

August 2013

## **Cave Research Foundation Quarterly, Volume 41, No. 3, August 2013**

Laura Lexander

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# CAVE RESEARCH FOUNDATION

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**CRF NEWSLETTER**

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**President's Column**

**By: Charles Fox**

I've started writing this column several times over the last couple of weeks. It always seems to end up in my waste basket – or rather in the modern version of a waste basket, the computer “trash can.” My wife and I have been facing some personal issues over the last few months, and it's tempting to wax philosophical and write a column about the meaning of life. However, I am resisting the temptation to do so.

Instead, I'd like to offer you all a challenge: Many of us, including me, have noticed that we are not as young as we were when we started caving. If you've been around CRF for a while, you may have noticed that a lot of the same people are doing the same jobs now that they were doing when you started out with CRF.

I'm seeing a steady stream of new faces at expeditions, which is great! However, if CRF is going to have a future, we need to step it up a bit. My challenges to you are these:

1.If you're a younger/newer JV and have caving friends who are not part of CRF, find one person who would be willing to do the kind of work that we do and recruit him or her.

2.Trip leaders – We all love leading trips or we wouldn't be trip leaders. Have you noticed, though, that some of us are getting older or thought about how much knowledge of the cave is going to be lost when we move on if we don't pass it on? Trip leaders are made, not found, so I would challenge you to start training apprentice trip leaders. Teach them important routes and let them lead the way in the cave. Have them help organize parties and show them all the things we need to know and to do as a trip leader.

3.Expedition leaders – Find yourselves a young and enthusiastic JV who has never led an expedition and coerce them into being your assistant. Leading expeditions is challenging and we need to start training up the next generation of expedition leaders.

4.Cartographers – Find an enthusiastic and competent young sketcher and introduce them to the joys of drafting cave maps. We have plenty of small caves and a huge backlog of work available to share.

One of the occasional criticisms of CRF is that we have a closed leadership clique and that new people need not apply. While I don't think that's true – at least not intentionally – unless and until we make an effort to grow the next generation of leaders, we aren't going to produce many. The future will be what we make it.



## Protractors for Cave Surveying

By: Dave West

It occurs to me that many sketchers may not know or use all the features their protractor provides. I have encountered four frequently used in cave surveys, and thought I would provide a critique on each, and also some tips on how to get the most out of each. They are the Alberta Speleological Society protractor, the Cave Survey Protractor, The C-Thru Ruler W-38, and the Cave Compass. Each has advantages and disadvantages.

The Alberta Speleological Society protractor has the primary advantage of being nearly free. One may download the file `protractorV5fourup.ai` at [www.Oztotl.Com/mapping.htm](http://www.Oztotl.Com/mapping.htm), bring it into Adobe Illustrator and print it on clear acetate, if one has Adobe Illustrator and some clear acetate. One may laminate the result to give the device longer life. The file provided has unlabeled ruler gradations of 1/8" on two sides. If you have Illustrator, I suppose you can modify this to the scale of your choice. The protractor is 3.9 X 3.9 inches square, and provides a full 360 degrees of gradations labeled clockwise from 0 at five degree intervals. A large cross in the center provides the center point. A series of concentric arcs radiate from one corner, with rays also radiating from the same corner. The rays are placed in five degree increments, labeled every ten degrees.

For its basic use, one places the center point on the "from" station with 0 degrees oriented to North on the page. One then places a tick mark on the page at the appropriate azimuth. If the appropriate azimuth is off the page, no problem, simply place your tick mark at the back sight reading instead. Challenged by math involving

the number 180? Again, no problem. Most sketchers use gridded paper, so place the center point of the protractor on the center point of the grid, and rotate it so the desired azimuth is on a line of adequate length to extend beyond the protractor. Follow the gridded paper line to the other end and read the back sight. This can help check your instrument readings as well. Having placed your tick mark, you are now ready to plot your next station. Place the corner with the arcs and rays on the "from" station and align a ruler edge with the tick mark you have placed. Using the scale, determine where the station is for a perfectly level shot.

If your shot is not perfectly level, you can now use the arcs and rays to your advantage. From your level station, follow an arc around to a point that would represent the inclination using the rays. Interpolation will probably be required for both the arc and the ray angle. Having found that point, now imagine a line from it perpendicular to the plot line, and where it intersects the ruler edge is the actual length of the shot in plain view.

All of which brings us to the main disadvantage, which is that the device is fiddly and leaves unnecessary marks on the page for you to erase. And on occasion, that mark may have had to be placed in an area where one had existing sketch. Thickness will be dependent on the thickness of the material on which one prints it, and you must provide your own quality control when cutting it out of the print. They do print four up. If you mess one up, you have another three shots to get it right. I had no problem producing four.

The Cave Survey Protractor, created by Steve Wells and Joe Zokaites in 2001, is available from Inner Mountain Outfitters and other caving vendors for about \$1.50. It is available in two sizes, three-inch and four-inch. I have the four-inch. It has the general appearance of a standard semi-circle protractor. The flat edge is a four-inch ruler with 20 gradations per inch, with zero at the center, and numbered 10, 20, and 30 at half-inch increments with a larger line

### On the Cover

Jenn Ellis takes a compass reading during a survey trip in Fitton Cave. See the section on the Buffalo River area activities in the report on the Ozarks beginning on page 10. Photo by Meghan Gallo.

### CRF Newsletter Now Available Electronically

The *CRF Newsletter* is now available to recipients electronically. If you normally receive a printed *Newsletter* and would prefer to receive a digital (PDF) copy instead, let Phil DiBlasi, the CRF Database Manager, know of your preference. Phil's e-mail address is [pjdiblasi@gmail.com](mailto:pjdiblasi@gmail.com). (When an issue is available you will receive a message with a link to the PDF file on the CRF Web site. Just click the link to open the file. No login is required).

*Editor's note:* In the printed newsletter, all photos appear in black and white to save printing costs. In the digital version, all photos, including the cover, appear in color.



halfway between each labeled mark. The numbers are black to the right of zero and red to the left. A version at 25-ft/inch is also available. The angles are represented with one degree gradations, and are labeled every ten degrees counterclockwise from 0 to 180 in black, and 180 to 360 in red. Larger lines are placed every five degrees. Colored rays radiate from the zero point of the ruler every ten degrees. A cosine table is provided that provides a range of inclination angles between which a given factor in tenths may be applied to the shot length.

For use, one places the zero point on the ruler on the "from" station, and then rotates the device until the desired azimuth is aligned with north on the page. Note that the back sight is provided directly, in red if your fore sight is a black number or in black if it was a red number, still useful for checking your instrument readings. One then plots the next point directly using the ruler. The Cave Survey Protractor has the advantage of being the smallest of the devices, and is relatively inexpensive. It provides an easy, one-step process for plotting. The disadvantage is that one may have to do the math separately to determine the actual shot length.

The C-Thru Ruler W-38 from the C-Thru Ruler Company has been around for decades and costs \$2-2.50 at artist and drafting supply stores. A metric version is available, the W-45. The W-38 is a six-inch ruler and has a 10 scale on one edge and a 20 scale on the other. A protractor is provided with the origin at the three inch mark on the 10 scale. It provides 180 marks with extended marks every five degrees. They are labeled with 90 at the center, and descend in either direction in ten-degree increments. The ruler is 1-1/2" wide, and parallel lines are provided at 1/4", 1/2", 3/4", 1", and 1-1/4".

Use is accomplished by first determining the difference of the desired azimuth from any of 90, 180, 270, or 360 degrees to reach a number between zero and ninety. One then places the center point of the ruler (3") on the "from" station and aligns that difference to the azimuth used for the determination. One can then plot the next point. The device offers no obvious help in adjusting shot length. More about that later. The major advantage to this device is availability. It, too, offers a one-step plotting process. It is a bit sturdier than the Alberta and Cave Survey protractors. The disadvantage is that some math is required, and the device offers no help on back sights for those who might benefit from that.

The Cave Compass is relatively new to the market, created by Patrick Roberson in 2008, and costs \$7.00 at [Cavecompass.com](http://Cavecompass.com). It is 5.2 X

2.7 inches and provides five-inch rulers on two edges with increments of ten, a larger line every half inch, and labeled every inch. A 360 degree protractor in one degree increments, larger line every five, labeled every ten, is affixed with a center rivet. It has a series of parallel lines aligned with a north arrow. On the main body of the device is also an inclination protractor of -90 to 90 degrees in one degree increments, marked in the same fashion as the 360 one. The zero point is aligned with the center axis of the length of the ruler. Another mark is provided opposing it at the perimeter of the 360 protractor. Charts are provided to assist in adjusting shot length for inclination with feet (5-100) and degrees (20-85) in increments of five. Some interpolation is required. The device is provided with instructions for use.

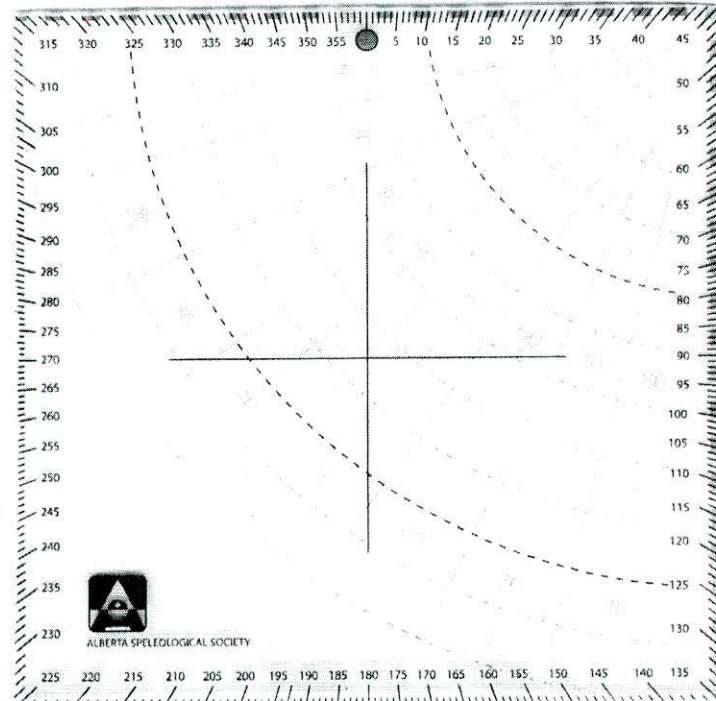
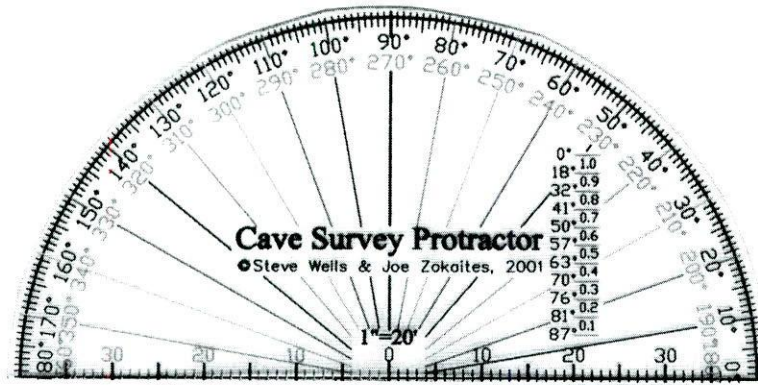
To use, one dials the 360 protractor to the desired azimuth, aligning it with either the zero mark on the -90 to 90 protractor or the mark that opposes it. One then aligns one or more of the parallel lines on the 360 protractor with north on the survey paper, ensuring the "from" station is somewhere along either ruler. One can then plot the next station. When the desired azimuth is aligned with the zero mark, one can read the back sight on the other mark, or vice versa. The main advantage of this device is simplicity of use. It also provides one-step plotting and is the sturdiest of the four. The main disadvantage is cost.

Three of these devices offer a means of estimating the plan length of a high angle shot. One offers no obvious help at all. However, many of us are now drawing profiles along with the plan view. The simple solution is draw the profile first. This will allow you to get the most precise length you can get in the field when plotting the plan view. It requires no tables or math of any kind. Profiles may be plotted using the 0 to 90 degree portion of any of the protractors, although the Cave Compass also provides a scale specific to this purpose, wherein one aligns north on the protractor with the desired angle of inclination on the ruler, and then aligns the parallel "North" lines on the protractor with horizontal on the profile sketch. Once plotted, the plan length can be determined by extending the two stations to a single horizontal line by taking a perpendicular from the "to" station on the profile plot.

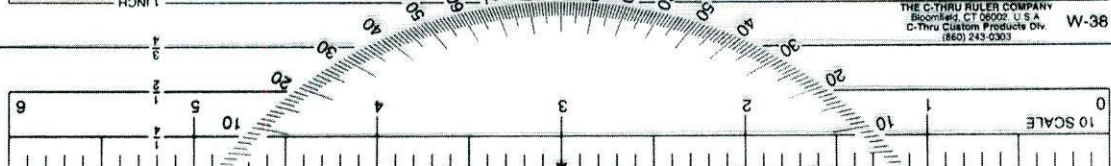
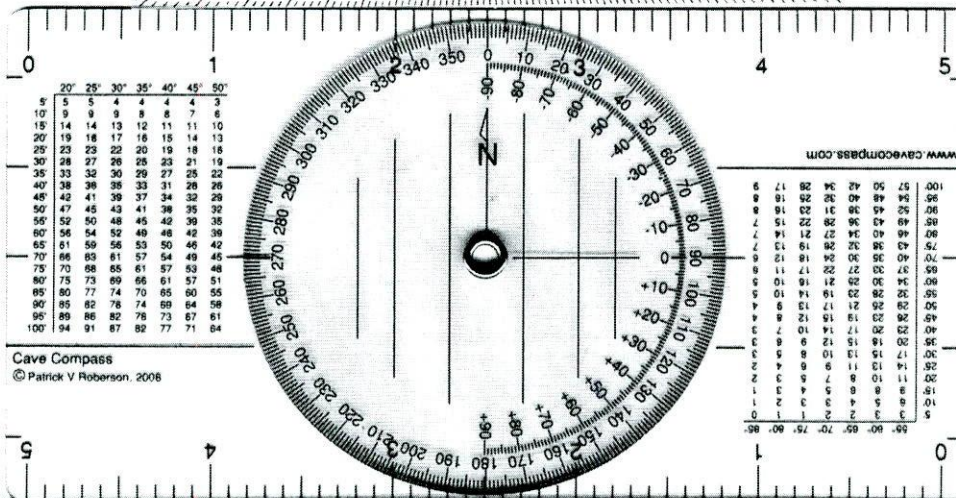
All of these devices assist in producing a quality sketch when used properly. Use the one with which you are most comfortable.

*Next page, top to bottom:* Cave Survey Protractor; Alberta Speleological Society; Cave Compass; C-Thru Ruler W-38.





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W-38



## Overview of 2012 - 2013 CRF Lava Beds Cave Survey & Monitoring Projects

By: Liz Wolff, John Tinsley, Peri Frantz, and Bill Devereaux

This report summarizes Lava Beds survey, ice level, and photo monitoring projects for 2012 and 2013 to date. The CRF effort at Lava Beds was on hiatus for a couple of years awaiting a new Memorandum of Understanding to be written, reviewed, revised and finally signed. CRF personnel officially returned to work in 'the beds' over the July 4<sup>th</sup> weekend of 2012.

### CRF Survey Projects

#### Cave Loop Caves Re-survey Project:

Principal Investigator: Liz Wolff

This project is producing comprehensive surveys of the popular caves on Cave Loop. The Cave Loop caves are among the most frequently visited caves in the Monument. The new surveys typically include additional footage, vertical profiles and cross-sections, a brief description of each cave, and the supporting survey data. At present, three surveys are completed, two of those maps are being digitally rendered, and one survey is in progress.

Ovis/Paradise Alleys System Re-survey – map is completed.

*Survey Personnel:* B Devereaux, K Doplemyer, L Wolff, M Liessring, H McDonald, J Wolff, E Bobrow, M Hasbrouck, B Rogers, B Broeckel, J Broeckel

Most of the survey of the Ovis/Paradise Alleys System was accomplished during the July 4th weekend when three survey teams spent three days in the caves. The associated caves of Ovis Annex, Surprise, Paradise Alleys Annex, and Buckled were finished during September through November. Surface surveys total 1297 feet have closed loops and tied all the survey segments together. A completed map has been submitted to the Monument with a description and notes of some of the geology of the cave and a moss that grows in the north-facing entrances. Several caves surveyed in the Ovis/Paradise Alleys system include:

*Ovis Cave:* totaled 194 feet in length, 43 feet deep

*Paradise Alleys:* totaled 1074 feet in length, 35 feet deep

*Paradise Alleys Annex:* totaled 192 feet, 20 feet deep

*Buckled:* totaled 259 feet, 33 feet deep

*Ovis Annex:* totaled 130 feet, 17 feet deep  
*Surprise Cave:* totaled 247 feet, 8 feet deep  
*Ovis Bridge:* totaled 52 feet

Sentinel Cave – mapping is finished; digital cartography nearly completed.

Juniper/Hercules Leg Cave – map is finished; digital cartography in progress.

Labyrinth Cave Re-survey: Thunderbolt section – Survey in progress.

*2012 Survey Personnel:* B Broeckel, J Wolff, L Wolff, M Hasbrouck, J Tinsley, B Devereaux

Surveys in parts of this system must be conducted seasonally, as the Thunderbolt Cave section of Labyrinth Cave is closed during the summer months honoring a maternity colony of Townsend's big-eared bats. November 11-25, 2012 saw three trips made commencing the survey of the Thunderbolt section of Labyrinth Cave.

*2013 Survey Personnel:* E Bobrow, G Elor, J Vansweevelt, B Hall, M Mason, J Broeckel, M Leissring, H McDonald, B Frantz, P Frantz, S Fryer, C Walck

The longest survey loop thus far in Labyrinth/Thunderbolt is about 1600 feet in length; the loop closure error was eight feet. Great work everyone involved with those surveys! Total survey to date in Labyrinth Cave is 4643.85 feet.

#### Hardin Butte Area Survey Project:

Principal Investigator: R. Scott House

*Survey Personnel:* D West, K Willmes, S House, E Klausner, P House, T Schmitt, D Dunham, E Bobrow, B Devereaux, L Wolff, S Fryer, E Hughes, K Smith, M Sutton, C Fox, S Hagen, C Walke, B Hoke, J Lovaas, D Tomchick, P Seiser

Preliminary cave maps have been completed from surveys done in 2011-12. Remaining work needed will be completed once we obtain a reliable elevation for a section corner to which all cave surveys are tied, thereby enabling accurate survey-based elevations to be added to all draft maps.

Corral Cave Complex

Crescent Moon = 124' long

Corral = 1190'

Rock in Hole = 345'

Council = 161'



Achilles = 438'  
 Achilles Arch = 41'

White Tube & Muleshoe

White Tube = 489'  
 Muleshoe = 268'  
 Scapula = 185'  
 Leap of Faith = 139'  
 Collapse Dome = 83'+

Township Complex: Cumulative surveys = 2390'  
 Township, Township North, Shepherd, This  
 Cave

### **Photomonitoring of Selected Lava Beds Resources:**

Principal Investigators: Peri and Bill Frantz

No photomonitoring was conducted in 2012. In 2013, the project was reactivated at several levels, including field activities, data management activities, and administrative activities. Field activities included reshooting of established stations in Craig (5/27) & Fern Caves (5/29). We did not shoot Site #3 in Fern due to its location in a culturally sensitive area. We established one new station in Fern Cave, as per Shane Fryer's request. Administrative activities mainly included meeting with NPS staff to gain approval for reorganizing the photo-archive file structure and naming conventions, and a new unified log for tracking monitoring activities. We initiated efforts to revise color balance on some older images, and added all Craig and Fern data to the photo-database and log. The new log and all updated photos were uploaded to NPS computers. Several hours were expended in the LBE research library to search for photos that predate the present project, and thus could serve to extend the monitoring effort back in time. Several candidate photographs were identified and work is proceeding with the Monument's archivist to obtain high-resolution scans of the original images or negatives. Future work in 2013 will include transfer of data to the new unified log coordinating with NPS staff to determine next targets for re-photography and re-scanning of low-resolution, multiplexed images at appropriately higher resolution.

### **Ice Level Monitoring Project:**

Principal Investigator: Bill Devereaux

*Personnel:* B Devereaux, E Bobrow, L Wolff

Ice Caves, or more properly *glacieres* (caves containing ice) have established points (pins) on

walls or ceilings, from which to measure the ice and water levels; in the case of caves with pools of ice and water in the middle of the passage, the pool size and water depth are measured. Monitoring is done yearly in April and May. Possible changes in cave passages from rock fall or ceiling and wall collapse due to the absence of ice support are noted as well. The monitored caves are visited in no particular order, although every effort is made to complete the suite of measurements within a couple of days.

*Caves monitored:* Crystal Ice, Cox Ice, Merrill, Black Ice, Skull, Big Painted, Heppe, Caldwell, Upper Ice, Captain Jacks Ice, Incline, and Desperation.

### **Craig Cave and Craig Temple Cave Re-survey (started 2013):**

Principal Investigator: John Tinsley

*Survey Personnel:* J Tinsley, B Frantz

The Craig Cave system is a large lava tube system that was a principal feeder for the eastern portion of the Mammoth Crater flow, and the cave lies in Wilderness near the eastern border of the Monument. This cave was selected for re-survey because it is a resource designated for monitoring by Resources Management, and the existing maps, while of excellent quality, consist of plan view depictions of passage, without profiles, sections, or supporting data, and the maps do not cover the system's known extent.

The principal investigator assisted by Bill Frantz initiated survey work at Craig Cave during the recent Memorial Day 2013 weekend. Several hundred feet were surveyed and all three photomonitoring stations were located, reoccupied, and re-photographed after more than 20 years had elapsed since the previous monitoring effort. See Photomonitoring section above, this report. Two additional survey expeditions are planned for the remainder of 2013.



## REGIONAL EXPEDITION REPORTS

### Report on Lilburn Expedition of May 4-5, 2013

By: Fofu Gonzalez

It was a late arrival at the cabin, but it was worth it. We had a weekend full of activities and the right crew to do the tasks. However, nature had other plans for us, and sometimes you can only follow suit.

The weekend started with work-related delays for almost everyone. Paul Nelson was the only one who arrived early at the cabin, even though he had one of the longest drives. Jen Hopper and I arrived at the Redwood Saddle parking lot and found John Tinsley, Charlie Hotz, and Howard Hurtt getting ready for the trail.

The five of us hiked the five miles in darkness as a team and made it to the cabin about one in the morning. Paul was asleep behind the cabin, and we noticed that a bear had heavily damaged the south wall, ripping off about 40% of the shingles and damaging some of the underlayment.

The opening routine for the field house was swiftly accomplished. The water system required minor attention to correct a frost-damaged valve.

The next morning, we finalized the list of objectives for the weekend. There were two main goals, the first one in support of the hydrology project, to collect water for the epikarst and paleoclimate study by Dr. Jessica Oster. Her research is currently capturing information about the present water composition with the goal of establishing a pattern that will help understand the past climate when studied through speleothems. We had a new and simpler sampling protocol and an assortment of sterile and clean containers and sampling equipment.

The second goal was to support Jed Mosenfelder's cartography project. Past mapping and quadrangle checking had identified an area in the lower reaches of the cave that after a tight, meandering canyon had opened up and went in several directions. I had brought a DistoX for surveying that part so that we could move quickly and do a good job of connecting the different routes. The excitement about this area is that it is heading into uncharted areas of the cave map. Unfortunately, a string of last-minute cancellations had left us short on hands and we had to adjust the research objectives with the available personnel.

We decided to focus the in-cave efforts on the hydrology project, and leave the survey of the new area, however exciting, for the next

trip. This shifting of the goals enabled people to perform maintenance on the infrastructure while providing samples for the hydrology project. As the winter had been a mild one it was essential to obtain drip samples while the cave was still dripping.

The north entrance to the cave was rigged. This entrance provides access to the cave through a small down-climb, a narrow meander and a 13 m pit. The handline for the down-climb had, for years, been a piece of Goldline rope. We tested a new handline (a short section of static rope) and we were happily surprised to find out that it provided a good grip -- we were worried that the fuzzy cover the Goldline had acquired over the decades improved the grip and that switching to a new rope would make for a slippery feel. The second improvement in the north entrance is that we are pushing for a move to single rope techniques for the pit, which had traditionally been rigged with a cable ladder. Not only is the rigging much faster when only one rope has to be set (as opposed to setting up the ladder, a belaying rope, and preparing the rigging for hauling packs), but we find it also faster and safer. More and more trips are adopting the SRT approach.

The dryness of the year was quickly apparent upon entering the cave. Typically, the cave remains wet through late summer, but the first sampling spot is at the base of Meyer Pit, and we found the prior sample site to be completely dry. Samples have to be captured from drips, and in this case there were none. There was a nearby area with a very slow drip (in a small pool with beautiful cave pearls and the skeleton of a shrew), but running a few calculations made us believe that it would take 1.5 h to get the 40 ml for the sample. The second sampling area is a short distance from the first one, through a sloping down-climb with a couple of very well placed chock stones that provide foot-steps and past a dusty short crawl that leads to a slippery mud climb. Unfortunately, the site had a similar situation, with a very slow drip, complicated by the uncomfortable position needed to sample this site (directly in between a beautiful white stalactite and a base of white calcite covered in tiny rimstone dams).

The third sampling site is a long distance from this area, past a steep down-climb with anastomoses on the ceiling, up a climb that every time upon reaching it makes you wonder



how you did it the time before because this time feels very awkward, past an aptly named Anastomosis Room, and through one of the main water conduits in the cave, the East Stream, with its polished, multi-colored walls of banded marble and small series of cascades, definitely one of my favorite areas of the cave. The water situation in the cave is more or less what was expected in the late season, but definitely not this early in the year, since even the East Stream had but a small trickle of water flowing down it.

Upon reaching the Hex Room, the largest air-filled room in Lilburn Cave located about 250 feet below the entrance and roughly half-way between the two entrances, we took a short break and checked the status of the in-cave phone line; we found that it was loud and clear. The third sampling site is located very close to this room, through what from a distance looks like a pile of breakdown, but which provides access to the lower areas of the cave. We had finally found a sampling site with an adequate drip rate, and we had no issues collecting the 40 ml sample of water.

We had the choice of moving through the cave to the last two sampling sites, leaving the cave through the south entrance, but we also wanted to reconnect with the crew that had to stay on the surface, since perhaps they were done with the repairs and wanted to go caving for the afternoon. We decided to head back to the north entrance and give others a chance to join us for the last two sampling sites.

We traced our steps back, and as always the same passage looks very different when you go through it in the other direction. We visited an area with very loose and sloping sand, called Ant Lion Pit (a Star Wars fan would probably call it the Sarlacc, from the scene in Return of the Jedi where the heroes are to be executed by throwing them into the mouth of one of these creatures) and went down the slope, finding a nice, small chamber with scalloped walls and clean marble, and we checked out an area off the East Stream with a nicely decorated floor.

Exiting the cave up the rope was uneventful and fast, and we de-rigged the entrance and locked the gate, since no one else was going to head into that part of the cave during the remainder of the weekend. When we reached the cabin we found out that all the repairs had been performed. Also, for some of the cavers, the prior evening's food was not sitting well, so there wasn't much energy left for an evening caving trip. We focused the efforts of the rest of the day and the following morning in tending to other minor infrastructure issues, and confirmed that bears do have a fondness for lysimeters. All of Jessica's lysimeters had been dug up and the stoppers treated to a general ursine chew-a-thon.

The hike out of Redwood Canyon was uneventful, and a post-expedition supper chez Hurtt/Hubner in Fresno put a fine cap on the weekend, while staying safe and having fun with a good group of friends and excellent cavers.

## Carlsbad Caverns National Park, June 2013

By: Ed Klausner

We were fortunate to find that one of the research huts at Carlsbad Caverns National Park was free for the week starting June 15. A small group (Ed Klausner, Elizabeth Miller, and Chris Beck for the week, joined by Shawn Thomas from the resource office) had several objectives for the six surveying days: Finish the Top of the Cross, fill in the blank spots in the profile view of Middle Earth while checking on some of the leads, and continue surveying and re-sketching in Lower Cave.

The first day of surveying in Carlsbad Caverns was in Lower Cave. We spent the morning finishing the re-sketch of the area below Jumping Off Place and on to the Col Boles Formation. This was fairly fast as the survey line was good so all we needed to do was a re-sketch. In the afternoon, we fixed a few spots on the LN survey and added a profile that went from the main route in Lower Cave through the bottom of Texas Pit. We did not finish the profile and some of this area needs to be re-sketched so we

knew we'd be back later in the week or on some other trip.

The second day of caving involved a short survey at the bottom of the Devil's Lair in the Big Room and then some surveying in the side passages of the main route in Lower Cave between the ladders and the bottom of the Jumping Off Place. In addition, the passage from the Big Room down past the ladders to the beginning of the L survey has not been done, so we did this survey which involved quite a few high angle shots.

It was time to climb up to the Talcum Passage section that can be seen from the Jumping Off Place. This involved a climb and traverse with three re-belays. This section of cave is quite beautiful. There are several holes in the floor that go down 70 feet to Lower Cave. A survey of this area was started eight years ago, but never finished. We put in about 220 feet of new survey and then climbed back down to Lower Cave. In the afternoon, we continued



working on the re-sketch of portions of the LK survey in Lower Cave.

For day five we headed back to Lower Cave to fix some sketches involving some of the junction areas along the long loop route.

On the last day of survey, we were joined by Shawn Thomas of the Cave Resource Office. Chris, Shawn, and I started the high fissure passage at the Top of the Cross. After several climbs we came to one 56 foot climb that was too wide for me to negotiate and Shawn took over book while he and Chris finished the sur-

vey. This area is now finished as there are no leads. We then headed to a small corkscrew passage known as the South 40 near Bottomless Pit. It is reported to be 40 feet deep. We put in a few shots, the longest of which was four feet, before it got too tight for our party. This will be completed by a small crew, hopefully at the next expedition. We finished the day by proofing and re-sketching a short side passage in Lower Cave.

It was a productive and enjoyable week.

## Ozarks Operation Activities, February-May 2013

By: Scott House and Kayla Sapkota

### OZARK NATIONAL SCENIC RIVERWAYS

#### March 21, 2013:

Jan and Don Dunham hiked and ridgewalked for several miles in a likely area, looking for new caves, but none were found.

#### April 22, 2013:

Getting to go back in a cave after knee work, Scott House and NPS biologist Kim Houf counted bats in the entrance passage of Round Spring Cavern. The cave, developed for lantern tours, is not going to be open for tours this year due to budget cuts.

Jim Cooley, Ken Grush, and Larry Shaffield monitored Wallace Cave and Wind Cave in Shannon County. They also measured Wallace for a potential gate and installed a new closed cave sign on Wind.

#### April 23, 2013:

Jim Cooley and Ken Grush monitored Bear Cave, Texas County, and measured it for a cave gate. They also monitored a smaller cave nearby.

#### May 3, 2013:

Performing tasks around the Powder Mill Research Center, Jim Cooley also inventoried park steel supplies at a maintenance yard.

### BUFFALO NATIONAL RIVER

By: Kayla Sapkota

#### March 16, 2013:

Ethan Brown, Ani Tiwari, and Jack Regal hiked in the Arrington Creek area and took entrance photos of four caves/karst features. Each of these locations were already in the database, but did not have photo documentation or updated GPS coordinates. Additionally, each cave was monitored.

#### March 30-31, 2013:

On Saturday and Sunday, Mike, Natalia, and Iva Jean Tennant put forth an extensive effort, visiting the entrances of 37 caves in the Big

Hollow, Shiloh Mountain, and Lost Valley areas. They documented each entrance with photos and new GPS points, an effort proving very helpful to the database.

#### March 30, 2013:

Ethan Brown, Jennifer Ellis, Donald Locander, and Kayla Sapkota visited Blood Root Pit---a small sink that had been beckoning for months. The lead turned out to be a 60 ft cave with 40 ft of vertical extent. The crew surveyed and monitored the cave.

#### April 13, 2013:

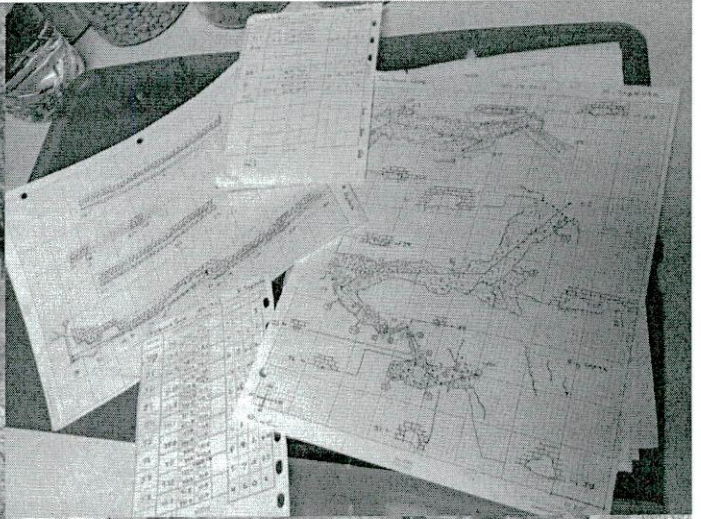
Jeffrey Bridgman, Deitra Roberts, Kayla Sapkota, Bryant Galloway, Max White, Josh Shock, Adrian James, Sean Gray, Charley Young, Jim Harmon, Jenn Ellis, Marty Brown, Meghan Gallo, Derek Thompson, and Donald Locander entered Fitton Cave via the Beauty Entrance for a day of survey. After some difficulty in a tight location, Jim Harmon, Derek Thompson, and Donald Locander made an early trip out. Marty Brown, Jenn Ellis, and Meghan Gallo awaited the return of the remainder of their team before joining the others in the Tennouri Room.

Jeff Bridgman led a team to finish the survey on a left-hand side lead off the Tennouri Room, gaining 331.9 ft. Kayla Sapkota lead a team to finish the survey of the Tennouri Room plus a right-hand side lead, gaining 555.5 ft. Josh Shock, Sean Gray, and Charley Young

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Next page, clockwise from left: *Ethan Brown and Bryant Galloway hiking to Jawbone, photo by Kayla Sapkota; Jawbone Survey Notes, photo by Kayla Sapkota; Kayla Sapkota at Jawbone Entrance, photo by Bryant Galloway; Ed Klausner sketches in a mine in Missouri, photo by Tony Schmitt; Missouri cavers getting "tired" in Perry County, photo by Chad McCain; Derek Thompson in Fitton Cave, photo by Meghan Gallo.*







performed a very thorough bat count, finding no signs of illness among the cave's bat population.

#### **April 19, 2013:**

Ethan Brown, Bryant Galloway, and Kayla Sapkota took a half day trip to locate and begin the survey of Jawbone Cave, located on Big Creek---an area to be adversely affected by the development of a concentrated animal feeding operation nearby. The team gained 409.5 ft of survey. Bryant gained a new friend, a "football-sized" pack rat--whom he unfortunately met in a tight crawl.

#### **April 26, 2013:**

Bryant Galloway and Kayla Sapkota returned to Jawbone Cave to finish the last of the survey--3 main leads, yielding 155.6 ft to bring the cave's total footage to 565.1 ft. On the hike to the cave the pair spotted a full-grown elk's shedded antlers.

#### **May 10, 2013:**

Mike Quain, Charla New, John O'Brien, Pradeep Sapkota, and Kayla Sapkota began the survey of Tom Barnes Cave, located on Big Creek. The team surveyed 475.1 ft in 24 stations.

#### **May 11, 2013:**

Matt Covington, Kyle Moore, Matija Perne, Pradeep Sapkota, and Kayla Sapkota visited Mister Clean Cave and Flatiron Cave. Both were monitored, and Flatiron Cave was surveyed. Two additional leads were located which had not already been known. Additionally, a separate reported lead was determined not to be a cave.

Max White, David Peterson, and Catherine Becker visited a lead known as Sheldon Branch Karst, photographing and monitoring it. They determined that the two entrances led to enough cave for a return trip to survey it. The team also found a previously unknown cave blowing cold air which was shaped like a wishbone and thus named Wishbone Cave. The team also visited the entrance to John Eddings Cave and noted that it appears the gate may have been breached per some bent bars. The cave's status was reported to NPS management.

### **MARK TWAIN NATIONAL FOREST**

#### **February 2, 2013:**

Eugene Vale led a crew from Chouteau Grotto to successfully monitor several caves in the Cedar Creek subdistrict in Callaway County, north of the Missouri River.

#### **March 2, 2013:**

Mick Sutton and Sue Hagan, along with district biologist Angie Trombley, monitored three

caves, mostly for bats, on the 11 Point District in Oregon County.

#### **March 17, 2013:**

Craig Williams, Susan Jansen, Natalia Kolk-Tennant, and Mike Tennant did an archaeological monitoring trip to a cave in the Rolla/Houston District, Phelps County.

3/18/2013 – 3/26/2013: Jim Cooley, Mark Jones, Bill Gee, Jon Beard, Alicia Wallace, Charley Young, Pic Walenta, and Barb Jenerette worked to gate Rattlesnake Cave in the Ava District, Christian County. They were aided and abetted by USFS employees and AmeriCorps volunteers. Various people stayed for different lengths of time, but Jim and Mark were pretty well there the whole time despite unseasonably cold weather and an unexpected blanket of snow.

#### **April 20, 2013:**

Mick Sutton and Sue Hagan mapped and inventoried additional small features (including archeological sites) in the Salem District, Dent County.

#### **April 25, 2013:**

Jim Cooley, Ken Grush, and Larry Shaffield working in the 11 Point District of Oregon County, touched up a sketch of a cave they were mapping, tracked down a lead from the county sheriff's department (amazing the sources you find when you work with the locals), and found a couple more new caves just to finish up a highly productive day. Then the rains came...

#### **April 28, 2013:**

Mick and Sue followed up their previous trip by finishing the survey and inventory of caves in the same area.

#### **April 29, 2013:**

In Oregon County, Jim Cooley did a little ridgewalking to locate the source of a plume of mist, however, no cave was found at the end of the rainbow.

#### **April 30, 2013:**

Once again in Oregon County, Jim Cooley spent the day in extensive ridgewalking with a solid lead on Bald Hill, but a cave was not located.

#### **May 1, 2013:**

Solo Jim Cooley did more ridgewalking in a promising area (but no cave) and also monitored an FS cave to insure that the closed cave sign was intact; the cave's outer regions were quite lively with cave critters.

#### **May 2, 2013:**

Jim Cooley once again searched for the Bald Hill cave lead and successfully ascertained where the thing is not.



**May 18, 2013:**

Mick Sutton, Sue Hagan, and Scott House surveyed and inventoried Venable Cave in the Rolla/Houston District, Texas County. The well-known, long-known, cave was less than 130 feet in length.

**MISSOURI STATE PARKS**

Under a grant from Missouri DNR, CRF helps the Division of State Parks with inventory, survey, and monitoring.

**March 13, 2013:**

Mick Sutton and Sue Hagan wandered about St. Francois State Park, basically ascertaining that all of the caves that they were seeking had very bad locations. Another attempt is needed.

**March 28 – April 6, 2013:**

After a day or so of no rest, Jim Cooley and crew worked to gate cave entrances at Onondaga Cave State Park. They put a new gate on the boat dock entrance of Onondaga and another replacement (read: bat-friendly) gate on nearby Cathedral Cave. Joe Nicolussi, Alicia Wallace, Mark Jones, Billy Dooling, and George Bilbrey were among the other participants.

**April 3, 2013:**

Another Mick Sutton attempt at St. Francois State Park also met with failure as the naturalist who knows where the caves are got called away to work a wildfire somewhere else.

**April 13, 2013:**

Dan Lamping, Mike Tennant, Tony Schmitt, Craig Williams, and Joe Sikorski surveyed and monitored Heinze Cave in Mastodon State Park, Jefferson County.

**May 27, 2013:**

Jim Cooley returned to Bothwell Lodge State Historic Site to do a little touch up work on the map of one of the caves.

**ELSEWHERE****March 18, 2013:**

In an attempt to provide better locational information in Greene County, Jon Beard and Colton Zirkle accompanied resource manager Gary Sullivan to five small caves in Wilsons Creek National Battlefield (NPS). Four of these caves had not been documented. All need new maps.

**March 20, 2013:**

Several CRF members (Tony Schmitt, Richard Young, Paul Hauck, Shawn Williams, Dee Hauck, and Chad McCain) helped with a sink-hole cleanup in Perry County, MO. It was an extremely tiring affair. Chad organized the event with the Missouri Department of Conservation.

**April 26, 2013:**

Bob Osburn led Andrew Lloyd and Jeff Boman into Berome Moore Cave, Perry County, MO. They mapped over 1200 feet of the main-stream heading downstream toward the Maze.

**March 23, 2013:**

A CRF crew returned to the mine in northern Missouri that we mapped last summer in order to continue surveys. Paul Hauck, Ed Klausner, Elizabeth Miller, Don Dunham, and Tony Schmitt participated. Over 3000 more feet was surveyed.

**May 17, 2013:**

Cliff Cave in St. Louis County, owned by the county, was the scene of a cleanup project (high school service trip) on this date. Led by Dan Lamping, the caver crew included Joe Light, Jim Ruedin, and Tony Schmitt; the rest of the crew consisted of 12 high school students and one principal.

## **Mammoth Cave: Thanksgiving Expedition, November 21-25, 2012**

### **Expedition Leader: Dave West - Camp Managers: Buz Grover and Bill Baus**

Our 2012 celebration of Thanksgiving was attended by 49 people. The first day of caving saw six parties head out for various objectives. Mick Sutton led a party into Salts Cave for some mop up in the Blue Arrow passage. Rick Olson led a party to Procrastination Pit in Historic Mammoth in an effort to resolve an elevation discrepancy, hoping the error was in the pit depth. It wasn't, so they ran a survey line out to Mammoth Dome hoping to resolve it that way. Eli Winkler led a party to the Labyrinth in Historic Mammoth to finish up a tight passage there. Peter Zabrok led a party to the Secret Mud Gallery in Roppel to survey various leads

in the area. Roger Brucker returned to Adwell Cave with Nathan Grover to examine the dig he has been working. Spike Crews took a party out to North Mather to clarify some of the passage there. They ran a bit late, so Andy Free met them on their way back to camp as he had headed out to check up on them. Everybody made it back and enjoyed a wonderful Turkey dinner prepared by Buz Grover.

Our second day of caving saw nine parties head out. Stan Sides led a group to Woodson-Adair to further his history studies. Mick Sutton took another party into Salts Cave, this time to Indian Avenue for more mop up. Bill Koer-



schner also headed into Salts, specifically to East Salts to further his work on that sheet. Dave West took a party to Wilson Hollow for a day of ridge walking. Lynn Brucker led a party to Lucykovah River in Great Onyx Cave to continue the survey downstream, reaching a pit for which they decided vertical gear would be the prudent way to proceed. Spike Crews and Andy Free led parties into Unknown Cave to the North Mather and White Way area to continue survey there. Jim Greer led a party to Faust Avenue to rework some issues in that area. Peter Zabrok led another party into Roppel, this time to continue the search for Borden's Lost Passage, still yet to be relocated. They worked on other leads in the vicinity of where they thought it was.

The third and last day of caving had six parties head out. Dan Greger led a party to Donkey Cave to continue the survey there. Eli Winkler went to Jones Shaft in Colossal Cave (via the Bedquilt entrance) to continue survey in that area. Roger Brucker led a trip to Dogwood Cave. Rick Olson led a party to the River Acheron in Historic Mammoth to survey a grungy bit of passage there. Andy Free returned to Unknown Cave, this time to Ralph's River Trail for a bit of mop up survey. Dave West took a party to Great Onyx Cave to finish up the profile of Edwards Avenue.

Expeditions are always the result of the efforts of many people. Huge thanks go to Buz Grover, Phil DiBlasi, and Jan Hemberger for

their efforts in the kitchen, and to Pat Kambesis and Bill Baus for taking on the Saturday food preparation. Not everyone gets in the cave at the expeditions, and it was great to see Bob, Judy, and Chris Parrish again. Many are probably unaware of their efforts in keeping Eastern Operations supplied with cave food and other necessities. Everybody in camp pitched in to help, and it is always appreciated.

**Salts Cave:** 1) Mick Sutton, Sue Hagan, Fred Wilkinson; 2) Mick Sutton, Rick Olson, Karen Willmes, John Davis; **Gallows Way/Procrastination Pit:** Rick Olson, Rick Toomey, Lynn Brucker, Wieslav Klis; **Labyrinth:** Elizabeth Winkler, Karen Willmes, Noboru Sakabe; **Roppel Cave:** 1) Peter Zabrok, Henry Grover, Chris Caswell; 2) Peter Zabrok, Stefano Prezioso, Chris Caswell; **Adwell Cave:** Roger Brucker, Nathan Grover; **North Mather:** 1) Spike Crews, Lyle Hutchens, Tim Lockwood; 2) Spike Crews, Noboru Sakabe, Lyle Hutchens; **Woodson-Adair:** Stan Sides, Daniel Greger, Gary Berdeaux, Norman Warnell, John Feil, Dick Market; **East Salts:** Bill Koerschner, Fred Wilkinson, Wieslav Klis; **Wilson Cave Hollow:** Dave West, Henry Grover, Nathan Grover, Pat Spoutz; **Faust Avenue/North Pits Trail:** Jim Greer, Bill Baus, Connie Temm; **Great Onyx Cave:** 1) Lynn Brucker, Elizabeth Winkler, Tim Green; 2) Dave West, Rick Toomey, Pat Spoutz, Matthew Entingh, Luke Wassink; **White Way:** Andy Free, Krista Bartel, Tim Lockwood; **Donkey Cave:** Daniel Greger, Joyce Hoffmaster, Dick Market, John Feil, Noboru Sakabe, Tim Green; **Jones Shaft:** Elizabeth Winkler, Seth Drake, Bob Thurner; **Dogwood Cave:** Roger Brucker, Bill Baus, Connie Temm, Nathan Grover; **Wyatt's Dome/River Acheron:** Rick Olson, Mary Schubert, John Davis; **Ralph's River Trail:** Andy Free, Krista Bartel, Lyle Hutchens, Kyle Rybacki, Tim Lockwood, Kevin Market.

## Mammoth Cave: New Year's Expedition, December 28, 2012 - January 1, 2013

### Expedition Leaders: Elizabeth Miller and Ed Klausner

The New Year's expedition consisted of much of what we planned plus a few last minute changes. The expedition was planned to have an early day of caving, due to the availability of surveyors, some of whom could not stay through the rest of the expedition. We also anticipated full bunk houses, due to the early start plus three regular days of caving. Matt Goska signed on as camp manager, a position that was very much appreciated. The unplanned features began the evening of December 27 with reports of people who would not arrive due to respiratory illness or other health issues, including a member of one of the early trips. It also began with a sudden shut-down of running water caused by a faulty fuse on an electrical line to the water pump. The pump issue was solved by nighttime intervention from Howard Kalnitz, Steve Gentry, and Matt Keller with telephone assistance from John Feil. Thanks are also due to those who properly connected the gas hose that provided gas for the stove and water heaters.

The morning of December 28 five trips went out as scheduled. Peter Zabrok, Clint Barber, and Heather Levy signed out for a long trip in the Doyel Valley entrance upstream to Logsdon River to continue the P survey. Twenty-five hours later they returned with 628 feet of new survey and 142 of resurvey. Two parties went in the Carmichael entrance to Miller Avenue to replace the old U survey. Howard Kalnitz led Mark Jones, Tama Cassidy, and Pam Duncan while Tammy Otten led Matt Keller and Steve Gentry. Together the teams resurveyed 1,001 feet. Peg and Art Palmer went into Crystal Cave with a tripod mounted auto-level survey of geologic contacts in Dyer Avenue. In addition, Lynn Brucker went to Adwell Cave to calibrate a number of DistoX units which were used during other days of the expedition.

The regular expedition began on December 29 with eight parties entering the cave for surveying objectives. Derek Bristol led Mark Jones and Noboru Sakabe on a resurvey of the old B



survey of Carlos Way. They resurveyed 1,134 feet and surveyed 175 new feet.

Peg and Art Palmer took Richard Zopf and Matt Keller to Skyhook Trail in Crystal Cave. They surveyed 334 new feet and noted that there are still leads in the area. An all-Winkler party led by Elizabeth Winkler and including Rick and Jessica Winkler went to Miller Avenue to continue work done the previous day. Despite being told which stations to look for, the station names they found did not match up to the passages that had been described. They concluded that they hadn't found their objective and returned.

Rick Olson led Mary Schubert, Emily Dowell, John Yakel, and Leslie Price (all Mammoth Cave employees) down Sylvan Avenue to Wyatt's Dome to do both some training on surveying as well as to tie the Q survey to the newer RA survey. The training was successful and the party achieved 120 feet of new survey as well.

Two parties went into Great Onyx Cave. Tom Brucker was the leader on a short trip with Roger Brucker, Tama Cassidy, and Heather Levy to explore the area above the Stairway Crawl. The passage they found was too small to continue and no survey was possible. Lynn Brucker led Tim Green and Tammy Otten into the Lucykovan River area with a rope for a drop that had to be rigged before the party could reach the survey objective. The group had a rope that was too short and had to return to camp for a longer one. Once the drop was successfully rigged, they were able to continue and added 487 feet of new survey.

Two parties of three went into Unknown Cave to survey leads off Mather Avenue. Spike Crews, Kele Thraillkill, and Kelly McKinley added 64 feet of new survey and 205 feet of resurvey, while Mike Freeman, Jasmine Freeman, and Andrew Wilkinson added 60 feet of resurvey.

On December 30 five parties went into the cave. Two groups went back to Miller Avenue to continue survey and figure out what had confused the Winkler party the day before. Mark Jones had been there and understood the survey designations so he served as a guide. Matt Goska, Mark, and Mary Schubert resurveyed 377 feet while Eli Winkler, Rick Winkler, Andrew Wilkinson, and Chris Winkler resurveyed 402 feet. The reason Elizabeth's crew had such difficulty the day before was because there were duplicate letters marking survey in the same area.

Aaron Addison, Bob Osburn, Rick Toomey, and Heather Levy took the Light Detection and Ranging (LIDAR) equipment into River Hall,

down to River Styx. They also continued using the LIDAR at New Entrance. Derek, Noboru, Seth Spoelman, and Richard Zopf headed into Unknown Cave to the Overlook. They couldn't reach their destination, however, because of high water—meaning deeper than Derek was tall—at Eyeless Fish Trail. Rick Toomey led Tama, Tammy, and Matt Keller on a trip to the Maelstrom via the Carmichael entrance to measure the discharge at the bottom. The group used plastic sheeting to collect the water and repeated the measurement six times. The result was about nine seconds to fill up eight liters. They also checked the data loggers in the drain.

Four trips went out on December 31. Derek led another trip to Further Carlos Way with Andrew and Seth to work on leads north of the FA survey and to resurvey the old R survey from R25 to R80. The group came back with 336 feet of resurvey and 480 feet of new survey. Two trips went in Unknown Cave. Spike, Tim Green, and Mark Jones worked on the X survey off of Mather Avenue, returning with 187 feet of new survey and 153 of resurvey. Mike and Jasmine Freeman, Kele, and Kelly worked on resurvey of the Y survey. Art, Peg, Rick Olson, and Richard continued the E survey off the B trail in Crystal Cave, coming back with 226 feet of new survey.

Despite the success of the survey parties and other work, we were not able to generate too much enthusiasm for staying up until midnight on New Year's Eve. That was a sign of a lot of good work in Mammoth Cave. Thanks to everyone for making this a successful expedition.

**Miller Avenue:** 1) Howard Kalnitz, Pam Duncan, Tama Cassidy, Mark Jones; 2) Tammy Otten, Matt Keller, Steve Gentry; 3) Elizabeth Winkler, Rick Winkler, Jessica Winkler; 4) Matt Goska, Mark Jones, Mary Schubert; 5) Elizabeth Winkler, Rick Winkler, Andrew Wilkinson, Chris Winkler; **Crystal Cave:** 1) Art Palmer, Peg Palmer; 2) Art Palmer, Peg Palmer, Richard Zopf, Matt Keller; 3) Art Palmer, Peg Palmer, Rick Olson, Richard Zopf; **Logsdon River:** Heather Levy, Peter Zabrok, Clinton Barber; **Carlos Way:** 1) Derek Bristol, Mark Jones, Noboru Sakabe; 2) Derek Bristol, Andrew Wilkinson, Seth Spoelman; **Sylvan Avenue/Wyatt's Domes:** Rick Olson, Mary Schubert, Emily Dowell, John Yakel, Leslie Price; **Mather Avenue:** 1) Spike Crews, Kele Thraillkill, Kelly McKinley; 2) Mike Freeman, Jasmine Freeman, Andrew Wilkinson; **Great Onyx Cave:** 1) Lynn Brucker, Tim Green, Tammy Otten; **Great Onyx Cave:** 2) Tom Brucker, Roger Brucker, Tama Cassidy, Heather Levy; **LIDAR:** 1) Aaron Addison, Bob Osburn, Rick Toomey, Heather Levy, Sidewinder Bill Spoelman; 2) Aaron Addison, Bob Osburn, Alex Winkler, Rick Toomey; 3) Aaron Addison, Bob Osburn, Rick Toomey, Heather Levy, Sidewinder Bill Spoelman; **Overlook:** Derek Bristol, Noboru Sakabe, Seth Spoelman, Richard Zopf; **Maelstrom:** Rick Toomey, Tama Cassidy, Tammy Otten, Matt Keller; **X survey:** Spike Crews, Tim Green, Mark Jones; **Whiteway:** Mike Freeman, Jasmine Freeman, Kele Thraillkill, Kelly McKinley.



## Mammoth Cave: St. Patrick's Day Expedition, March 15-17, 2013

### Expedition Leaders: Dawn Ryan and John Lovaas

Not to be out done by the February expedition, this one started with yet another 18-wheel semi-truck stuck at the intersection of Park Ridge and Hamilton Valley Roads. John and I had already arrived and those with small vehicles were able to get around it. Fortunately for everyone else, it was moved out of the way before most folks arrived.

There were 25 participants with several objectives; however, only two objectives took place within park boundaries.

A pre-expedition trip had started on Thursday in Roppel Cave with Peter Zabrok and Dick Market. A tight slot limited the survey, but they were able to shoot through with Dick staying on the big side of the passage and Peter going through the slot.

On Friday, Roger Brucker and Doug dug in C1 and C2 in Hamilton Valley. Dan Greger went into C2 and squeezed into a hands and knees crawl that was getting bigger. Deeming it worthy of a survey he graciously backed out and didn't scoop.

Saturday morning began by enjoying an excellent breakfast put together by John Lovaas and trying to assemble teams for the objectives submitted. Thank you, John!

With the promise of virgin cave and glory, Lynn and Roger Brucker with Bill Baus returned to the "Cave" the next day. They re-GPSed both C1 and C2 (with datum set to NAD83) and surveyed overland between the two caves. They used compass and clinometer for the outdoor survey and switched to the Disto X for the in-cave survey. It had only been raining lightly that night, but it was enough to muck things up nicely. Inside, the cave was dripping profusely and occasionally spacious, good for Bill who asked to be removed from the original trip I had him assigned to because of tight, wet conditions; he specifically requested dry, virgin, walking passage caving. Some tight bends and rocks were moved by Bill until the party made it into a hands-and-knees crawl that ended in an eight-foot dome that was very drippy. A metal frame of some sort was sticking out from the ceiling and 12 feet beyond the dome the passage narrowed to a four-inch crack. It was pretty evident that the water entering the dome opened up the passage they crawled through. And so they retreated.

Joyce Hoffmaster, Dan Greger, and John Feil went to Stan's Well carrying three sections of ladder made by John, each five feet long. They also carried 150 feet of rope and the tools nec-

essary to deal with cranky locks and ladder assembly. Assembling the ladders and kinks they tried to look at a ledge that would get them closer to the large canyon near the top and across the lower pit of Balcony Drop. The ladder was not long enough to do this so they secured it in place to use instead of the rope at the upper Balcony drop which has an overhung lip. They all agreed this was an immense improvement over using ropes. They went back to upper Balcony to dig out a cobble-filled crawl and broke through in about 45 minutes, but only for some distance until the crawl became too small for even Joyce to get through. They left the cave for another day.

Rick Olson and Mary Schubert led Linda Payne, Jessica Oster, Aaron Covey, Chris Meyers, Leslie Price, and Nicole Hawk to the El Gohr area at the beginning of Marianne's Pass to learn to survey and fix some mapping errors. They mapped a cut around at E3 that has a virgin lead off it. Then they split into two teams with Mary, Linda, and Nicole fixing a mapping error at the beginning of Marianne's Pass, and the others from Vanderbilt University went with Rick to look at locations where there are saddle dolomite vugs. These are significant because they are hydrothermal features that are correlated with hydrocarbons. They also looked for possible sites where work on geomicrobiology of calcite and/or dolomite precipitation could be done.

Derek Bristol led Dawn Ryan, Greg Holbrook, and Connie Temme out to Carlos Way to resurvey the old R-survey. Travel to the objective took longer than usual, requiring a traverse across a canyon and some muddy exposed climbs. While Derek seemed to be able levitate through a tight 9.5 inch crawl, with some pulling by Derek, Dawn was able to make it through as well as was the rest of the party. Their survey began in knee-deep water and after only seven stations (some extremely short) some of the party members became cold. They retreated back through that tight belly crawl to TA27 and surveyed seven more stations to complete a tie-in to RA4. Cold set in again and they retreated.

Returning to Roppel this time were Peter Zabrok, Bill Koerschner, and Holly McClintock. They reported entering the cave in record time – 10:45 a.m. They entered "the slot" which requires lying on your left side then trying to stand up. As you stand up, partway up you have to rotate your helmet to face back toward the slot. Then you work your way up and back to



the right over the top of the entrance to the slot and straight to the roof. All were able to make it through and inside to a room with just enough space to get dressed. The survey led them into unfriendly cold, wet mud. In spite of the tight, muddy, dismal passage, they were able to get 286 feet of new survey.

All parties that day were motivated to make it back to Hamilton Valley to enjoy corned beef, cabbage, potatoes, and Guinness chocolate cake

with of course, Jameson's Irish whiskey compliments of John Lovaas.

**El Ghor:** Rick Olson, Mary Schubert, Linda Payne, Jessica Oster, Aaron Covey, Nicole Hawk, Chris Myers, Leslie Price; **Carlos Way:** Derek Bristol, Connie Temm, Greg Holbrook, Dawn Ryan; **Roppel Cave:** Peter Zabrok, Bill Koerschner, Holly McClintock; **Small cave in Hamilton Valley:** Lynn Brucker, Roger Brucker, Bill Baus; **Stan's Well:** Daniel Greger, Joyce Hoffmaster, Dick Mar- ket, John Feil.

## 2013-14 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

**Friendship Day,** August 2-4. Roger and Lynn Brucker, roger.brucker@sbcglobal.net.

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

**Columbus Day,** October 11-14. Rick Olson, rick\_olson@nps.gov.

**Thanksgiving,** November 27-December 1. Dave West, d270@bellatlantic.net.

**New Year's,** December 27, 2013 - January 1, 2014. Ed Klausner and Elizabeth Miller, klausnere@gmail.com or millerer@blue.ewwg.uiowa.edu.

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

### Cumberland Gap National Historical Park

Expeditions for Cumberland Gap National Historical Park are the last full weekend of each month except December. Contact: Mike Crockett, mikecrockett@hotmail.com.

### Ozarks

**Contacts:** Scott House, scott\_house@semo.net.

Mick Sutton and Sue Hagan, sue&mick@mail.tigernet.gen.mo.us.

### California - Lava Beds

**Contact:** John Tinsley, jtinsley@usgs.gov.

**Columbus Day,** October 11-14.

**Cartography,** November 23-25.

**Thanksgiving,** November 29-December 1.

Before participating on any of these expeditions, we would prefer you 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

**Lilburn,** August 11-12, Howard Hurtt, howard.hurtt@gmail.com.

**Mineral King,** August 24-25, Elaine Garvey, egarvey@gmail.com.

**Lilburn,** August 31-September 2, Paul Nelson, california\_caver@yahoo.com.

**Lilburn,** September 21-22, Fofo Gonzalez, fofo@gzluna.com.

**Mineral King,** September 28-29, Elaine Garvey, egarvey@gmail.com.

**Lilburn,** October 19-20, Elaine Garvey, egarvey@gmail.com.

**Lilburn,** November 15-17, Jen Hopper, jennifer.hopper@ucr.edu.

**CRF-SEKI Organizational Meeting,** January 11, 2014, Grindley Winery, Paso Robles, CA. Mark & Jan Balcom, mark.balcom@gmail.com.

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

### HSS/CRF Hawai'i Caving - Big Island

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

### Carlsbad Caverns

Contact for all expeditions:

Barbe Barker, barbebarker@gmail.com.

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



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