



BREAKDOWN

Volume 37, Number 2, August 2022

The *MAR Breakdown* is the journal of the Mid Appalachian Region of the National Speleological Society. It is published three times a year; prior to the annual business meeting and prior to the Spring and Fall field meets.

Subscriptions-

Event notices and MAR Breakdown newsletters are distributed electronically. When you attend a field meet, the email address provided on your registration form is added to the distribution list. You may also add yourself to distribution by going to <http://eepurl.com/P2f5j> and completing a short registration form.

Meetings and Meets-

The annual business meeting is held the last Saturday in February. Each spring and fall there is a field meet. Watch for dates.

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Fall 2022 MAR September 16 - 18 Lincoln Caverns Huntingdon, PA Hosted by Out of Bounds Grotto



Inside

Page

2022 Fall MAR Information	2
2022 Spring MAR/VAR Report	4
PCC Meeting Minutes	7
Sarah Furnace Cave Is the Longest Surveyed Cave in the Northeastern US	9
2023 Spring/Fall MAR Hosts Needed	9
Sarah Furnace Cave Map	10
Upcoming Events	11
MAR Bulletins for Sale	12

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WELCOME CAVERS!

2022 FALL MAR FIELD MEET

The Out of Bounds Grotto is pleased to invite you to the 2022 Fall MAR. Words cannot describe how excited we are to have the opportunity to get together again in the beautiful rolling hills of Pennsylvania. As cavers, we know all too well the secrets these lands can keep, and we have made it our passion to discover the mysterious. The MAR weekend will be filled with exploration, education, and networking. Whether you are a virgin caver or a seasoned veteran, we hope you find the community and adventure you seek.

As you may have heard, the Out of Bounds Grotto is the virtual grotto of the National Speleological Society. You can find us on Facebook or Instagram. On our Facebook page, you will find caving events, resources, and a connection to the community wherever you might be in the US. The Grotto Instagram shows caving pictures from our members, so please always tag us so we can feature you! #OutofBoundsGrotto

The Out of Bounds Grotto is a proud partner with International Union of Speleology (UIS) for the International Year of Caves and Karst this year. This event will help accomplish the goal of organizing 730 caving internationally this year. The UIS started this initiative to raise awareness regarding the importance of caves to the public, to show how the proper management of caves and karst is critical to global economic and environmental health and establish valuable partnerships to ensure the protection of caves globally.

The event will be held at **Lincoln Caverns**. Lincoln and Whisper Rock Caves are highly decorated and well worth the stroll. We are very fortunate to have the opportunity to host at such a caver friendly area. Come out, learn about the history of this area, and see some unique formations. We are grateful to be so close to such beautiful caves; please take advantage of them. Also, the gift shop has some pretty great caving stickers.

The **Fall MAR** will be the weekend of **September 16th to September 18th**. Reserve your tickets at **Eventbrite.com** and search “**2022 Fall M.A.R.**” Our speaker is Cinthia Marlene Campos. She will be discussing her discoveries in Mexico regarding caves and archeology. This talk is a must hear, especially if you are interested in getting involved with archeology, mapping, or cave studies in general.

We look forward to seeing you for this celebration of caves!

Sincerely,





About this event

The 2022 Fall MAR is a caving field meet hosted by Out of Bounds Grotto. We will spend the weekend camping at the Lincoln Caverns campground in Huntingdon, PA and exploring the many local caves with experienced trip leaders. Saturday night a taco feast will be provided with the ticket price, and a vegetarian option will be included. Attendees must be vaccinated against COVID-19 and children (under the age of 18) are admitted free.

All cave visitors must have a helmet (a bicycle helmet is fine in a pinch), gloves, sturdy shoes or boots, and a minimum of 3 sources of light.

For more information about Out of Bounds Grotto, please visit our website at <https://outofboundsgrotto.org>.

Date and Time

Fri, Sep 16, 2022, 12:00 PM

until

Sun, Sep 18, 2022, 1:30 PM EDT

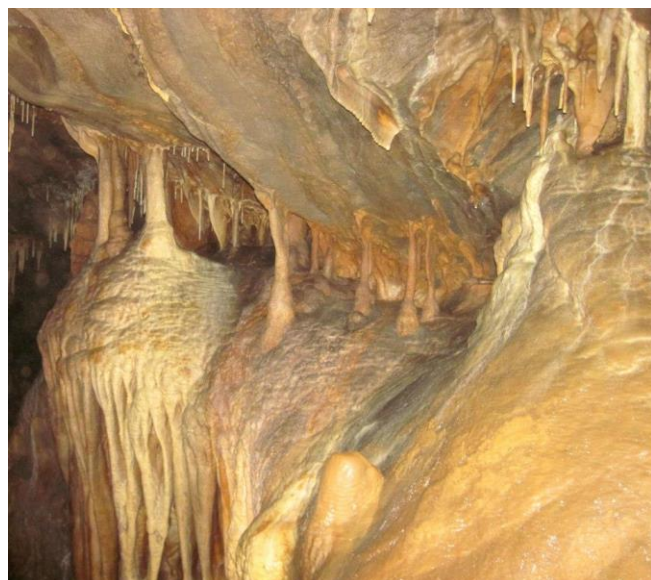
Location

Lincoln Caverns
7703 William Penn Highway
Huntingdon, PA 16652

[View map](#)

Refund policy

Refunds up to 7 days before event. Eventbrite's fee is nonrefundable.



2022 Spring MAR/VAR Report

by Red Schock

After 3 attempts to host a joint VAR/MAR event at Grand Caverns in Grottoes, VA were disappointingly cancelled/postponed due to COVID concerns, the co-hosting grottos of Charlottesville Grotto (VAR) and Seven Valleys Grotto (MAR) were happily able to end the cave-event drought and offer a lovely caving weekend for the VAR and MAR cavers to enjoy. The fourth time is a charm, right?!?

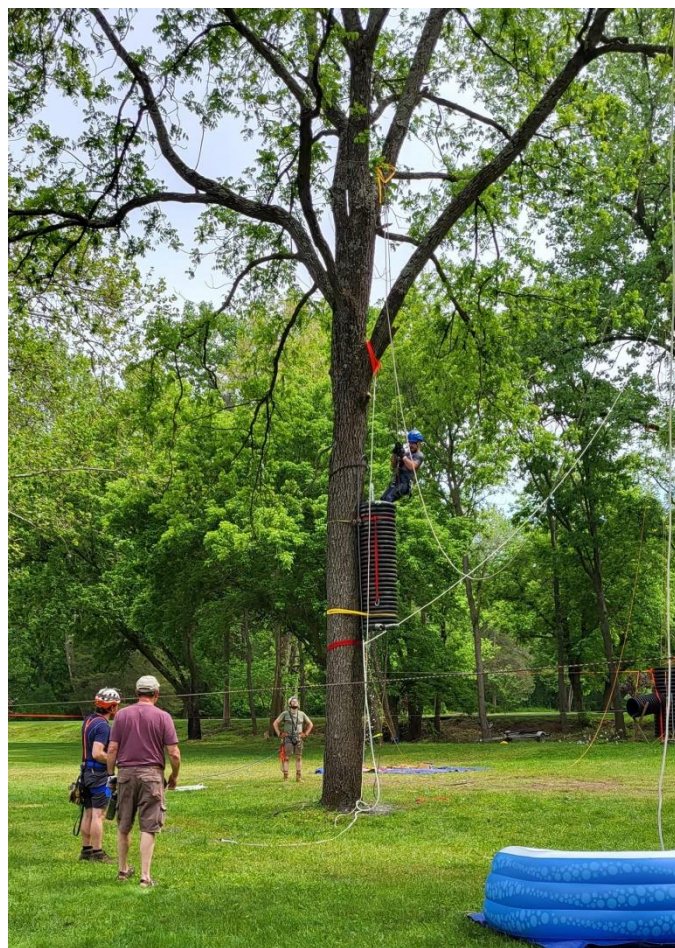
As with any event such as this, it doesn't happen without the help and contributions of so many to make it a success! We would like to thank the support staff of Grand Caverns that offered a lovely site for camping and gathering, convenient cave tour options on-site, as well as taking care of all our random requests throughout the weekend. A sincere thank you goes out to Scott Davis for acting as our local point of contact for all the arrangements with the Grand Caverns staff.

Jim McConkey was our hard-working web master throughout all the on-again/off-again event announcements for the event website. He provided invaluable advice and guidance and was always quick to apply updates to the website as soon as they were provided to him.

Blake Jordan spearheaded the t-shirt design as well as coordinating the orders and delivery of the event shirts. The shirt design also underwent several updates/modifications as the postponements impacted one event after another. Spring 2020, no wait, Spring 2021, hold on, Fall 2021, scratch that, Spring 2022! Holy cow!

Part of the preparations included the event guidebook which was a great success! We have Alex Sproul, Mary Sue Socky, Meredith Hall-Weberg, and Bob Hoke to thank! The guidebook included many internet links and was sent out to the pre-registrants a week prior to the event. This provided everyone an opportunity to review the information/options available in the area and make plans prior to their arrival. Several people mentioned how helpful it was to have advanced access to this information. This was definitely a popular addition for the guidebook information!

The weather for the weekend of May 20-22, 2022 was sunny and warm (ok, hot) during the day and comfortably cool in the evenings. Since the temperatures were unseasonably warm for May, it offered ideal conditions to escape the heat by exploring the cooler caves during the day and then enjoy the company of old and new caving friends after the sun went down. It was difficult to predict the attendance for the first VAR or MAR event since COVID stepped onto the scene. 202 people registered for the event, with 14 pre-registrants unable to attend for various reasons, making the on-site attendance 188 people. We would like to thank those who opted to stay home because they felt ill. We sincerely missed your smiling faces but very much appreciate your responsible decision!



Vertical Obstacle Course (photo by Karen Bange)

On site preparations began bright and early Friday morning with the help of Scott Davis, Cheryl and Earl Sutor, Tom Griffin, and Red Schock, placing directional signs, setting up registration, and taking

MAR Breakdown Volume 37 Number 2 August 2022

care of the odds and ends before the event officially began at noon. Once open, Patty Biddison, Cheryl Suitor, Blake Jordan, and Ed Smith manned the registration table to greet the cavers as they arrived. It was good to see so many familiar faces after such long time! Also, thank you to Ed Smith for receiving and organizing all the pre-registration forms prior to the event.

Meanwhile, the dedicated four-person crew from Central New Jersey Grotto (Kevin Mulligan, Matthew Heitmeyer, Sam Loscalzo, and Bob Suplicki) left their home state at 3:30am Friday morning in order to arrive on site at Grand Caverns shortly after daybreak. They quickly went to work setting up an impressive, complex vertical obstacle course, complete with water feature, which was ready to go by early Friday evening. The obstacle course was a big hit as many cavers of varied experience tested their skills on the course throughout the weekend. The course was both fun and educational as it exposed areas for each participant to practice/improve upon. Great job CNJG!



Cave Trip Sign-ups (photo by Ashley Hitchcock)

Casey Tucker, Scott Wahlquist, and Madison Holzman organized a survey course on site at the VAR/MAR. Teams of two were able to test their skills in analogue survey with Suunto instruments and tape. This was an outdoor course for those interested in testing, honing, or building new survey

skills. No lasers here!. Surveyors with the best loop closure were rewarded with prizes generously donated by Bash Gear!



Trout trip (photo by Cheryl Suitor)

VAR/MAR attendees were greeted with some new and talented vendors on the caving scene. Thanks to Sophireapress for her unique caving gear and fashion accessories, Bash Gear LLC with their cave packs, suits, knee pads, and more, as well as Gabby of Karst Woodcraft with her original wood burned designs and stickers!



Endless trip (photo by Mike Stewart)

No VAR/MAR field meet would be complete without the led cave trips! Several organized trips were available for signup Friday evening. A huge thank you to all the trip leaders that volunteered their skills and time. Trips/leaders included Blue Ridge (Crozet) Tunnel led by: Gregg Clemmer, Butler Cave led by Mark Minton and Yvonne Droms, the wild section of Endless Caverns led by Tom Griffin and David Wayne Lucas, Hamilton cave led by Mystik Miller and Gabby Zawacki, Madison Saltpeter Cave led by Dave Socky and Scott Davis, Massanutten Caverns led by Josh Rubinstein, Melrose Caverns led by Ed Smith,

Porters Cave led by Ashley Hitchcock and Chris Coates, Trout cave led by Earl and Cheryl Suitor. There were also staff-led trips available to both Grand Caverns and Fountain cave available to the VAR/MAR attendees at a reduced rate. Additionally, some on-site, impromptu trip leaders included Amos Mincin, as well as Patch and Catie Adams. Thank you to Endless Caverns and General Manager Mike Stewart for allowing the wild trip as part of the VAR/MAR event!



Butler trip (photo by Tyler Drayer)

Others opted to partake in the Conservation Project. The VAR Conservation team organized a collaborative effort between VAR Cavers, DCR Natural Heritage Staff and members of the Cave Conservancy of the Virginias. Together they performed conservation work at the Cave Hill Natural Area Preserve which was within walking distance of the MAR/VAR campground! Despite the warm weather, volunteers worked to establish a new trail to the cave entrance as well as other property maintenance tasks. The hard working crew was rewarded with lunch inside the cool cave entrance. Thanks to the many members of the VAR Conservation committee for coordinating this project, including Janet Tinkham, Wil Orndorff, Carol Tideman, Meredith Hall-Weberg, Ken Walsh, and Mary Sue Socky!

After a full day of caving, conservation work, etc, the cavers were able to sit back and enjoy a delicious dinner by Battarbee's Catering which included roasted chicken, green beans, mashed potatoes, dinner rolls and, to top it all off, a wide assortment of cheesecakes! If anyone went away hungry, it was by their own choice since there was

plenty of food for seconds or even thirds! Thank you to the Battarbee's crew for an amazing meal!

After everyone's belly was full, it was time for door prizes! Blake Jordan and Casey Tucker pulled tickets for the assortment of cave-related prizes. We would like to thank Inner Mountain Outfitters (IMO), Carol Tideman, Meredith Hall-Weberg, Gordon Birkhimer, and Tom Griffin for their very generous donations! Following the door prizes, attendees were entertained by the amazing accounts of Carl Pierce and his adventures in the caves of Vietnam. Carl's stories and pictures kept us on the edge of our seats!

Tommy Carpenter and Scott Davis did an excellent job of honoring John Fox's memory as they provided DJ Entertainment both Friday and Saturday evenings for everyone to dance the night away!



PCC Meeting (photo by Karen Bange)

No MAR would be complete without the traditional Pennsylvania Cave Conservancy (PCC) Pancake Breakfast fundraiser on Sunday morning. Those that opted to purchase a breakfast ticket were greeted with fresh coffee, orange juice, sausage, and pancakes with the fixin's all without the need to break out the camp stove! What a deal! Thank you to the breakfast crew that dragged themselves out of bed bright and early to prepare the food for our hungry caving friends. That crew included Pat Minnick (with his booming "breakfast is served" call to wake the dead, haha), Anne Shepard, Dave Briggs, Tinsley Briggs, Joe Schock, Tom Griffin, Cheryl Suitor, Amos Mincin, Sarah Cornman, and Kevin Cornman.

Thank you to all the members of Charlottesville Grotto, Seven Valleys Grotto as well as all the other helping hands for your hard work before, during, and after to make this VAR/MAR event possible! Take care and cave safe! We look forward to seeing everyone at the next caving adventure!



Pennsylvania Cave Conservancy, Inc.

P.O. Box 373, Neffs, PA 18065

Minutes of Regular Meeting – May 22, 2022

The meeting was called to order at 10:26 am by President Dave Briggs at Grand Caverns, Grottoes, VA on Sunday, May 22, 2022. Dave thanked everyone for attending the Spring MAR/VAR and allowing the PCC to host their fund-raising breakfast. It was a beautiful weekend with nice (warm) weather.

The following officers were present: **President** Dave Briggs **Vice President** Amos Mincin
Secretary Gretchen Schock **Treasurer** --

Representation was as follows:

Bald Eagle Grotto	--	Huntingdon Co. Cave Hunters	--
Baltimore Grotto	Kim Fleischmann	Nittany Grotto	Paul Winter
Bucks County Grotto	--	Out of Bounds Grotto	--
Central New Jersey Grotto	Amos Mincin	Philadelphia Grotto	Amos Mincin
Commander Cody Caving Club	--	Seven Valleys Grotto	Joe Schock
Franklin County Grotto	Pat Minnick	York Grotto	Randy Hurst
Greater Allentown Grotto	Dwight Kempf (proxy)		

Secretary Report: Randy Hurst moved and Dwight Kempf seconded to accept the minutes from the February 26, 2022 meeting as published in the April 2022 MAR Breakdown. The motion passed.

Treasurer Report: Dave Briggs reviewed the PCC account activity since the last meeting (provided below) as prepared by John Boswell.

Pennsylvania Cave Conservancy

Financial Summary 2-26-22 through 5-22-22

<u>Interest Checking Account</u>		<u>Date</u>	
Checking Balance 2/26/22	F&M Trust Bank checking	2/26/2022	\$4,549.40
Deposit	Amazon Smile	3/2/2022	\$7.41
Deposit	Central NJ Grotto Donation	4/8/2022	\$50.00
Deposit	Lost River Caverns	4/8/2022	\$100.00
Deposit	Interest Credit	2/28/2022	\$0.07
Deposit	Interest Credit	3/31/2022	\$0.08
Deposit	Interest Credit	4/30/2022	\$0.08
Ending Balance :			\$4,707.04

<u>SAVINGS ACCOUNT (CDs):</u>		<u>Maturity Date</u>	
Certificate of Deposit *75	F&M Trust Bank CD	7/27/2021	\$1,152.00
Certificate of Deposit *29	F&M Trust Bank CD	7/27/2021	\$1,152.00
Certificate of Deposit *65	F&M Trust Bank CD	7/27/2021	\$1,152.00

* \$6.27 Interest credit applied to each in 2021.

COMBINED TOTAL : **\$8,163.04**

Web Page: Dave Briggs reported that the new PCC website is currently in process and will be completed this year.

PCC Breakfast: The PCC breakfast at the 2022 Spring MAR/VAR was a great success, earning \$598.25 in tickets sales and donations. Thanks to the breakfast crew volunteers who got up early Sunday morning to prepare breakfast for all the hungry cavers! Also, thank you to Dave Briggs, Tom Griffin, Karen Bange, and

George Bange for donating all the supplies for the pancake breakfast! To date, the PCC has not been asked to host a pancake breakfast during the 2022 Fall MAR. Dave will reach out to the hosting grotto to make the offer.

PCC Brochure: Dave Briggs has the supply of PCC brochures. Anyone interested in obtaining brochures should contact Dave Briggs.

Mail: No report.

Christmas Cards: Kim Kehs assumed the task of sending the PCC Christmas Cards beginning in 2018. Dave Briggs encouraged everyone to contact Kim if you know of a landowner you would like added to the PCC Christmas card list. This is one way we can show our appreciation to those landowners that are kind enough to permit access to their caves. A copy of the current list of Christmas Card recipients was requested, in order to know who is already included. Dave Briggs offered to obtain the list from Kim Kehs.

T-shirts: The PCC t-shirts are available for purchase on the PCC web site for \$15, which includes shipping and handling.

PA Cave Database: Paul Winter reported he continues to maintain the PA Cave Database responsibilities. Paul also suggested it may be beneficial to incorporate ways for the database to be more automated as part of the new PCC website. Dave Briggs agreed that he could work with Paul on the possibilities for his suggestion. Dave also encouraged everyone to submit their thoughts and suggestions for additional content for the new PCC website.

OLD BUSINESS:

Project and Caves of Interest List:

Cold Air Cave (Northampton County) – no report.

Northumberland County Grotto: During the February 2021 meeting, Northumberland County Grotto expressed interest in becoming a member grotto of the PCC. They were informed that they must first be recognized by the National Speleological Society (NSS) before being eligible for PCC membership. We have not received additional contact from Northumberland County Grotto since their initial request. Based on the NSS website, Northumberland County is still not listed as a NSS recognized organization. Amos Mincin reported that there was no update at this time.

NEW BUSINESS:

Potential PCC Project: Dave Briggs mentioned a recent conversation he had with Tom Griffin about a potential PCC volunteer effort at the NSS's Tytoona Cave Preserve property. Dave agreed to reach out to the Tytoona Cave Preserve manager, Garrett Czmor, to determine if there is any interest in having the PCC assist with any projects on the property.

2022 Fall MAR: Out of Bounds Grotto will be hosting the 2022 Fall MAR Field Meet at Lincoln Caverns in Huntingdon, PA on September 16-18, 2022. Details and updates will be posted on the MAR web site as they become available (<https://mar.caves.org/fieldmeets.htm>).

2023 NSS Convention: From June 26-30, 2023, the NSS will host the society's annual convention in Elkins, West Virginia. This week-long event includes extensive presentations across all disciplines related to cave science. Camping for the event will be available at the OTR site. Additional information can be found on the convention website <https://www.nss2023.caves.org/>.

Next meeting: The next meeting of the PCC will be held during the 2022 Fall MAR at Lincoln Caverns in Huntingdon, PA on Sunday, September 18, 2022 at 9:30am.

Kim Fleischmann moved and Randy Hurst seconded to adjourn the meeting. The meeting was adjourned at 10:50 am.

Respectfully submitted,

Gretchen (Red) Schock, Recording Secretary

Sarah Furnace Cave Is the Longest Surveyed Cave in the Northeastern US

by Bert Ashbrook

A group of surveyors from the Mid-Atlantic Karst Conservancy called “Team Sarah” has announced that Sarah Furnace Cave is now the longest surveyed cave in the northeastern US. McFails Cave long sat atop that list, but McFails is now number two.

In June 2022, the survey of Sarah Furnace Cave reached 7.26 miles, surpassing the 7.19 miles attributed to McFails cave by Bob Gulden’s website, caverbob.com. Although both caves may in fact be longer, Team Sarah has been actively working on surveying the Pennsylvania cave since May 2019 and has over 100 virgin leads. Indeed, there is so much cave left to survey that Team Sarah schedules 2 or 3 survey trips every month, for a year in advance.

Sarah Furnace Cave may also be the maziest cave in the world. “Passage network density” is a statistic developed by Ukrainian speleologist Alexander Klimchouk to describe the famous gypsum maze caves in that country (far away from Russian invaders). Sarah averages about 1.5 miles of surveyed passages underneath each acre of surface (600 km/km²). The version of the working map illustrated with this article (see page 10) shows several sets of joint-controlled crawlways spaced every 6 to 8 feet, forming a network of dense mazes. No point in the 7+ miles of surveyed cave is more than about 600 feet from the entrance. Team Sarah uses a trail system and

maps of permanently-marked survey stations to avoid getting lost.

The cave is unusual in other ways too. Anthodites, helictites, and gypsum needles are common. A vein of iron ore forms the ceiling of the passages, most of which are crawlways and some of which qualify as “Pennsylvania borehole.” Portions of the cave were mined for that iron ore during the Civil War, which enlarged some cave passages into stoopways.

Sarah Furnace Cave is located about an hour northeast of Pittsburgh. It is the biggest of Pennsylvania’s well-known Vanport limestone maze caves. Some may quibble over whether this location is in the northeastern US, but we refer any naysayers to the Northeastern Cave Conservancy’s logo, which includes a map including all of Pennsylvania. The Vanport limestone is only 8 to 10 feet thick and nearly flat-lying; the cave’s vertical extent is all of 20 feet. McFails veterans can leave their vertical gear behind.

Team Sarah has enrolled over 100 members, many of which had never surveyed before visiting Sarah. If you’re interested in surveying virgin cave in the longest cave in the northeastern US (and in the maziest cave in the world), contact me at caving.ashbrook@comcast.net.

Hosts Needed for the 2023 Spring & Fall MARs

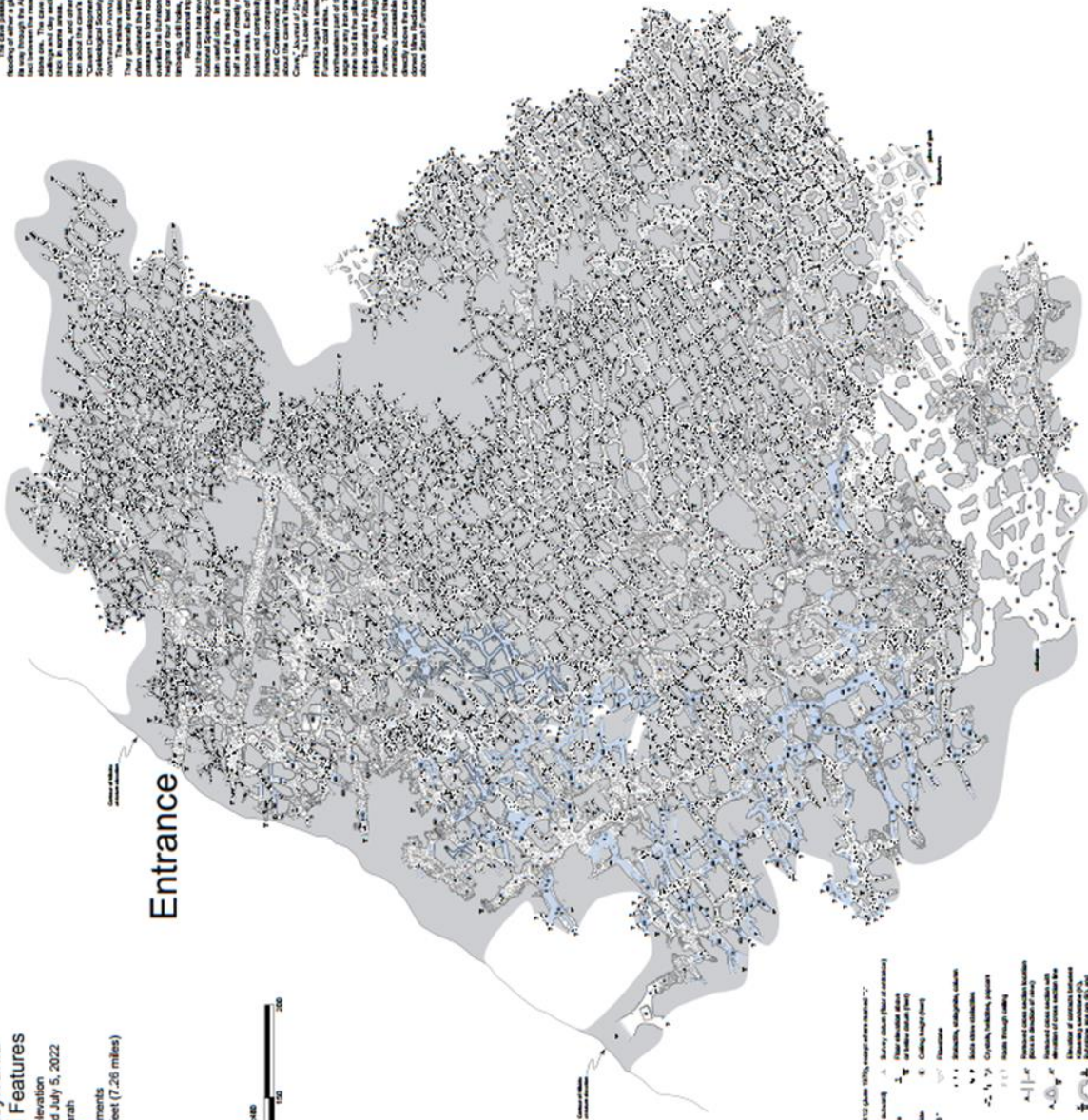
As of August 2022 there is no grotto, or individual, slated to host the 2023 Spring MAR Field Meet or 2023 Fall MAR Field Meet. If you are interested in hosting either of these events, a helpful guide to hosting a MAR field meet can be found on the MAR website (<https://mar.caves.org/hosting.htm>). Think about it - can you or your grotto host an event? If there are no volunteers there will be no field meet. If you’re interested in hosting one of the events, please contact a MAR officer

Barbara Schomer Preserve
Clarion County, Pennsylvania
Sheet 5 of 5 – Special Features

41° North, 79°15' West, 1200 feet elevation
Working map version 079g, revised July 5, 2022
Surveyed by members of Team Sarah
from March 2019 to June 2022
with OlexoX2 and Sounto instruments
Current surveyed length: 38,336 feet (7.26 miles)
Current surveying depth: 20 feet
© 2022 by Bert Ashbrook

History and Geology of the Cave

Spain's Cueva de Tucay is a small cave system, but its history is rich and varied. The cave is located on a hillside about 200 feet above the town of Tucay. Some researchers believe it is related to the prehistoric culture of the Tucay people, who lived in the area for thousands of years. The cave is also known for its unique geology, which includes a variety of rock formations and cave features. The cave is a popular destination for hikers and spelunkers alike, and it is a great place to learn about the history and geology of the area.



Entrance

Scale in feet
Special Features 7 ft originally down at 1480

0 10 20 30 40 50 75 100 150 200

[illegible]

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Upcoming Events

Old Timers Reunion (OTR)	Sept. 1-5, 2022
OTR Site/Campgrounds Dailey, WV (Randolph County) URL: www.otr.org	
CaveFest	Sept. 2-5, 2022
Cavers Paradise Sewanee, TN Hosted by Sewanee Mt Grotto URL: https://smg.caves.org/cavefest.html	
2022 Fall MAR Field Meet	Sept 16-18, 2022
Lincoln Caverns Huntingdon, PA Hosted By: Out of Bounds Grotto URL: https://mar.caves.org/fieldmeets.htm	
2022 Fall NRO Field Meet	Sept 16-18, 2022
Mt. Greylock Campsite Park Pittsfield, MA Hosted By: Boston Grotto URL: https://www.facebook.com/events/366751132110847/?active_tab=about	
2022 Fall TAG Cave-In	Oct 6-9, 2022
Lookout Mountain, GA Hosted By: Dogwood City Grotto URL: https://www.dogwoodcitygrotto.org/TAG-Fall-Cave-In	
2022 Fall VAR Field Meet	Oct 21-23, 2022
Location: RASS Fieldstation Hosted by VPI Student Grott URL: https://var.caves.org/index.php/events/fall-var	
2022 Bridge Day	October 15, 2022
New River Gorge Bridge Fayetteville, WV URL: URL: www.officialbridgeday.com -or- https://www.nps.gov/neri/	
2023 MAR Annual Business Meeting	February 25, 2023
Mt. Laurel Church of God 1295 Piketown Road, Linglestown, PA URL: https://mar.caves.org/busnmtg.htm	
2023 NSS Convention	June 26-30, 2023
Davis and Elkins College Elkins, WV URL: https://nss2023.caves.org/	

NSS MEMBER PRICE LIST

Effective October 2018

MID-APPALACHIAN REGION BULLETINS (including reprinted Bulletins)

1-4	Bulletins Caves of Shippensburg Area #1-4	REPRINT		7.00 + postage A
5	Caves of Western PA:	REPRINT	29 caves, 19 maps	8.00 + postage A
6	Caves of S. Cumberland Valley	REPRINT	93 caves 69 maps+6 large maps	17.00 + postage B
7	Caves of Fulton Co., PA	<u>Revised/Corrected</u>	4 caves, 4 maps	5.00 + postage A
8	Caves of Blair Co., PA	REPRINT	89 caves, 40 maps	7.00 + postage A
9	Caves of Huntingdon Co., PA	REPRINT	94 caves, 36 maps	10.00 + postage B
10	Caves of Snyder Co., PA		20 caves, 14 maps	6.00 + postage A
11	Caves of Centre Co., PA		71 caves, 56 maps+1 large map	10.00 + postage B
12	Caves of Mifflin Co., PA		47 caves, 31 maps+5 large maps	10.00 + postage B
13	Caves of Perry Co., PA		13 caves, 6 maps	10.00 + postage A
14	Caves of Bucks Co., PA	REPRINT	24 caves, 6 maps	5.00 + postage A
15	Caves of Lehigh Co., PA	REPRINT	25 caves, 13 maps	6.00 + postage A
16	Caves of Northampton Co., PA		24 caves, 13 maps+1 large map	6.00 + postage A
17	Caves of Northumberland Co., PA		20 caves, 10 maps	5.00 + postage A
18	Caves of Berks Co., PA		64 caves, 32 maps	10.00 + postage B
19	Caves of Bedford Co., PA		54 caves, 33 maps	7.00 + postage A
20	Caves of Westmoreland Co., PA		337 caves, 187 maps/10 large maps	29.50 + postage C
21	Karst of Sinking Valley and Kookan Cave Huntingdon and Blair Counties		103 pages with color photos , 4 fold-out maps, 2 large maps	27.50 + postage B
22	Caves of Middle Susquehanna Valley		140 pages with color photos	16.00 + postage D

U.S. Postage:

A \$2.00 postage first copy; \$0.50 each additional to same address.

B \$2.50 postage first copy; \$0.50 each additional to same address.

C \$3.00 postage for each bulletin #20.

D \$3.50 postage for each bulletin #22

MAR Bulletin Orders: Please make checks payable to MAR

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**NOTE:** All checks must be payable in U.S. dollars on U.S. bank or U.S. money order

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Order from: **Bette White**

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