.

Merrill-Skull Trench Report, May 3, 2024:

Field work on the Merrill-Skull Trench began on April 26 as Karen Wilmes and I parked at the Merrill Parking Lot and began the survey of M150 Cave at the south end of the work area. Paul McMullen and I finished it the following day. The cave has two large nests visible in the entrance. There are multiple sites of bird droppings in the cave. A bone fragment was found near our station BPC3. Many moth wings and a single owl pellet were observed between BPC4 and 5. A sign declaring the presence of M151

Cave was observed near the M150 Entrance. Survey length of M150 Cave is 384.85 feet.

On April 27, Fred Wilkinson and I began surface survey above M150 Cave while Ed Klausner, Karen, and Paul began the survey of M180 Cave. Fred and I also surveyed over to a shallow pit (5 feet deep with as yet unmeasured but minimal horizontal length) and after finishing a surface profile survey above M150 we surveyed M151 Cave, getting a photo of me appropriately lacking shoes and socks. We were also harassed by a trio of what I believe were Golden Eagles. We then surveyed the trench to M160. The following day, Fred and I obtained profile surveys over M160 and M170 and a survey of the trench between them, while the others returned to M180 and completed the survey there, joined by Fred as we finished early and I retreated to the Research Center. They reported that the concrete pad supporting the ladder down to the lower level has become undermined and needs attention. Fred and I completed 1,054.05 feet of surface survey, categorized as 510.45 feet profile and 543.6 feet trench survey. M151 Cave was surveyed for 10 feet. M180 has a surveyed length of 754.0 feet.

We appreciate the assistance of Monument staff in helping us to proceed with this work.

Cave

Lava Beds National Monument

Siskiyou County, California

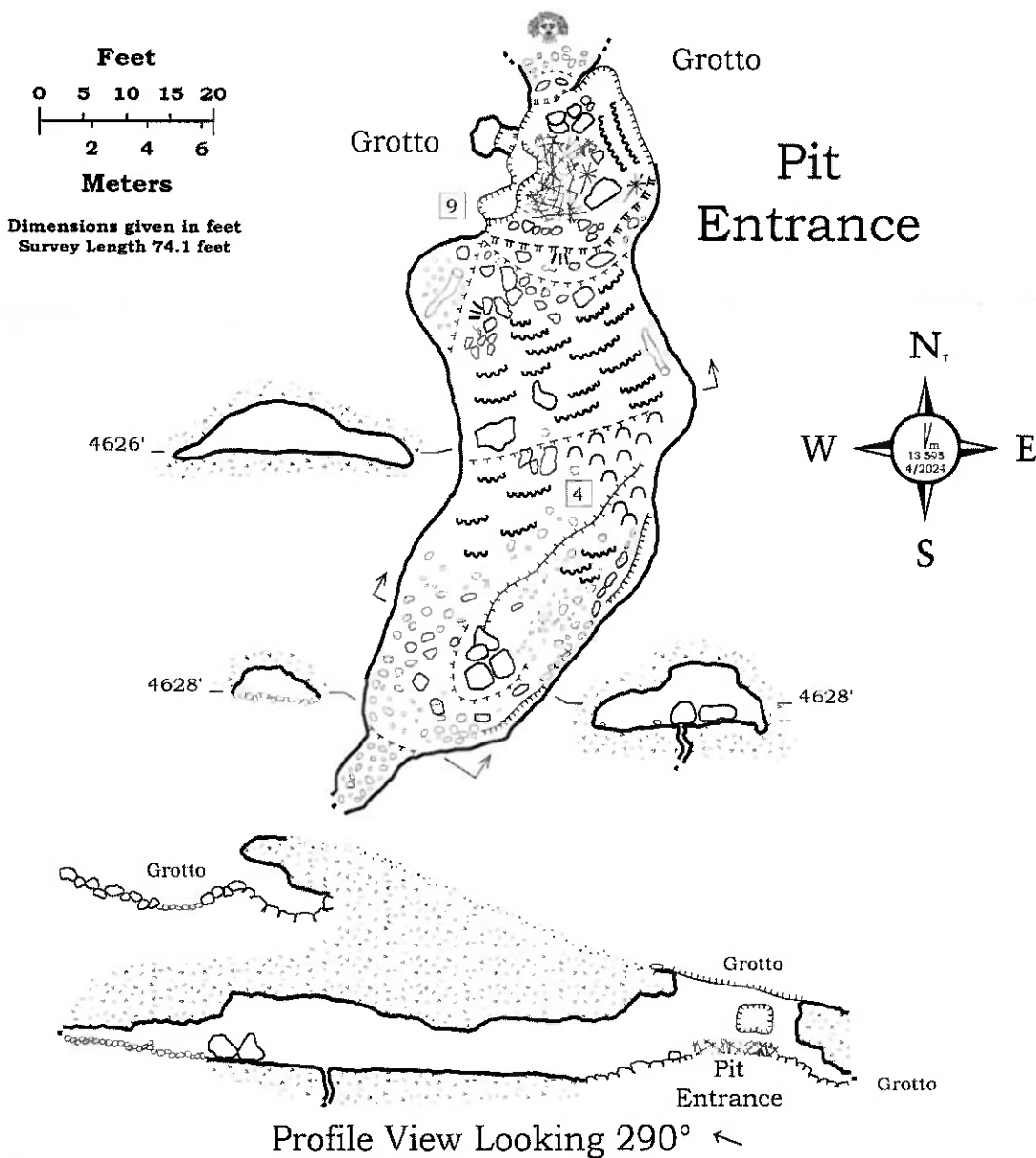
#B176

Surveyed 4/25/2024 by
Karen Willmes and Dave West of the
CAVE RESEARCH FOUNDATION
in cooperation with the
NATIONAL PARK SERVICE

Cartography by Dave West

Legend

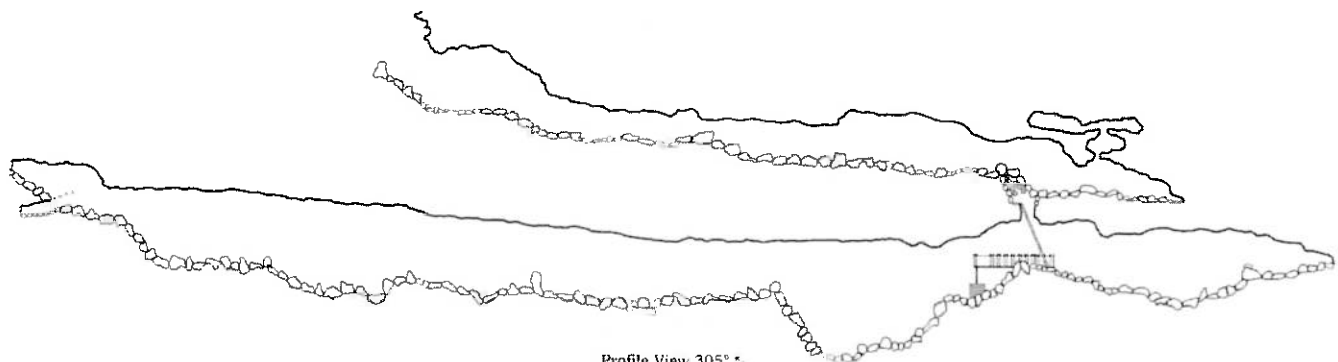
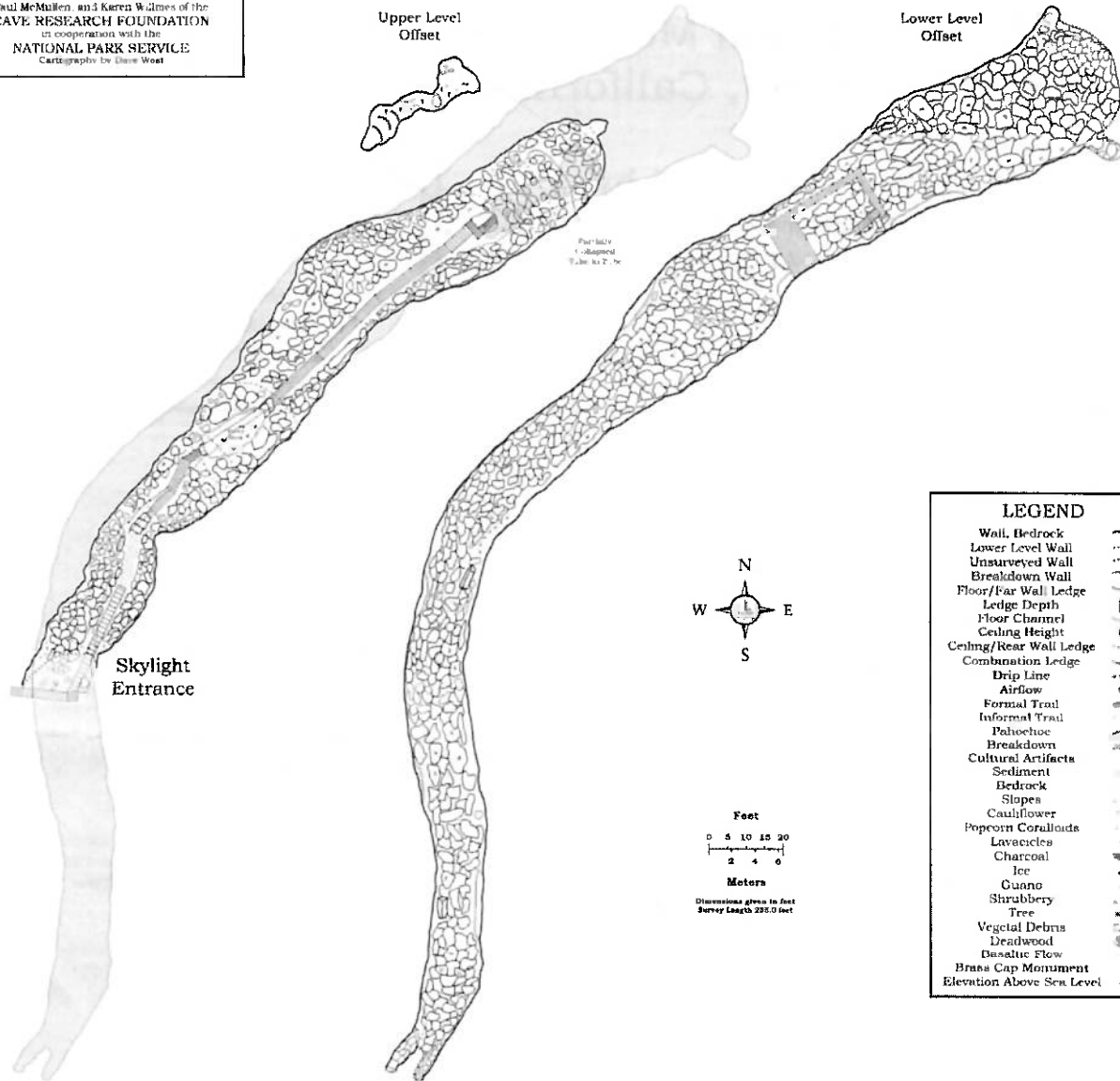
Wall	
Unsurveyed Wall	
Breakdown Wall	
Drip Line	
Ceiling Change	
Lava Bench, Floor Change	
Pahoehoe	
Cauliflower	
Breakdown	
Slopes	
Sediment	
Basaltic Flow	
Shrubby	
Elevation above Sea Level	4727'



Cave
Lava Beds National Monument
Siskiyou County, California

#M180

Surveyed 4/28-29/2024 by Ed Klauninger,
 Paul McMullen and Karen Holmes of the
 CAVE RESEARCH FOUNDATION
 in cooperation with the
 NATIONAL PARK SERVICE
 Cartography by Steve Woot



Craters of the Moon National Monument, Butte County, Idaho, 2024

By: Mark Jones

The 2024 Cave Research Foundation Craters of the Moon National Monument and Preserve Expedition began with Andrew Erickson, Mark Jones Paul McMullen, and Fred Wilkinson taking Samuel DeGrey and Jessie Mendoza out to conduct a biological survey of Holiday Cave in hopes of finding an elusive mite. Alas, no mites, but Idaho Ice Cave Beetle or Blind Cave Leioidid Beetle and cave millipedes were found. The ice plug leading to the lower level remains, preventing further exploration.

The remainder of the day was spent surveying four smaller features as well as a nearly 200-foot-long crack. A good start for the group.

September 8

For the second day Andrew, Mark, Paul, and Fred wandered under cloudy skies across the undulating pahoehoe three and a half miles documenting several leads before arriving at an important cave for the resident fauna. This remote cave has three lobes, each about two hundred feet in length. The passages ranged from belly crawling to walking with a nice selection of lava features. Bat guano and woodrat scat were found, but the pika poo was the most extensive.

September 9

After yesterday's seven-mile hike Andrew,

Mark, Paul, and Fred decided to take it easy today and knock off some nearby cave leads. Our first stop was a survey started last year. We anticipated knocking it off in no time but found it to be quite lengthy as well as interesting. When added to the previous survey this cave totaled over three hundred feet.

Five more smaller surface tubes were then inventoried with woodrat scat being the common denominator.

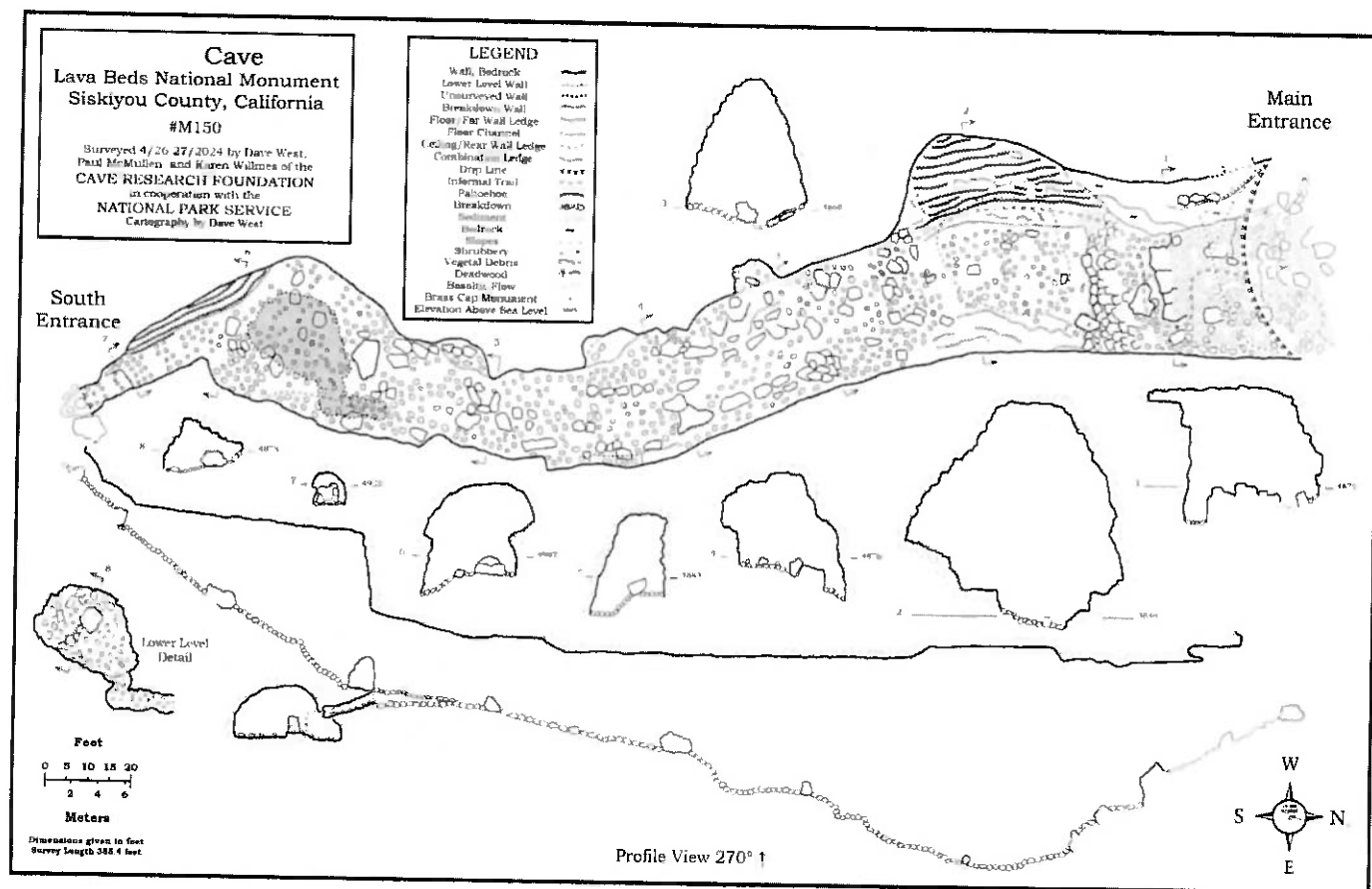
September 10

Andrew, Mark, Paul, and Fred hiked out two miles to survey another important faunal cave that required an updated map. A ceiling collapse cut the fourteen-foot-diameter tube into an east and west section. The former was a hundred feet long while the later was four hundred feet. A side passage to the west led to an interesting lavafall and cut around. With such large entrances birds of all sorts utilized this cave evident by the amount of guano found.

Four nearby caves were noted with plans to survey later in the expedition.

September 11

Once again, Andrew, Mark, Paul, and Fred were marching across the rolling pahoehoe to survey more known caves. With hopes of in-



ventorying several small caves the group was surprised when the first survey netted four hundred feet of crawling and the second three hundred feet of crawling. Both caves had cave faunal activity.

September 12

In the fall of 2023, we began the survey of Beauty Cave on the last day of the C.R.F. expedition with plans to complete the task this year. Starting in a rocky bellycrawl Andrew, Mark, Paul, and Fred broke into a large tube with extensive breakdown that morphed into a rocky hands-and-knees crawl. Although seven hundred feet was surveyed, much remains to be documented.

Andrew also took the time to give a tour of nearby Arco Tunnel to some employees at the monument.

September 13

Jay Mrazek joined Andrew, Mark, Paul, and Fred to return to the caves found earlier in the expedition (September 10) to survey them. The first proved to be quite a challenge with several meandering tubes. In addition, there was a vast amount (by desert standards) of bat guano. Andrew, Paul, and Jay began tackling this cave while Fred, and Mark went to another tube where they recorded over two hundred feet.

September 14

Intent on finishing the survey of Beauty Cave, Mark, Paul, Jay, and Fred set out early to allow us enough time for any surprises. This cave has proved to be much more than we'd anticipated with numerous undocumented passages and rocky crawls as well as extremely magnetic rocks. We've been plagued with bad loop closures due to azimuth errors averaging 20°. Unfortunately, the magnetism issues continued to haunt us, with the need to return later to rectify this situation.

September 16

Wilderness Trail Mule Train

Through the diligent work of Linda Manning, Chief of Integrated Resource Management for Southern Idaho Parks (Craters of the Moon National Monument and Preserve, Hagerman Fossil Beds National Monument, Minidoka National Historic Site) funding was provided to hire a mule team to carry camping gear several miles out to document and monitor lava features. Todd Stefanic, Wildlife Biologist / Research Coordinator, worked with Ryan Edwards, a local packer, to provide the services we required.

Ryan along with Cody and Jalene arrived at the Visitor Center at 7:00 a.m. where Mark, Paul, Jay, Fred, and Madison Blackwell-N.P.S. loaded gear for the drive to the parking lot. While the mules were being loaded, we struck off down the trail. Selecting a wide, level pumice valley we patiently waited for our gear to arrive. Soon we spied the mule train topping

the hill and dropping down into the valley. Once the gear was offloaded the task of setting up camp began. An hour was spent erecting tents, storing food, and sorting gear. Our caving adventure began at noon.

Two undocumented features and four known caves were surveyed before we hustled back to camp.

September 17

After a hearty breakfast the team set off to finish four known caves, all with ice, one with a large frozen pool. Most were filled with a variety of breakdown making it difficult to get accurate compass readings. A few possessed signs of bat usage, all were popular with the woodrats. The weather deteriorated all day although our spirits remained high. Upon returning to camp, we immediately ate and retreated to our tents.

September 18

The weather only got worse overnight making for a drizzly, overcast morning for our third day camping. Jay and Madison surveyed two caves while Mark, Paul, and Fred trekked out around a large crater to reconnoiter several of the rift caves. A sixteen-foot concrete watering trough was found in this desolate area. There are so many questions that come to mind about its usage. There were several entrance cracks along the rift, but with no vertical gear and slick rocks we were not going to free-climb the thirty foot drops. Ice was noted at the bottom in several.

On the return hike we surveyed three substantial caves and an insignificant one. Bat guano was found at one site, woodrat scat at all.

The half-mile hike back to camp was through a driving rain but it did relent long enough for us to cook a meal before crawling into our tents.

September 19

After packing up our camping gear for the mule train to carry back up the Wilderness Trail, Madison, Mark, and Fred set out to knock off a couple of smaller caves, while Paul and Jay Mrazek returned to finish the survey of another. The weather had finally moderated overnight which made for a nicer hike. The mule train was encountered along the way, returning for our gear. This experience was very positive and will be used to plan for future trips deeper into the wilderness.

September 20

Although we had finished the survey and connected North Fork Cave to Beauty Cave there were two loop closures that were so abysmal due to the excessive magnetism Ed Klausner required better data to draw the map. (One of the loops was off by thirty-five feet!) Paul and Fred returned to reshoot the stations for both loops. The data was useful for drafting the final maps.

Once again, Mark's brother's love of fishing benefitted the Craters of the Moon C.R.F. Expedition with a bounty of halibut and lingcod for the 3rd Annual Fish Feast. Since we were in Idaho, baked potatoes were also served. Park personnel stopped by with a dish to pass and enjoy the meal. Following the meal, the group retired to the auditorium for a brief PowerPoint presentation about the activities that the C.R.F. has completed at the monument.

September 21

Mark, Paul, Jay, and Fred returned to finish the survey of September 13 and pick up some other small caves along the way. Four caves and a lava bridge were documented. With a move to the Great Rift on Sunday, the team returned to sort and pack gear.

September 22

Mark, Paul, and Fred met Chase Barber, Bre Henderson, Michael, and Jessi Schoenewies in Aberdeen to drive out to our campsite along the Great Rift. Once the caravan left the county gravel road the road degraded quickly into long, deep ruts, sharp rocks, and washboard trails. Eventually everyone arrived at Lariat Cave, a well-known cave in the area. Mark and Fred began surveying the cave in 2019 but haven't been back since. Walking passage over a smooth floor make this a popular Sunday jaunt as several groups arrived by side-by-sides and 4-wheelers, and entered the cave using their cell-phone as their primary (and only) light. In the roomy passage the team surveyed the remaining nine hundred feet in no time.

The four mile drive up to the campsite was slow and tedious, with many wrong turns but the group had the pop-up trailer and tents set up before dark. Dante Culmone-Durso, a wildlife technician joined the group just as the sun was setting.

September 23

It was a two-mile hike across the lava and through the sagebrush to our first site. Tumbleweeds nearly filled the ceiling collapse blocking our path until we cleared them. The team worked in a cold, wet, donut-shaped cave filled with massive ceiling breakdown for the entire day. Over three hundred feet was recorded. An assortment of desert creatures was encountered during the day, from a field mouse to a bull elk. The evening was spent discussing the day's activities.

September 24

Two miles from camp we surveyed three more caves, a nice three-hundred-foot tunnel, a roomy two-hundred-footer and a dusty, dry, miserable rocky crawl with little redeeming value. The team returned to camp to enjoy the beautiful evening and pack up for the last move. A variety of strange and unusual topics were discussed over dinner.

September 25

Driving two hours to the southwest corner of the monument the crew set up camp and hiked four hundred yards over to their next objectives. The first cave was less than enjoyable with a grabby, rocky crawl that thankfully transformed into more pleasant surroundings. The second was much nicer with a variety of lava formations. Extensive bat guano was noted throughout this cave. Another day will be required to complete this survey.

September 26

The team returned to finish the survey from yesterday and documented another small cave to end the expedition. The campsite was dismantled, and everyone departed by 2:30 p.m.

Summary

Over the twenty-day expedition 9,538.5 feet was surveyed in forty-six caves. Fauna and cultural observations were also recorded and submitted to the monument. Hundreds of photographs of the expedition were also shared. Mark Jones, Paul McMullen, and Fred Wilkinson were in attendance from start to finish.

To pull off such a successful expedition requires the efforts and cooperation of numerous people. The Cave Research Foundation team is grateful to the staff at Craters of the Moon National Monument and Preserve including Wade Vagias - Superintendent for Southern Idaho Parks, Linda Manning - Chief of Integrated Resource Management, Todd Stephanic - Wildlife Biologist and Madison Blackwell, and Dante Culmone-Durso - two Wildlife Technicians. Everyone at the monument was helpful during our three weeks of work. The team also appreciates the work of Ryan Edwards, the packer whose mules transported camping gear in the middle of the expedition. A special thanks to Ed Klausner, the Chief Cartographer, for his work drafting maps. On a personal note, I would like to thank Dave Jones for providing fish for the park appreciation dinner and Jody Heggemeier for the delicious breads and desserts. Plans are underway to return in September of 2025 to continue the surveying and monitoring of the hundreds of lava tubes and features at Craters of the Moon National Monument and Preserve.

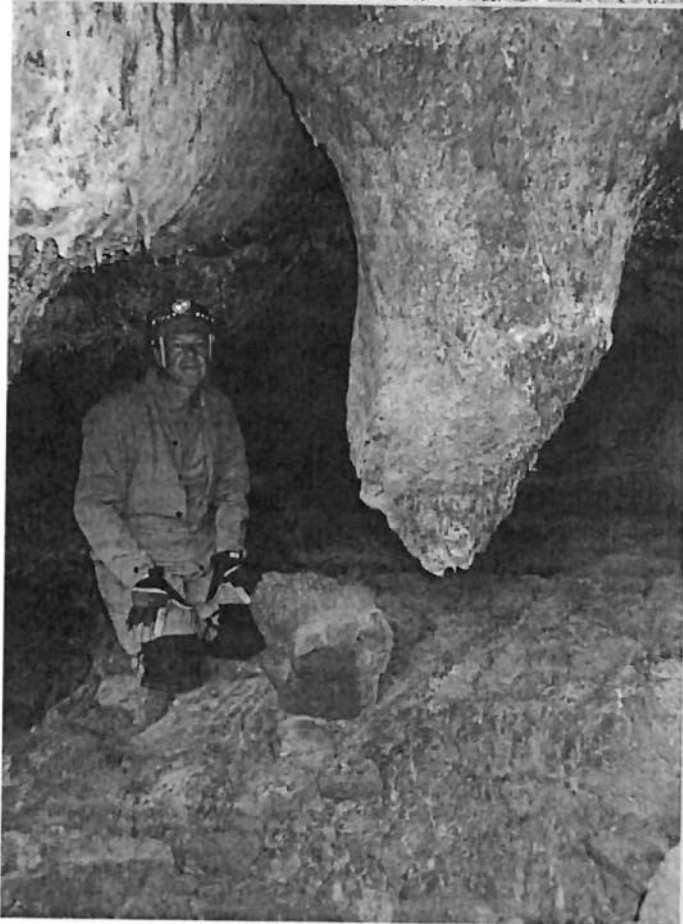


Perennial ice in a rift lava cave. Photo by Mark Jones.



Craters of the Moon: This page, clockwise from upper left: *Jessie Schoenewies keeps Fred Wilkinson on task; Chase Barber sniffs out another cave lead; Paul McMullen and Fred Wilkinson survey a lava cave; Jay Mrazek sketches a new discovery in the Great Rift; Samuel DeGrey uses an aspirator to collect cave faunal samples; Ryan Edwards with two pack mules. Photos by Mark Jones.*

Next page, clockwise from upper left: *Bre Henderson lost in a tumbleweed-filled entrance. Photo by Jessie Schoenewies; Comfortable caving in a lava tube. Photo by Jessie Schoenewies; Paul McMullen pushes a crawlway. Photo by Mark Jones; Paul McMullen in a triangular crawl. Photo by Mark Jones; Fred Wilkinson on point in breakdown passage. Photo by Mark Jones; Fred Wilkinson at ginormous lavacicle. Photo by Mark Jones.*



Ozark Operations Activities, June-September 2024

By: Scott House, with Kayla Sapkota

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.

June 22, 2024:

Mark Jones, Marissa Schorr, and Tyler Skaggs monitored Courthouse Cave on the Upper Current River. The day was well into the 90's and they were compelled to canoe to the cave. Shucks.

July 19, 2024:

Mark Jones and interpretive ranger Blake Burrus monitored a cultural cave on the Upper Current River. Later, Mark worked on the cave gate door on Round Spring Cavern.

July 20, 2024:

A large contingent of CRF surveyors and others began a new map of an important, and geologically interesting, bat cave near the Current River. A crew of Scott House, Jeffrey Crews, Sue Hagan, and Tyler Skaggs surveyed from the front entrance back through two interesting rooms. They tied into two other surveys. Joe Sikorski, Mark Jones, Mike Kovacs, and Nolan Sipe of LAD Foundation surveyed a section that involved a highly decorated area as well as an area without definite walls. Dan Lamping, Derik Holtmann, Andrew Mayer, and Neal Humke of LAD Foundation surveyed from the survey, mapping an overly complex dome and canyon complex. The total surveyed amounted to approximately 1500 feet of passages and rooms. Meanwhile, Mick Sutton led MDC biologists Katherine Bouska and Chloe Smith through the cave on a detailed faunal search. The latter turned up a surprise group of several thousand gray bats, either a lingering unidentified maternity colony or a bachelor colony or early fall swarmers.

July 23, 2024:

Scott House led an interagency group from the Missouri Natural Areas Committee to investigate a potential natural area in the Blair Creek drainage. The two entrances of the Marvel-Blair Creek cave were investigated during the long hike. While the cave is within the authorized boundaries of the park, one entrance is actually owned by LAD Foundation and the other by the Missouri Department of Conservation.

August 17, 2024:

A large contingent returned to the bat cave to try to finish the survey. Joe Sikorski, Mike Kovacs, and Candace Kovacs finished the survey of the maze area sans walls. Scott House and Sue Hagan accompanied Mick Sutton, Krista

Bartel, Chloe Smith, and Nolan Sipe to the rear entrance where Mick's crew surveyed the rear entrance room into the descending canyon. Scott and Sue surveyed overland to complete a profile; upon reaching the front entrance, they surveyed leads off the entrance room, eventually getting help from the Sikorski team to finish. Dan Lamping, Andrew Mayer, Nathan Curran, and Dani Lotz continued the survey of the canyon complex, splitting into two teams as necessary. Both tied to the Sutton survey, but another lead beckoned. A restriction caused yet another team morph and the thinnest of the parties surveyed another lead. It was not finished due to time limitations and the lengthy drive back to paved roads.

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 four forest districts: Ava, Houston/Rolla, Willow Springs, and Eleven Point.

July 16, 2024:

Dennis Novicky and Krista Bartel worked with Forest Service staffers to fix a gate on a cave in the Cassville District, Barry County.

August 18, 2024:

Kohl Mitchell, Rita Worden, and Tiffany Stoots finished the survey of Spanish Steps Cave in the Rolla/Houston district, Phelps County. Uncertainties in the map were fixed and an additional 70 feet was surveyed in this upland sinkhole drain cave. Later they tried to make it to a cluster of caves to monitor but turned around when they discovered hundreds of ticks on their clothes, quite undeterred by thorough treatments of DEET and permethrin.

MISSOURI DEPT. OF TRANSPORTATION

CRF and MSS work under a permit to collect survey data on MODOt rights-of-way.

June 30, 2024:

Kohl Mitchell, Jack Rufener, and Caleb Mundwiller surveyed several hundred feet in Lost Boys Cave, Marion County. They extended the survey of a passage named Broadway, despite its diminutive characteristics. While there, they looked at some areas of interest to the agency, i.e. passages under the adjacent highway where recent patching had been done.

August 13, 2024:

Nathan Curran, Dani Lotz, Adrien Burch, and Alex Zoelner monitored a cave along an in-

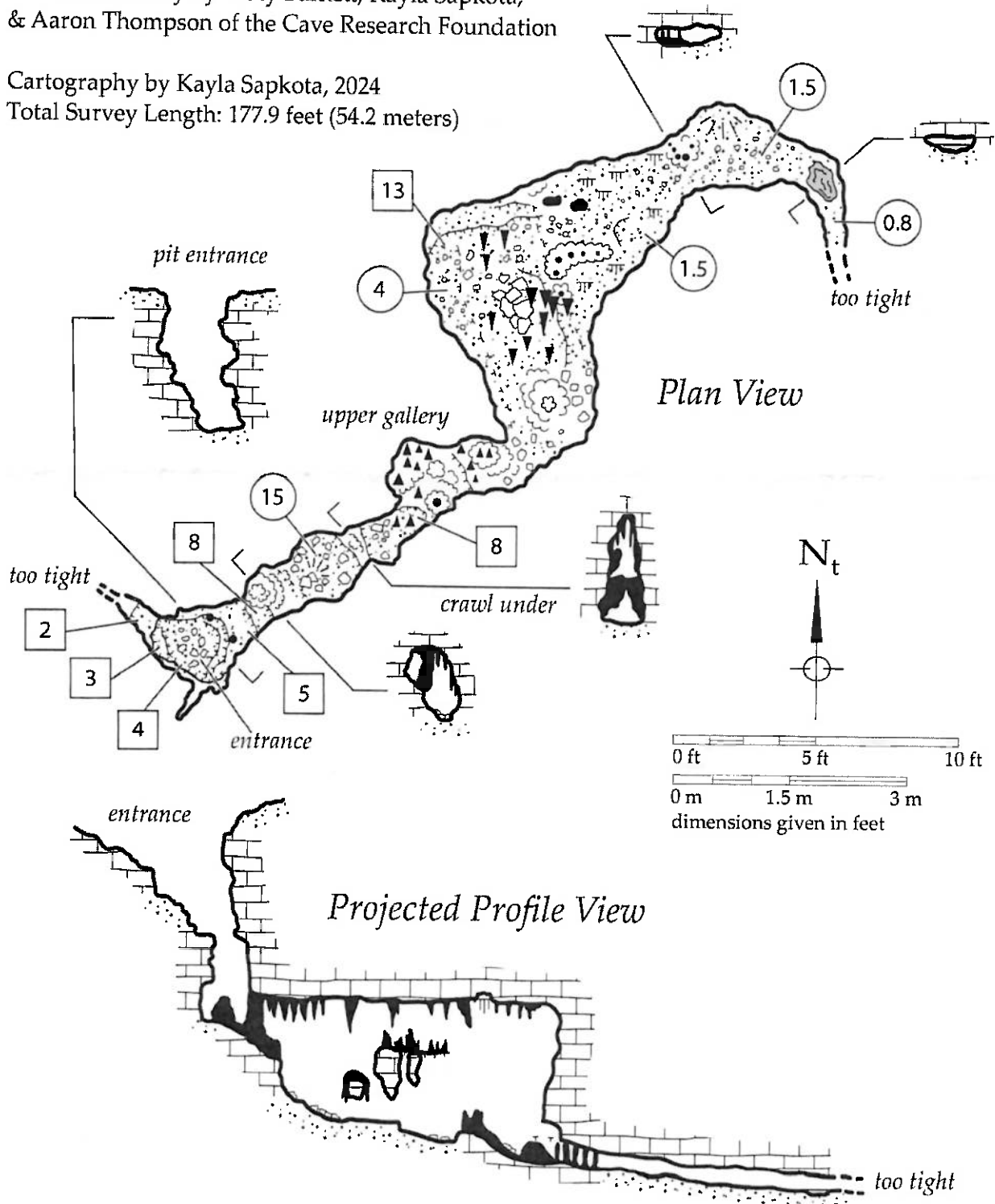
C549 Fastness Pit

Buffalo National River
Newton County, AR

A Disto X Survey by Claty Barnett, Kayla Sapkota,
& Aaron Thompson of the Cave Research Foundation

Cartography by Kayla Sapkota, 2024

Total Survey Length: 177.9 feet (54.2 meters)



terstate in St. Louis County. Using all appropriate safety precautions they did a thorough biological inventory and cleaned trash out of the cave.

August 25, 2024:

Kohl Mitchell, Jack Rufener, Tristin Whets-tine, Nathan Curran, and Maria Rodriguez surveyed nearly 400 feet in Lost Boys Cave. While continuing to knock off side passages in the far reaches of the cave, they also surveyed a bypass of the unfriendly Broadway canyon which makes for a much better route to the far ends of the cave. All of the areas they are surveying have a series of extreme filters: yes, the passage may be 6 feet high but it is frequently less than a foot wide.

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.

In addition to trips to the important bat cave and the Blair Creek system, the following trip was also taken:

July 21, 2024:

Mick Sutton, Mark Jones, Jeffrey Crews, Dan Lamping, Joe Sikorski, Derek Holtmann, and Andrew Mayer took a summer bio and monitoring trip to Cookstove Cave, Shannon County. They spent some hours covering the cave, noting another early population of gray bats. The group also inspected the gate and entrance area of nearby Holmes Hollow Cave.

MISSOURI DEPARTMENT 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.

September 8, 2024:

Kohl Mitchell, Caleb Mundwiller, and Diana Dawson tried to begin the survey of Spring Cave, Boone County. Unfortunately instrument problems loomed, as a DistoX malfunctioned with the backup Suunto compass having been earlier broken. They instead ridge-walked looking for another cave, but its location is apparently wrong.

See *Elsewhere* for interagency trips involving MDC caves and/or staff.

ELSEWHERE

July 23, 2024:

Dan Lamping, Korey Hart, and Kyle Mann mapped in the Mammoth Dome area of Nameless Cave, Crawford County. This is a privately owned cave that has been incompletely surveyed on at least two or three occasions in the past.

July 25, 2024:

Dan Lamping, Tony Schmitt, Derik Holtmann, and Adele Ayers continued the survey in Nameless Cave. The crew pushed leads and

known passages in the lower levels of the New Maze. Elsewhere in the cave Nathan Curran, Dani Lotz, and Rob Lawson began surveying the stream passage that heads out of the cave, into the New Section.

July 26, 2024:

Dan Lamping returned to Nameless Cave for a third day of mapping. He and Rick Ihnat mapped in the Maze area. Meanwhile, Nathan Curran also returned back into the cave, this time with Andrew Mayer. The stream passage they were mapping opened up into larger passage with multiple upstream leads.

Privately Owned:

June 29, 2024:

Kayla Sapkota, Shawn Williams, Meghan Gallo, Derek Thompson, and Rita Worden continued mapping in Onyx Cave (Carroll County, AR). Kayla and Shawn entered the cave early to check on some questions on the working draft of the map, quickly resolving those. They met the other team members on the trail and traveled through the constriction to work on the further reaches of the cave. Meghan, Derek, and Rita continued the survey at the stream deeper into the cave, while Kayla and Shawn worked on a few leads and additional question-area before meeting back up with Meghan's team. With time constraints in mind, the crew came to a good stopping point, leaving a low, wetsuit lead for next time, before heading out. Kayla, Derek, and Meghan took a detour to map the only other remaining lead, which was a low, wet belly-crawl, and wrapping that up, headed out of the cave, as well.

BUFFALO NATIONAL RIVER

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

Reports by Kayla Sapkota

July 19, 2024:

Kayla Sapkota, Pradeep Sapkota, Max White, and Treavor Bussard mapped 618 feet in the middle level of the 21 Jumps section in Fitton Cave, netting an important final stretch of survey to finish that section.

July 20, 2024:

Matt Beeson, Andrew Erikson, and Kevin Liow mapped 819.9 feet in the Grand Central area in Fitton Cave, crossing off 5 important survey leads in the area.

Dillon Freiburger, John Davis, and Ben Damgaard sketched several important cross sections in the Turnpike, general Crystal, and Out Room areas.

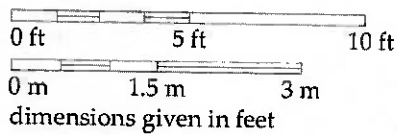
August 10, 2024:

Kayla Sapkota, John Davis, Ben Damgaard, and Treavor Bussard mapped in the middle-levels of the East Passage, filling in some helpful spaces on the map.

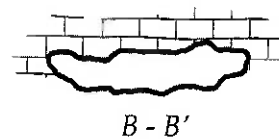
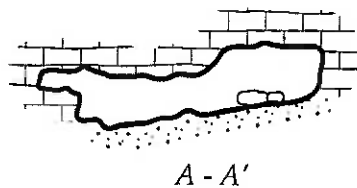
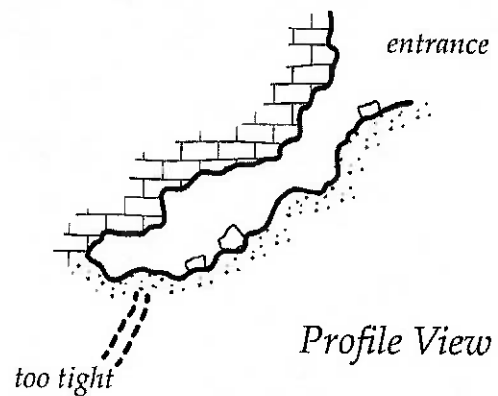
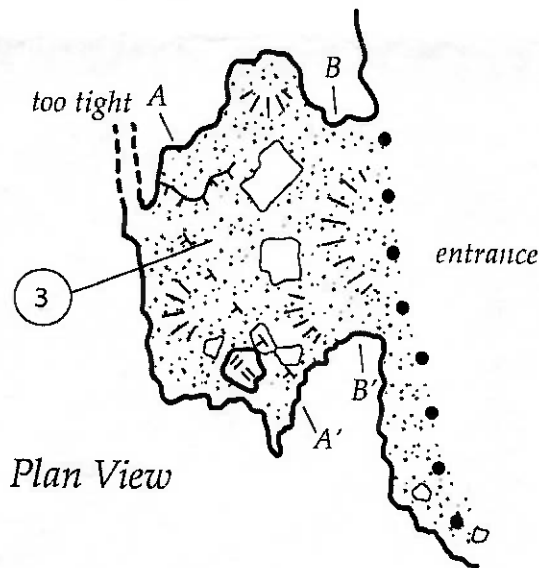
IN HER LADY'S CHAMBER

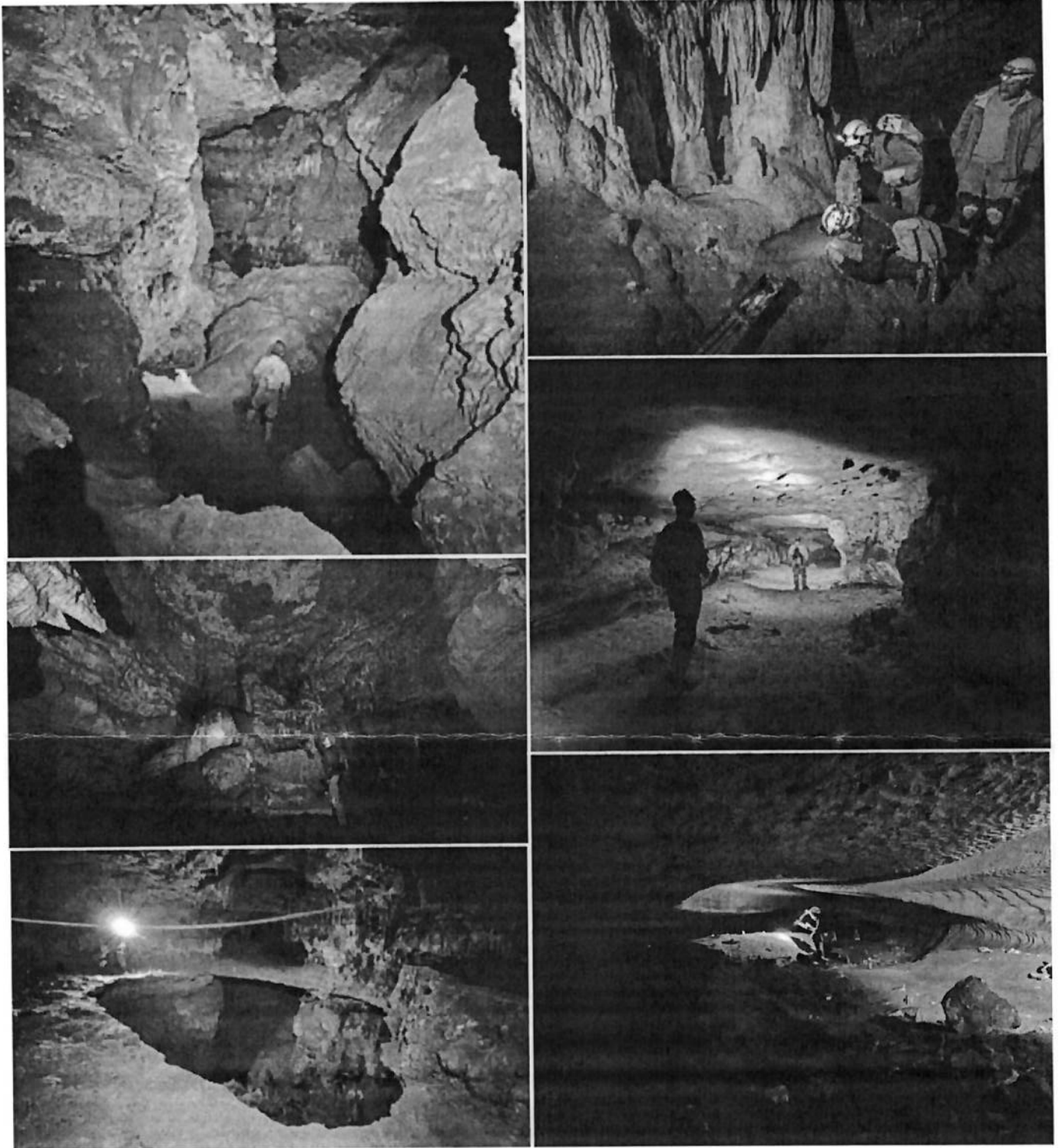
K067 Buffalo National River
Marion County, AR

A Disto X Survey by Claty Barnett, Treavor Bussard
Kayla Sapkota, Keeva Sapkota, & Aaron Thompson
of the Cave Research Foundation



Cartography by Kayla Sapkota, 2024
Total Survey Length: 17.2 feet (5.2 meters)





Ozarks: clockwise from upper left: *Dan Lamping in Nameless Cave. Photo by Korey Hart; Mick Sutton, Katherine Bouska with Missouri Department of Conservation, and Neal Humke with Pioneer Forest doing a bio inventory in Martin Cave. Photo by Derik Holtmann; Dry upper-level passage in Nameless Cave. Photo by Korey Hart; Kayla Sapkota sketching in Fitton Cave. Photo by Max White; Rick Ihnat skirts along a narrow ledge from a collapsed false floor in Nameless Cave. Photo by Dan Lamping; Andrew Mayer in a large formation room in Martin Cave. Photo by Derik Holtmann.*

Mammoth Cave: NSS C-3 Anniversary Special Focus, February 15-16, 2024

By: Tom Brucker

C-3 is arguably the beginning of what we now call "project caving". Among the 60 men and women of the NSS who, in a three-month period, organized a one-week underground camp in Floyd Collins' Crystal Cave, were several who went on to create the Cave Research Foundation. We gathered to celebrate Roger Brucker and Roger McClure, perhaps the last living C-3 participants, and to recognize their essential and historic contributions to NSS, CRF, and the general advancement of cave science.

The Caves Beyond (Lawrence and Brucker) has long been the single best reference first person account of C-3 during the organizing phase, and the actual week when explorers, surveyors, scientists, physicians, and media reporters tested their endurance and resolve against the quarter-mile FCCC Crawlway. Roger Brucker often referred to materials and records retained after the expedition had ended which he used as reference sources for *The Caves Beyond*. This expedition was (also) a workshop designed to foster collecting, documenting, sharing, and preserving "artifacts" pertaining to C-3. CRF was represented by historian Stan Sides and Bob Lodge. NSS volunteer historians Ed Strausser and Dave Hughes brought a wealth of information, primarily from the Joe Lawrence archive collection (Huntsville, AL). Gordon Smith, Bert Ashbrook, and Laine Roberts of the National Cave Museum shared their expertise. Jackie Wheet of the National Park Service assisted in documenting what remains in Lost Passage's "Camp One". ACCA director Dave Foster participated, reporting on many Thomas Family documents related to Crystal Cave during the C-3 time period. Bill Steele described how C-3 became a model for sustained large scale project caving. Western Kentucky University was represented by Chris Groves, which has an ongoing Kentucky history project.

Thursday morning, Stan Sides presented an introduction to C-3 and how it occurred within the context of the Thomas family, Bill Austin, and Jim Dyer. We learned that some of the political backstory included several Louisville cavers. We heard short presentations from each of our group representatives about collections, archiving, access, and needs related to C-3 history.

Thursday afternoon we all made the trek to Crystal Cave's Grand Canyon, primarily by car-bide light, where Roger and Roger related some of their C-3 recollections. CRF past President Sarah Bishop sent a message about how "effective expedition cavers" taught her leadership skills, and continue to do so today. Many interesting questions were answered, but best of all, Bill Steele's account of how we (all) credit R and R for giving lifelong inspirations – it made

grown people cry. An optional tour to Scotsman's Trap highlighted more of the C-3 details.

Buz Grover volunteered to camp manage. He and I pondered ideas like a Spam-themed meal, but chose to serve those staples of 1954, spaghetti and meatloaf. The C-3 expedition did not have the great communal meals which are essential to today's operations. Very little is known about what was served in Camp One's kitchen (Nancy and Ida's Place, aka McClure's Slop Shop) other than oatmeal and donated packets of soup. Buz is very humble about his significant contributions to our expeditions, and I thank him.

Friday had two objectives. A large party would follow the supply route, via Bottomless Pit, to Camp One in Lost Passage, and begin an inventory of some of the artifacts which remain from C-3. Those on the surface held informal work sessions focused in greater detail about existing collections, collection and preservation techniques, and building relationships for future cooperative research.

Matt Mezydlo assisted in leading the large party (18) through the crawlway. We used the Ebb and Flow Falls to Bottomless Pit, Formerly Impossible, Flat Room route. Several cavers slid down the "slot in the floor" for that authentic Lost Passage experience. We had about 8 phone cameras documenting aspects of the trip, with a primary focus on C-3 related features. Jackie Wheet used a dedicated NPS phone to record Lost Passage historic features. Floyd's bean cans, the site of the FRR kitchen, a trash pile which may be post- C-3, and several signature cairns. Next we moved down Lost Passage to the C-3 kitchen area. After lunch, we broke into several teams. Some folks spread out looking for features which most likely were C-3 related. Each feature was given a number, a photo or two, and a brief written descriptive inventory was made. Several of the significant items were also flagged. A team went further down Lost Passage to the spring and "bedroom" area searching for more features. The spring has several signature cairns, one of which appears to be from the 1953 VPI grotto trip which was led by Joe Lawrence. Two others bore C-3 initials. A third team located the latrine area, which turned out was clearly marked with a sign. This was on the left wall at a cut around about 75 feet before Fool's Dome. We used a compass in an attempt to locate a theoretical trash dump, but saw no indication of buried metal here. The latrine was a military style lateral latrine with no pit.

At the end of our time allotment, we had 50 some features recorded. More needs to be done. In addition, crushed flashbulbs seem to be everywhere, giving us a potential cleanup task. One

of the nicer artifacts was a mimeographed sketch map of the Crawlway route. The sketch had very little detail - it is no wonder that many supply teams simply followed phone wires rather than using this map. I later asked Roger McClure if he knew how the pin-up cutie came to reside at the "Slop Shop". That sign had "Nancy and Ida's Place" on one side. Slop Shop was written on the back. Some time (Wed?) Roger's fiancée handed the plaster cutie to a supply team member. Later that day the sign changed and Roger was greeted with his surprise from the surface.

Opportunities to relate C-3 artifacts to the living story will exist only another couple of

years. What was accomplished on this cave trip was to introduce a number of interested cavers to the interpretation opportunities preserved in Lost Passage. The special expedition also brought collections of objects (Gurnee cans, telephones), documents, and news reports into evidence, all needing further work. What we did not "get" were photographs and audio recordings, and personal memoirs kept by NSS members.

My thanks go out to Buz, and a dedicated group who contributed heavily to the planning stages. Thanks also to NPS for taking an unusual step in documenting a somewhat more modern period of Mammoth Cave discovery.

Mammoth Cave: July 2024 Expedition, July 5-14, 2024

By: Dave West and Karen Willmes, Expedition Leaders

Since the NSS Convention was scheduled for the first week of July, we changed the date of our expedition to the second week of July. The weather was hot and humid as one would expect. Fortunately, the threat of Beryl's remnants bringing flooding rain never materialized, but it affected our choice of objectives on the day when the risk of thunderstorms was highest.

We had 47 participants and fielded 41 parties in Mammoth and other local caves. 40 teams caved inside the park. Of those trips, 33 trips contributed to cartography, 15 trips supported the small cave inventory, and five trips helped with various scientific objectives. Some trips supported multiple projects. This amounted to 1,236 volunteer hours or 131 people days.

Eleven parties worked in Great Onyx Cave, eight trips went to the New Discovery section, two parties went to Crystal Cave, two parties entered Colossal Cave, four parties went to the Woodson-Adair section of Colossal, nine parties used the Elevator, two parties went in the Austin Entrance, one party used the Carmichael Entrance, and one party went to Salts Cave. Besides Great Onyx, other small caves worked on include Bridged Creek Cave, False Aloe, Jones Cave #3, Wind Tube Cave, and Wilson Cave.

For science support, three parties examined fluorescent minerals in Great Onyx Cave, Crystal Cave, and New Discovery. They made some observations about the colors of various minerals and found that various forms of biota and fossils fluoresce as well. Shark teeth fluoresce orange, for example.

Small cave teams relocated Bridged Creek Cave, Jones Cave #3, and Wind Tube Cave. They tried to find False Aloe, but turned back. They investigated a reported pit near Boundary Cave, but it wasn't a cave. A party working in Wilson Cave closed a major loop to the N Survey.

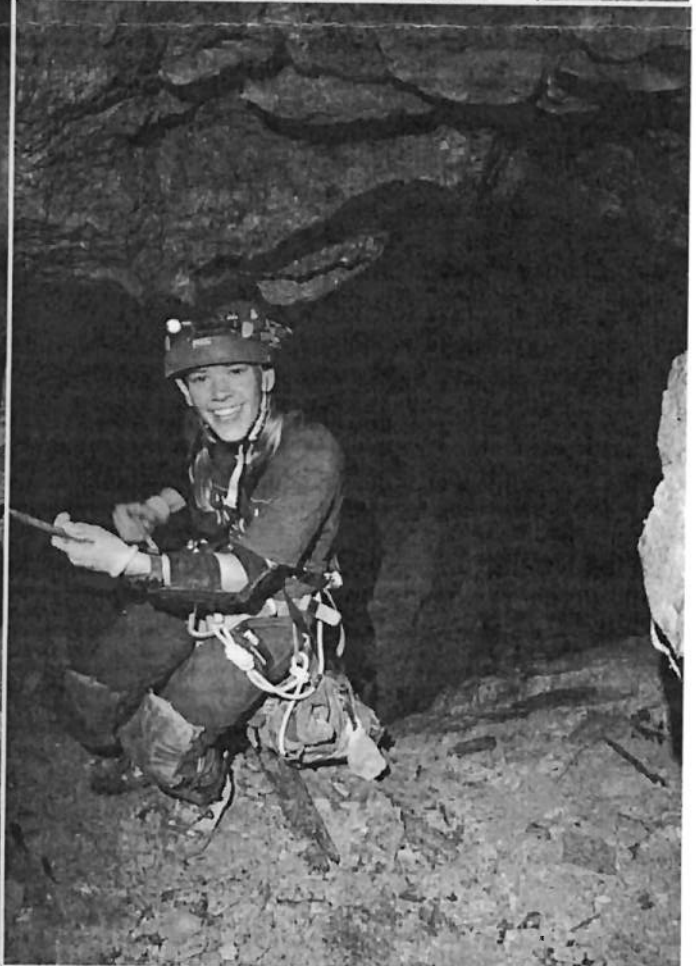
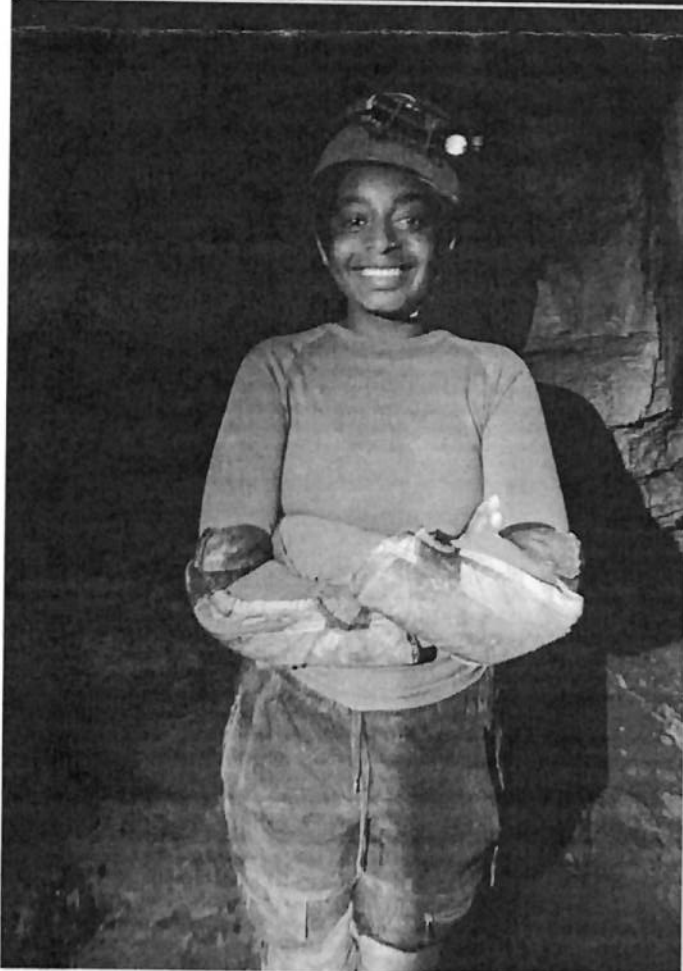
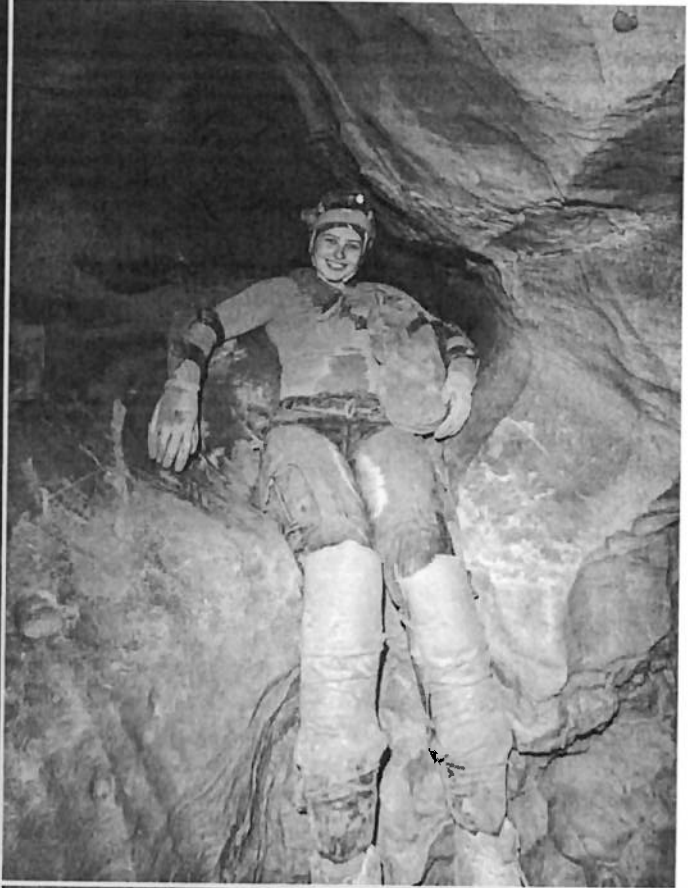
Eleven parties went to Great Onyx Cave. One party validated the surface coordinates for Great Onyx Spring. One party continued work-

ing on the Stairway Crawl shortcut. One team continued the profile of Cox Avenue. Other parties worked on mopping up the remaining leads, many of them tight. Two parties rigged a cable ladder to survey the Edwards Dome drain (75.4 feet new, 5.9 feet resurvey). One party fit through a tight squeeze in the Attic (59.2 feet new). It took two teams to resurvey the K survey (131.6 feet resurvey). A party checked and surveyed leads along the D and J surveys (50.7 feet new). A party tried to drop the waterfall along Cox Avenue, but the rope wasn't long enough. They checked a few other leads instead. Total new survey 374.8 feet and resurvey 137.5 feet. The cave is now 5.3 miles long.

Using the elevator, nine parties worked on resurvey for the Snowball Dining Room map-sheet. They clarified some areas for the sketch in Boone, Cleavelands Cabinet, Peanut Butter Alley, and El Gohr. One party resurveyed part of Emily's Puzzle to help make sense of a very complex area (441.5 feet resurvey). Near Emily's Puzzle, two parties worked in Elephant Avenue (148.8 feet new, 157.9 feet resurvey). One party surveyed leads off Emily's Avenue (116.8 feet new). Two teams surveyed cutarounds off Marion Avenue (111.5 feet new, 44.2 feet new). One party surveyed a lead right outside the bathrooms (102.3 feet new). Total new survey 523.6 feet, total resurvey 599.4 feet.

In New Discovery, two teams worked on the resurvey. One party turned back when a party member was unable to do a tricky climb. A par-

Mammoth Cave, July 2024: next page, clockwise from upper left: *Anna Van Der Weide checking leads along Emily's Avenue. (photographer unidentified); Jordan Holloway in Emily's Avenue. (photographer unidentified); Jacqueline Heggen in the Woodson-Adair section of Colossal Cave. Photo by Josh Seebree; Celia Langemo in Great Onyx Cave. (photographer unidentified).*



ty surveyed a nest of upper level loops in the Canyon of Shadows (269.6 feet new, 125.6 feet resurvey).

One team went in the Carmichael Entrance to continue the replacement of the survey in Jenny's Icebox. They surveyed several canyons and shafts related to Gwennie Dome. (166.8 feet new, 194.4 feet resurvey).

Two parties went to the Colossal Entrance. One team surveyed a pit and some side leads along the Helectite Route (344 feet new). Another party improved the sketch of Sandstone Tumbledown (143.2 feet resurvey).

It has been several decades since the Woodson-Adair entrance was used for the purpose of mapping the cave. Since the current cartographer was also the expedition leader, this seemed like a good time to reinvigorate the project. Four teams were able to make a significant start on the resurvey. They sketched the Pit of Sighs, started resurveying the L survey, and found a lake that wasn't previously known from earlier sketches in the G survey. Total resurvey 1,574 feet.

Two teams went in the Austin Entrance. One resurveyed a muddy part of Grund Trail (241.3 feet resurvey). The other tied in a pit at Mather Avenue and resurveyed Roebuck Trail. (449.1 feet resurvey).

In Salts Cave one party continued the profile of Salts Trunk.

In Crystal Cave, a party went to the end of Thomas Avenue to look for signs of vertical shafts going to other levels. They found several historic artifacts, including a pair of shoes and some newspapers.

Total survey footage inside the park was 5,439.8 of which 1,871.4 was new survey and 3,568.4 was resurvey.

Outside the park, one team went to Hidden River Cave to survey the swinging bridge in Sunset Dome, but there were too many tourists.

Thanks to Paul McMullen who fixed one of the computers when it wouldn't boot; Pat Kambesis for cooking all day on Tuesday; Bill Koerschner for barbecuing the chicken and closing camp; Ed Klausner and Elizabeth Miller, who stepped into the kitchen whenever asked; Cheryl Johnson who helped cook breakfasts and is a cleaning fiend; Joe Walko who acted as camp manager for several days and is another cleaning fiend; Kirsta Bartel for cooking, cleaning, and camp closing help; Stephen Bishop and Tom Brucker for cleaning at the close of camp.

Bridged Creek Cave: Bill Copeland, Joyce Hoffmaster; **False Aloe:** Bill Copeland, Elizabeth Winkler; **Jones Cave #3, Wind Tube Cave:** Bill Copeland, Celia Langemo; **New Pit:** Bill Copeland; **Wilson Cave:** Keely Owens, Corey Hackley, Eugeniya Artemova, Rory Knight.

Great Onyx Cave - Surface: Dave West, Rick Toomey; **Edwards Dome Drain:** 1) Krista Bartel, Celia Langemo, Jacqueline Heggen, Zach Harper; 2) Jacqueline Heggen, Kohl Mitchell, Eugeniya Artemova; **Cox Avenue:** Dave West, Phyllis Boneau, Isabel Crews; **End of Edward's Avenue:** Zach Harper, Nathan Brucker, Celia Langemo; **K survey:** 1) Spike Crews, Isabel Crews, Eugeniya Arte-

mov, Rory Knight; 2) Zach Harper, Krista Bartel, Eugeniya Artemova, Carter Hatton, Rory Knight, Janice Tucker, Celia Langemo; **Staircase Crawl shortcut:** Bob Alderson, Paul McMullen, Bill Koerschner; **D survey and J survey:** Joshua Sebree, Jacqueline Heggen, Janice Tucker; **Tourist Trail:** Joshua Sebree, Jacqueline Heggen, Rick Toomey; **Waterfall to Lake:** Krista Bartel, Tom Brucker, Stephen Bishop, Lecanne Bledsoe.

Mammoth Cave - Marion, Cleaveland, Boone, El Ghor: Ed Klausner, Elizabeth Miller, Isabel Crews; **Boone, Peanut Butter Alley, El Ghor:** Ed Klausner, Elizabeth Miller, Rick Olson; **Emily's Puzzle:** Ed Klausner, Rick Olson, Elizabeth Winkler, Cheryl Johnson; **Emily's Avenue:** Jordan Holloway, Zach Harper, Jacqueline Heggen, Anna Van Der Weide; **Elephant Avenue:** 1) Elizabeth Winkler, Eugeniya Artemova, Rory Knight; 2) LJ Risteski, Nathan Brucker, Rick Olson, Jordan Holloway; **Marion Avenue:** 1) Ed Klausner, Jordan Holloway, Tim Green; 2) Cheryl Johnson, Rick Olson, Janice Tucker; **Snowball Dining Room:** Elizabeth Winkler, Bill Koerschner, Paul McMullen, Celia Langemo; **New Discovery - Canyon of Shadows:** 1) LJ Risteski, Spike Crews, Phyllis Boneau; 2) Bill Koerschner, Bob Alderson, Celia Langemo; **Tourist Trail:** Joshua Sebree, Anna Van Der Weide, Rick Toomey, Jordan Holloway; **Mammoth Cave - Jennys Icebox:** Bill Koerschner, Megan Harder, Kohl Mitchell, Tim Green.

Colossal Cave - Helectite Route: Tom Brucker, Krista Bartel, Carter Hatton; **Sandstone Tumbledown:** Tom Brucker, Jordan Holloway, Anna Van Der Weide

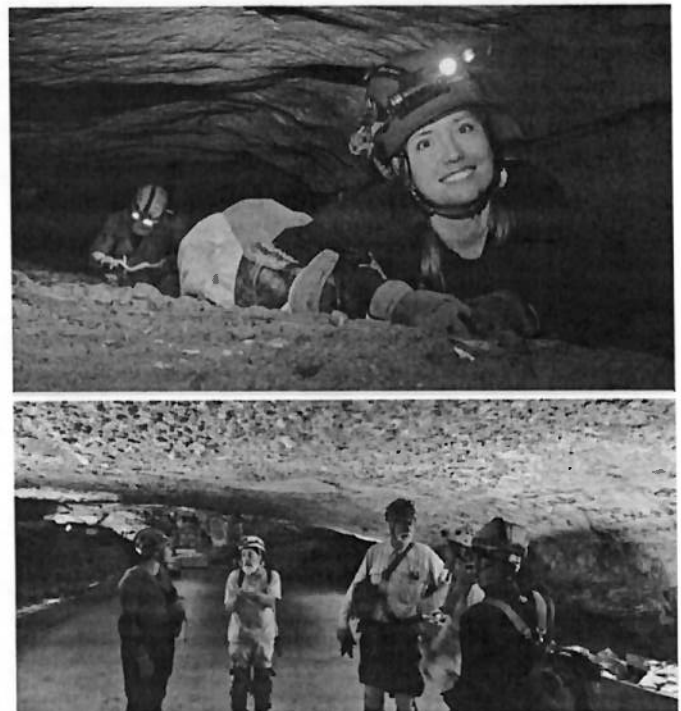
Woodson Adair - Pit of Sighs, L survey: Spike Crews, Joshua Sebree, Anna Van Der Weide, Fred Wilkinson; **L survey:** Krista Bartel, Bob Alderson, Paul McMullen; **G survey:** 1) Joshua Sebree, Fred Wilkinson, Rory Knight; 2) Joshua Sebree, Zach Harper, Jacqueline Heggen.

Unknown Cave - Grund Trail: Bob Alderson, Eugeniya Artemova, Rory Knight, Carter Hatton; **Roebuck Trail:** Spike Crews, Fred Wilkinson, Janice Tucker.

Salts Cave: Mick Sutton, Cheryl Johnson, Sue Hagan, Paul McMullen.

Crystal Cave - Tourist Trail: Joshua Sebree, Krista Bartel, Paul McMullen; **Thomas Avenue:** Tom Brucker, Krista Bartel, Stephen Bishop.

Hidden River Cave: Dave West, Phyllis Boneau, Anna Van Der Weide, Cheryl Johnson.



Mammoth Cave: Labor Day Expedition, August 30-September 2, 2024

By: Bob and Joanne Osburn, Expedition Leaders

The 2024 Labor Day expedition was at least initially somewhat complex. In addition to cavers, we had 5 scientists from Northwestern doing sampling of air, water, soil and microbiological materials. Also there were plans for two dives which we could not participate in but might be called on for support. These were planned for Great Onyx Spring and Logsdon River upstream. Both dives were called due to weather and smaller objectives were carried out. Caving and science went on as usual.

Approximately 19 cavers and cave scientists attended the Labor Day expedition. 5 of the number were scientists from Northwestern University led by Dr. Magdalena Osburn. The science crew collected air, water, sediment, and microbial film samples from Great Onyx Cave, Historic Mammoth, Colossal Cave, Cleveland Avenue, and lesser caves Long and Owl Caves. The scientists were on site from August 29th through September 4th. Their work is not reported on here.

Caving was only on Saturday, August 31, and Sunday, September 1. Caving trips on Saturday were fielded to Georges Path in Cleveland/Marion Avenue, Franklin Avenue, Colossal Cave, Crystal Cave, and one person went ridge walking.

Rick Olson lead Mary Schubert and Brian Hunsaker to Georges Path off Marion and Cleveland Avenue. This passage has recently been unearthed after being buried during elevator construction. They surveyed 797 feet of new survey. One curious aspect is that the passage was thoroughly packed with rocks apparently from elevator blasting. The question is how and why they transported the rock hundreds of feet into a relatively low passage.

Bill Koerschner lead Matt Mezydlo and Eli Winkler into a section of Franklin Avenue called Jenny's Icebox and mapped 486 feet, 250 feet of which was new. Dave West took Nathan Brucker and Tim Green to Colossal Cave to pick up side leads along Grand Avenue. They mapped about 300 feet of new survey although this parallels the main route in Grand Avenue.

Tom Brucker took Tom Gracinin and Eliezer Ugarte to Crystal Cave. Their principal objective was to find a drill hole that is reported to cut into the cave. They failed at this but relo-

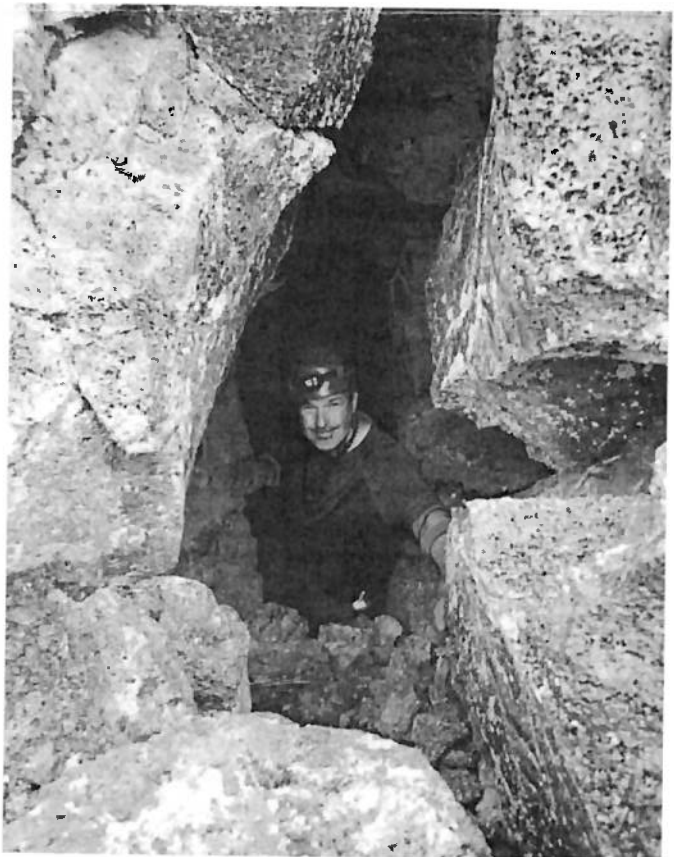
cated NSS camp two and allied artifacts and mapped a side loop at W22 for 96 feet.

Bill Copeland went looking for two leads for small caves but was defeated by high brush at one and a long slick mud bank at another. Photos were obtained.

On Sunday, September 1, two crews were fielded in addition to the science crew. Bill Koerschner took Matt Mezydlo and Nathan Brucker to New Discovery. They mapped 225 feet of resurvey trying to fix closure problems with New Discovery.

Tom Brucker took Tim Green, Eli Ugarte, and Eli Winkler to Colossal to pick up a second lead along Grand Avenue. This and Dave's objective are essentially slivers of the main passage isolated by breakdown and previously ignored.

Diving was redirected from the prime objectives to Sand House Cave vicinity and Owl Cave. Ian Flom provided a trip report and data for the archive for those dives but they are not detailed here. Mark Wenner and Ian also visited Echo Spring and Accessory Spring on Sunday. A trip report was also filed.



Craters of the Moon: Paul McMullen investigates a lead in the Great Rift. Photo by Mark Jones.

Preceding page, top: Cheryl Johnson in Emily's Puzzle, with Ed Klausner sketching in the background. Photo by Rick Olson. **Bottom:** Jordan Holloway, Ed Klausner, Rick Olson, Janice Tucker, and Tim Green in the Snowball Dining Room. Photo by Cheryl Johnson.

2024-25 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.

Thanksgiving, November 27-December 1, 2024. John DeLong, johndelong@yahoo.com.

New Year's, December 27-30, 2024. Jenny Tison, jenny.tison@gmail.com.

Presidents' Day, February 14-17, 2025. Jeff "Spike" Crews, cavespyque@gmail.com.

St. Patrick's Day, March 14-17, 2025. Dawn Ryan, dwn_ryan41@yahoo.com.

Earth Day, April 18-21, 2025. Jeremy Reedy, caveman.reedy@gmail.com, and Bruce Hatcher, ukaverman@gmail.com.

Memorial Day, May 23-26, 2025. Holly McClintock, hollymcclintock.caves@gmail.com, and Matt Mezydlo, mmezydlo@columbus.rr.com.

Independence Day, June 27-July 6, 2025. Dave West, d270@bellatlantic.net, and Karen Willmes, kver@bellatlantic.net.

Dog Days, August 1-4, 2025. Mark "Fish" Brooks, primcj5@yahoo.com.

Labor Day, August 29-September 1, 2025. Bob Osburn, osburn@levee.wustl.edu.

Columbus Day, October 10-13, 2025. Mary Schubert, choct3376@gmail.com.

Thanksgiving, November 26-30, 2025. John DeLong, johndelong@yahoo.com.

New Year's, December 31, 2025-January 4, 2026. Jenny Tison, jenny.tison@gmail.com.

Note: Before attending any expedition, you must contact the expedition leader, preferably two weeks in advance. 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 and Arkansas Natural Heritage Commission survey and bioinventory),
kayla.sapkota@gmail.com.

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

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

Matt Beeson (Mark Twain NF in SW MO),
mattamanda.beeson@gmail.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.

Marissa Schorr (Mark Twain NF Rolla/Houston area),
marissaschorr96@gmail.com.

Chad McCain (Moore System) chads93gt@hotmail.com.

Mark Jones (Oklahoma Projects) speleok9@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 Fofu Gonzalez, fofu@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